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Chinese Economic Reform: Evasive Entrepreneurs and Institutional Change

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Introduction

In 1976 China was one of the poorest countries in the world. Today, it is the second largest economy. During the past thirty-five years, there has been an explosion of new interest in Chinese economic reform (Bruce L. Reynolds, 2014). Most scholars believe that the economic success seems to be an outcome of institutional arrangements providing effective incentives through a structure of property rights.

Empirical research indicates that Chinese economic growth is indeed a product of institutional change. China experienced a more entrepreneurial capitalism in the 1980s and a state-led brand of capitalism after 1990s. Relatively, household income grew rapidly, rising in the share of labor income in 1980s. However, the share of labor income to GDP declined during the 1990s. In consequence poverty was reduced more during the eight years of the entrepreneurial era (1980–1988) than during the long years of the state-led era (1989–now).

So the question of Chinese economic reform should be: how did such an institutional change come about? How can institutional change be supported without bloody conflict under a totalitarian regime? Why did the government accept the change, but end the Cultural Revolution? Why did the central government change the path of reform after 1989?

In the case of China, most scholars believe that the institutional change is a top-down process. Here is where I depart from the literature. I invoke the concept of evasive entrepreneurs, who exploit opportunities by evading the existing institutional framework. In my view, the Chinese institutional change was to a large extent driven by profit seeking activities of the entrepreneurs interacting with the existing institutional framework. If this is so, the role of entrepreneurship in institutional change might have been underestimated in developing countries in general. Without fully understanding the role of evasive entrepreneurs, the policy lesson from institutional changes in China, focusing typically on centralized policymaking, may be misleading.

The theory of institutional change suggests that the process of institutional change could be a bottom-up change or a top-down change; exogenous parameter shifts are identified as the basic impetus for institutional change (Libecap, 1989). However, I pay more attention to the evolutionary process and group selection. I argue that evasive entrepreneurs could be viewed as new rule-breakers. They are profit-driven, and in order to succeed they must break away from conventional approaches. In post-communist countries, entrepreneurs face unreasonable economic institutional pressure and lack protection of property rights. In order to profit, these entrepreneurs choose new modes of production outside of the law, or trigger institutional innovation by evading the existing institutional framework.

In my thesis I show that:

1. Institutions should be understood more broadly if we want to fully account for the dynamics of institutional change. Institution matter should consist of formal and informal ones. Distinguishing of the informal institution is crucial to understand the game. I define informal institution as spontaneously and endogenously shaped rules. I review the theories of institutional change and emphasize the evolutionary approach. The standard theory of institutional change neglects the spontaneous evolutionary approach, which can better explain how institutional change happens in countries with failing political processes such as China in the early years of economic reform.

2. Entrepreneurship is a remarkably neglected parameter. Evasive entrepreneurs are innovators who break existing rules and patterns and introduce new ways of production or organization. When exogenous elements (e.g. technologically, politically or population related) change, evasive entrepreneurs can choose more efficient but illegal way that may be later institutionalized which may be prohibited in order to pursue higher profit. During this process, evasive entrepreneurs gradually change informal institution. The new structure may cue the central government to change to formal institutions.

3. The process of Chinese institutional change proved that evasive entrepreneurs could induce reforms on existing institutions by enlarging illegal business. The

interaction can be modeled as a sequential game between entrepreneurs and government. I show that this method, even though it increases social welfare, is suboptimal as it often induces corruption and does not fully exploit the gains of a shift to optimal institutions, but it is a low-cost choice for developing countries without democratic precedent.

4. Legalization of informal financing is a typical example of the process of Chinese institutional change. I use empirical analysis to test whether the scale of informal financing did influence its legal change. As I propose the theoretical model in paper II, evasive entrepreneurs can change informal institution by enlarging their illegal business, which will influence formal institution. The larger the scale of informal financing the more likely it is for the government to modify formal institutions. However, there are some differences as well. The reason may be caused by the fact that we only test the relationship in the financial area; financial development could be influenced by technology development； some data collection, e.g. corruption level, is calculated but not firsthand information.

The thesis contains three papers. Paper I compare the existing theories of institutional change and entrepreneurs, explain the role of entrepreneurs during institutional change. Then I use Chinese economic reform as an example to discuss and analyze this theory in Paper II and III. Game theory and payoff function are used to prove the theory I present in Paper I. Paper III is an empirical analysis of the theory proved in Paper I and Paper II. I choose legalization of informal financing as the example to test the relationship between institutional change and evasive entrepreneurs and other factors.

The purpose of Paper I is to provide a review of institutional change theory and entrepreneurship to explain the role of entrepreneurs during institutional change, which will be connected to Paper II. I highlight entrepreneurs as rule breakers. In order to profit, entrepreneurs must break old institution to accept new technology or break unreasonable rules. Unlike most theories of institutions and entrepreneurship, which see causality running from institutions to entrepreneurship, I explore the opposite direction. Evasive entrepreneurs are seen as productive agents evading unreasonable institutions and thus reshaping the game in which institutions emerge.

In Paper II I present Chinese economic reform as an example to prove the theory I discuss in Paper I. Game theory and payoff function are used to answer the following questions: How did evasive entrepreneurs influence informal institutions by expanding their business? Why did local government decide to lobby central government to change formal institutions? Why did CG change the path of reform after 1989? The model explain how Chinese shaped an informal institution spontaneously with the force of evasive entrepreneurs, and how it eventually developed a formal institution. During the process, Chinese evasive entrepreneurs can induce reforms of existing institutions by making their underground businesses sufficiently disruptive. But institutional change as a result of evasive entrepreneurship is sub-optimal, as it often induces corruption, so that it is not stable in the long run and can be reversed.

Paper III is an empirical analysis of the theory proved in Paper I and Paper II. I choose legalization of informal financing as example, firstly explain informal financing and its legalization is important for Chinese economic growth by using data between 2005-2016. Then in order to test in what way do evasive entrepreneurs affect the institutional change of informal financing. I developed an empirical analysis to test the relationship between institutional change and its factors between the years 2005 and 2016 in a number of provinces. I use data regarding the fixed asset investment from informal financing (faiinformal), corruption level, technology level and local fiscal revenue level (LRGDP) to prove that institutions can be changed as evasive entrepreneurs enlarge their businesses. Through this empirical analysis, I exhibit that evasive entrepreneurs can change informal institution by enlarging their illegal business, which will influence formal institution. The larger the scale of informal financing the more likely it is for the government to modify formal institutions.

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Paper I

Institutional Change and Entrepreneurship

——Comparing the existing theories

Abstract

The literature argues that the process of institutional change could be a bottom-up change or a top-down change, while exogenous parameter shifts are identified as the basic source of impetus for institutional change (Libecap, 1989). Unlike most theories of institutions and entrepreneurship, which see causality running from institutions to entrepreneurship, I explore the opposite direction. I propose, following evolutionary tradition in social science dating back to Smith and Hayek, that we should also pay attention to spontaneously and endogenously shaped institution of the game sustained in the repeated operational play of the game itself (Hayek, 1976; Schotter, 1981). I argue that entrepreneurs could be viewed as new rule-breakers.

JEL classification: B52, D02, K42

Keywords: Institution, Institutional change, Evasive entrepreneurs

Introduction

The theory of institutional change is highly important for further advancement in economics and social sciences in general (Aoki, 2001). There are several reasons for this. Searle (2005) and Hayek (1976) argue that economics, understood as a study of the disposal of scarce commodities (Robbins, 1932), is largely concerned with institutional facts. Moreover, how successful the disposal will be is contingent on the type of institution. The idea that the prosperity of a society depends on its economic institutions goes back at least to Adam Smith and was prominent in the work of many nineteenth century scholars such as John Stuart Mill.[1] At some level then there is a bewildering array of ideas connecting institutions, both economic and political, to growth and development.

A number of recent comparative studies build on the insight that institutions matter. Banerjee et al. (1993), Alesina and Rodrik (1994), Persson and Tabellini (1994) all point to different institutional arrangements as the key to success or failure. Cross-country empirical analyses, in combination with micro-level studies, provide strong support for the overwhelming importance of institutions in predicting the level of development in countries around the world (Hall and Jones, 1999; Acemoglu et al. 2003).

China is a good case in point. In 1976 China was one of the poorest countries in the world. Today, it is the second largest economy. During the past thirty-five years, there has been an explosion of new interest in Chinese economic reform (Reynolds, 2014). The economic success seems to be an outcome of institutional arrangements providing effective incentives through a structure of property rights.

How did such an institutional change come about? The literature argues that the process of institutional change could be a bottom-up or a top-down change, while exogenous parameter shifts are identified as the basic source of impetus for institutional change (Libecap, 1989).

[1] See the discussion in Jones (1981): societies are economically successful when they have 'good' economic institutions and it is these institutions that are the cause of prosperity.

In the thesis, I regard entrepreneurs as an exogenous impetus of institutional change. The entrepreneurs, who exploit opportunities by evading the existing institutional framework, could be defined as evasive entrepreneurs. I argue that these entrepreneurs are profit-driven, and in order to succeed they must break away from conventional approaches. In post-communist countries, entrepreneurs face unreasonable economic institutional pressure and lack protection of property rights. In order to profit, these entrepreneurs choose new modes of production outside of the law, or trigger institutional innovation by evading the existing formal institutional framework. During this process, evasive entrepreneurs will gradually change informal institution which will influence formal institution in the end.

The purpose of Paper I is to provide a clear and unambiguous definition of basic concepts, namely institutions and entrepreneurship in relations to existing streams of instructional scholarship. I review all major approaches to institutions and entrepreneurship and try to integrate them into a coherent theory. I distinguish between formal and informal institution and show the link on institutional change and entrepreneurship and argue institutional change could be driven by entrepreneurship. This story happened in different countries and different periods, so that the discussion of evasive entrepreneurs will contributes to the general theory of the institution change.

Paper I gives a clear definition of informal institution and how it connects with evasive entrepreneurs, and it will also be necessary for the discussion of Chinese case in Paper II and III. In the case of China, most scholars believe that the institutional change is a top-down process. Here is where I depart from the literature. In my view, the Chinese institutional change was to a large extent driven by profit seeking activities of evasive entrepreneurs interacting with the existing institutional framework. If this is so, the role of entrepreneurship in institutional change might be underestimated in developing countries in general. Without fully understanding the role of evasive entrepreneurs, the policy lesson from institutional changes in China, focusing typically on centralized policy making, may be misleading.

1. Theoretical Exploration of Institutional Change

Neo-institutionalism is a theory that focuses on developing a sociological view of institutions—the way they interact and the way they affect society. It provides a way of viewing institutions outside of the traditional views of economics by explaining why and how institutions emerge in a certain way within a given context. Neo-institutionalists, who analyze institution with the view of economics, pay more attention to institutional change, because they emphasize the function of an institution to reduce transaction costs and increase economic efficiency. The theory of institutional change identifies two broadly defined processes: the purposefully designed creation of institutions through the political process, and the spontaneous emergence of institutions through evolutionary selection. The purposeful design can either be through a top-down change (such as a royal decree), or a bottom-up change (such as many individuals or groups interacting through some kind of collective choice or political process in which they lobby or vote). In this section, I review literature of institution and institutional change. After distinguishing between formal and informal institution, I argue that the spontaneous evolution of informal institution is important for theory of institutional change.

1.1 What is an institution?

Before discussing institutional change, I must define what I mean by "institutions", because different definitions of institutions naturally have implications for the theory of institutional change.

A vast number of social theorists concerned with the ontology of society have provided definitions of the term institution (Searle, 2005). The most commonly used definition is that provided by Douglas North (1990): "Institutions are the humanly devised constraints that structure political, economic and social interaction, consisting of both informal constraints and formal rules, which have been used to create order and reduce uncertainty in exchange." North considers an "institution" as a rule that can constrain human interaction with an institution. Institutions "reduce uncertainty by providing a structure to everyday life", and include both formal rules such as laws and constitutions, and informal constraints such as conventions and norms.

North's nuclear definition may indeed be necessary for allowing institutional economics to become rigorously analytical, with well-defined connections to other parts of economic analysis. Neo-institutionalists in general approve of North’s definition. Pelikan (2013) highlights that North's definition “is reduced to an operationally clear nucleus.” Rules and constraints place limits on many different kinds of permissible behavior and actions, which means that agents are free to search for the best strategy within these constraints. Such a radical reduction is indeed necessary for allowing institutional economics to become rigorously analytical, with well-defined connections to other parts of economic analysis—in particular the theory of property rights, constitutional political economy, and the entire field of law and economics, where some of the most important practical applications of theoretical economic analysis are now being produced. Mokyr (2010) wrote when praising North in 2010: “institutions are essentially incentives and constraints that society puts up on individual behavior.” The words “constraints” and “incentives” here are important, because North and Levitt attach the same meaning to them as all neo-institutionalist economists. Lal (2006), Levitt and Dubner (2009) give similar definitions, as neo-institutionalists, they all follow the maximize utility “subject to constraints,” or “the incentives”.

However, his definition is still a matter of some dispute. On the one hand, institutions cannot be viewed merely as incentive-providing constraints or solid structure. North’s definition is narrow because he wants to reduce it to formulaic steps, maximization under constraints, and rigid rules of the game known to all, the constraints being the institutions (McCloskey, 2015). On the other hand, although North also recognizes “informal institution” which include “codes of conduct, norms of behavior, and conventions” as well as “extensions, elaborations and modifications of formal rules”, and “are a part of the heritage that I call culture”, he still treats informal institutions as “human-designed” phenomena. McCloskey emphasized that narrowing the definition of “institution,” and keeping ethics out of it (McCloskey, 2010) cannot explain why badly performing economies cannot design good institutions and implement them (Aoki, 2006). Furthermore, as Clifford Geertz and his colleagues put it, an institution such as a toll for safe passage is “rather more than a mere payment,” that is, a mere monetary constraint. “It was part of a whole complex of moral rituals, customs with the force of law and the weight of sanctity" (McCloskey, 2009).

Searle (2005) also denies "institutions as constraints." He points out that the essential role of human institutions and the purpose of having institutions is not to constrain people, but to create new sorts of power relationships. He writes: "What distinguishes human societies from other animal societies is that human beings are capable of a deontology which no other animal is capable of. Without the recognition, acknowledgment, and acceptance of the deontic relationships, your power is not worth a damn."

North's operational reduction comes at a cost, and the cost seems very high when we are interested in explaining institutional change. Institution must therefore be understood more broadly. Customs and conventions that help players to coordinate their behavior and expectations, and internalized ethical codes such as those reflecting religious beliefs are not humanly designed phenomena, but yet should be considered institutions with profound impact on human social behavior.

The question "in what manner social order itself arises" is answered by Luckman and Berger (1966): "social order is an ongoing human production. It is produced by man in the course of his ongoing externalization. Social order, needless to add, is also not given in man's natural environment, though particular features of this may be factors determining certain features of a social order." Luckman and Berger emphasize habitualization and its typification. Similar to Luckman and Berger, Hayek sees minds, rather than rules. Every man growing up in a given culture will find in himself rules that are part of a cultural heritage that is likely to be fairly constant.

The examples Schutz (1973) gives of institutions are communications between two men: "Thoughts are constructed gradually and are interpreted gradually. Both speaker and listener live through the conversation in such a manner that meaning-establishment or meaning-interpretation are filled in and shaded with memories of what has been said and anticipations of what is yet to be said. When interpreting signs used by others, I will find two components involved, the objective and the subjective meaning. The speaker's choice of words will depend on the habits he has built up in interpreting the words of others, but also be influenced by his knowledge. For the listener, he can start out with the objective meaning of the words he has heard and from there try to discover the subjective meaning of the speaker. In order to arrive at that subjective meaning, he imagines the project which the speaker must have had in mind."

Grannovetter (1973) also emphasizes that the personal experience of individuals is closely connected to larger-scale aspects of social structure, well beyond the purview or control of particular individuals. Institutions control human conduct by setting up predefined patterns of conduct that channel it in one direction, as opposed to the many other directions that would theoretically be possible (Luckman and Berger, 1966). As a consequence, institutions are not just a constraint devised by humans, which allows neo-institutionalists to lay down the future. The definition of an institution must consider human emotions, deontology and meaning. An institution is essentially endogenous, although it appears as an exogenous constraint to the individual agents (Aoki, 2006).

This kind of communication gradually generated collective intention, and then became habitualization. Habitualization depending on language, tradition, and former knowledge became typification. Institutionalization occurs whenever there is a reciprocal typification of habitualized actions by types of actors (Luckman and Berger, 1966).

In a word, North's definition keeping ethics and meaning out hardly explain why some countries could not duplicate good institution. Meaning depending on personal experience, humanity or deontology, and knowledge, which is sometimes called "understanding of the other self," as is the classification of others' behavior into motivational contexts, is important for institutions and institutional change (Schutz 1973). Institutional ontology is subjective. It must always be examined from the first person's point of view; people have to be able to think for themselves into about an institution to understand. An institution could be constraint depending on people's common understanding and meaning.

Ignoring the broader picture may seriously bias understanding of informal institution and institutional change. North's definition still treats informal institutions as "human-designed" phenomena. Obviously, it is difficult to explain the role of informal relations and rules that has been underlined in numerous analysis of a wide range of phenomena: network, social norms and values in general, but also spontaneous privatization, corruption, social capital, business ethics and so on (Chavance, 2008).

The literature on informal institutions encompasses a dizzying array of sociopolitical phenomena. The term “informal institution” has been used to characterize aspects of traditional culture, personal networks, corruption, clan and mafia organizations, civil society, and a wide variety of legislative, judicial, and bureaucratic norms. Such conceptual ambiguity has serious analytic costs, for it limits our capacity to build and test theories. It is therefore essential that we develop a more precise definition of informal institution. We begin with a fairly standard definition of institutions as rules (or sets of rules) that structure social interaction by shaping and constraining actors’ behavior. In conceptualizing “informal institution,” informal institutions must be distinguished from formal institutions (Helmke and Steven Levitsky, 2003).

The distinction between formal and informal institutions has been conceptualized in several ways. One common distinction is state-societal. According to this approach, “formal institution” refers to state bodies (courts, legislatures, bureaucracies) and state-enforced rules (constitutions, laws, regulations), while “informal institution” encompasses civic, religious, kinship, and other “societal” rules and organizations. A problem with the state-societal distinction is that it fails to account for a variety of informal institutions, including the informal rules that govern behavior within state institutions and what Ellickson calls “organization rules,” or the official rules that govern non-state organizations such as religious orders, political parties, and interest groups.

A second distinction centers around the location of rule enforcement. According to this conception, informal institutions—or norms—are self-enforcing institutions, in that they constitute members of a community’s mutual best response to one another. Formal rules, by contrast, are enforced by a third party, usually the state. This distinction also misses key informal institutions. For example, it does not allow for the possibility of informal third party enforcement (mafia bosses may serve as third party enforcers, but few scholars consider mafias to be formal institutions), or alternatively, for state enforcement of informal institutions (i.e., organized corruption).

Neither approach could explain the process of informal institutional change. Hayek (1973,1988) emphasized informal institution were principally subject to a kind of selection through "culture evolution", and the advantage's define informal institution as evolved and selected through cultural evolution, generally beneficial that is underlie formal rules but are effective beyond them. North also define informal institution as norms of behavior, convention, self-imposed codes of conduct that generally underlie and supplement formal constraints. However, he still treats informal institutions as "human-designed" phenomena and neglects its spontaneous progress.

Several author have elaborated on the Northian distinction between formal and informal institutions against the backdrop of the highly diverse and complex experiences of post-socialist change in many countries (Bernard Chavance, 2008). Pejovich (1999) has put forward that formal and informal rules cooperate-as in cases where the state institutionalizes informal rules that evolved spontaneously. Winiecki (2000), in a similar way to Pejovich, stresses that informal rules can slow down the positive effects of new formal rules, but they may also limit the negative consequences of new formal rules that are misguided. A limited number of formal rules should allow for flexible evolution in informal rules because of decentralization (Winiecki, 2000). Winiecki opposes gradualism on the grounds that a critical mass of formal rule change is initially needed, and also because the "market for institutions" proposed by Pejovich (which implies a co-existence of different types of rules), is based on a false analogy with the emergence of capitalism (Winiecki, 2000). Pistor (2002) notes that in political and economic regime change, new formal and pre-existing informal institutions compete or operate independently.

To address these shortcomings, there is a third approach. Formal institutions are defined as rules that are openly codified, in the sense that they are established and communicated through channels that are widely accepted as official. By contrast, informal institutions are socially shared rules, usually unwritten, that are created, communicated, and enforced outside of officially sanctioned channels.

As I am interested in the relationship between informal institution and entrepreneurship, and the process of informal institutional change is important, so that I adopt the third approach. I need to depict informal institutions not as exogenously given constraints but rather as the outcome of individual interactions (Bowles, 2003). In order to compare different theories of institutional change, I will regard institution as a whole complex of moral rituals, customs with the force of law and the weight of sanctity. Formal institutions are defined as rules that are openly codified, in the sense that they are established and communicated through channels that are widely accepted as official. By contrast, informal institutions are socially shared rules, usually unwritten, that are created, communicated, and enforced outside of officially sanctioned channels.

1.2 Theory of institutional change

If institution is important to development, the core of question is "what causes institutional change". Alston et cl. (1996) outlines a general framework: "Institutional change can be thought of as the result of supply and demand forces in a society." The supply induced change is top-down, such as a royal decree; the demand induced change is bottom-up, it is a change in which many individuals or groups interact through some kind of political process in which they lobby or vote. In this section, I will In addition, I am considering a spontaneous emergence of informal institutions through evolutionary processes to which government reacts.

Demand Induced Change: Bottom-up Change

Bottom-up change is always caused by individuals and groups who demand a new institution. The most common way is through a political process, such as lobbying or voting. Changing demographics and environmental conditions, technological change, or fresh information are typical triggers of bottom-up change.

Some researchers link the development of institutions to changing demographics and environmental conditions (Greif and Laitin, 2004). This hypothesis suggests that institutional change is due to changes in the environment that led to changes in the pattern of interests between economic entities or action groups. Davis and North both hold this kind of view, and they believe that an institutional environment and arrangement will cause institutional change (North, Davis, 1971). Moreover, institutions in place might become accustomed to new or increased demands caused by demographic and environmental changes. Ohlsson (1999) connects social adaptive ability to demographic and environmental changes. The concept could also be applied to the theory related to institutional change. Taking the framework of institutions into consideration, it is vigorously argued that unaccompanied demand is inadequate for producing co-operative institutions. The individuals need to be highly noticeable to each other to reduce the sternness of the assurance problem and the free rider problem (Hodgson, 2005). Such discussion is helpful for debate related to institutional change. For example, Engerman and Sokoloff (1997), and also Acemoglu et al. (2003) argue that the institutional variation between the European colonies was caused primarily by differences of demographics and environmental conditions.

Institutional change is an interactive process of technological development. The launch of the parameter ‘information’ connects institutional changes and technological change (Hodgson and Knudsen, 2007). The literature points towards the link amid institutional and technological change, whereby both impact on and could cause change in the other (Williamson, 2000). The changes in demands and technology make the resource highly important. As a result, changes in resource prices might result in institutional changes (Granovetter, 1985).

Fresh information is another factor that causes institutional change. Economic institutions differ across countries because of ideological differences (Acemoglu et al. 2003). Societies may collectively choose different economic institutions, with very different implications, because it is good the society (Acemoglu et al. 2001). According to Cooter (1993), the individual or society are only partly informed about the ‘world’ and the associations between its objects and subjects. Thus, not all elements are known, and new information alters the meaning of the position of the community and the individual (Acemoglu et al. 2001). Fresh information might trigger new self-meaning, communication, procedures or technical modifications (Bowles, 2004). These could eventually result in either new institutions, or in the manifestation of already existing formal and informal institutions. Nevertheless, the emphasis on new information appears to be deficient. New information is not the only reason behind change (Aoki, 2001). The individual has several choices for responding to one model, or to select different models, decisions for likely reactions might modify the settings and could result in new self-meanings of the actor, or in new meanings of the social atmosphere related to the actor (Greif, 2006). Moreover, the new self-definition may result in new procedures that could modify informal and formal models (Bowles, 2004).

Maddison (2003) uses the example of printing to show how new technology introduction means change. The first European university was created in Bologna in 1080. After 1455, when Gutenberg printed the first book, printing made books much cheaper. Publishers were much more willing to risk dissemination of new ideas and to provide an outlet for new authors. The proportion of the population with access to books was greatly increased, and there was a much greater incentive to acquire literacy. Increased literacy eventually contributed to the Renaissance, the 17th century's scientific revolution and 18th century's enlightenment. Western elites gradually abandoned superstition, magic and submission to religious authority.

Supply Induced Changes: Change from Above and From Outside

The demand approach towards institutional change does not consider the fact that change could be inflicted from above. The supply-side of change could either be encouraged from above, inside the institution, or through outsiders (Hurwicz, 1996). Change from above and from outside always happens in the countries where there are powerful individuals or a strong centralization.

Powerful individuals discontented with the present position could govern the procedure for institutional change (Bowles, 2004). Moving ahead, the emphasis on power with respect to institutional change enables a combination of supply and demand strategies for induced institutional change (Amable, 2003). Thus, emphasis on the function of power relations and power structures is important for analyzing institutional change (North, 2005).

Many theories give "the state", or political actors such as judges and politicians, an independent role in the rule-making process. On the one extreme, political actors can be viewed as simply reflecting the interests of particular groups, so that their individual interests are relatively unimportant and the political process essentially remains a battleground in which interest groups compete to mold formal rules to their own advantage (Kingston and Caballero, 2008). It is argued that institutional change might occur due to advancements in knowledge supply regarding economic and social behavior, organization and change according to powerful individuals' meaning (Williamson, 2000). As a result, outside knowledge does not essentially modify entire institutions, but only those parts of them that are directly impacted through fresh knowledge (North, 2005). Nevertheless, for these parts the knowledge is offered from above, and the changes are executed in a top-down manner.

The researchers divide the community into border, i.e. in theory voluntarily arranged institutions, and center, i.e. individually and hierarchically arranged institutions (Bowles, 2004). It is argued that the center is highly rigid in its institutional habits and no change arises from it; all innovations come from within.

Evolutionary processes

The evolutionary process is a spontaneous emergence of institutions, and not designed through the top-down designed process. There is no central mechanism to cause a coordinated shift in the evolutionary process. However, evolution does not rule out action, on the contrary, in most accounts of evolutionary institutional change, the ultimate impetus for institutional change comes from deliberate human actions (including learning, imitation, and experimentation) (Kingston and Caballero, 2008).

Darwinian evolution has endowed humans, like other social species, with the need and the abilities to form societies, but unlike most of these species, without sufficiently complete instructions on what form of societies (Pelikan, 2013). Veblen embraced an evolutionary framework of explanation along Darwinian lines, involving multiple levels of explanation and emergent properties (Hodgson, 1998). Veblen is the first scholar who applied Darwinian ideas to economics, on the basis that emphasizing reason (not purpose) should be used to explain ordered constant change. He saw a "Darwinist account" in economics as addressing "the origin, growth, persistence, and variation of institutions" (Veblen, 1919). For Veblen, the Darwinian rejection of teleology became the basis of a scientific and 'post-Darwinian' approach to economics and social science. Veblen emphasized the need for a detailed explanation of the causal processes behind human actions. He held that such explanations of socio-economic evolution must involve individual agents as well as institutions and structures (Hodgson, 1998).

Veblen's (1899) evolutionary theory of institutional change centers on the notion of "habits of thought", where habits are viewed as durable but (in the long run) adaptable propensities to think and act in particular ways. The value of habits is a consequence of bounded rationality: they enable the individual to economize on cognitive capacity and interpret information in a complex environment. The notion of habits has been extended to organizations in the form of "organizational routines" (Hodgson and Knudsen, 2007). In this theory, "routines play the role that genes play in biological evolutionary theory" (Nelson and Winter, 1982). For example, when existing routines are unsatisfactory, groups will search for new routines.

Alchian (1950) also has similar theory: the process of institutional change envisaged is an evolutionary one, in which competitive pressure weeds out inefficient forms of organization, because those who choose efficient institutions will realize positive profits, and will therefore survive and be imitated.

Hayek (1973) developed an evolutionary theory of institutional change based on selection at the level of the social group. Group selection is a proposed mechanism of evolution in which natural selection is imagined when it acts on the level of the group. In the social science sphere, weak ties are actually vital for an individual's integration into modern society (Granovetter, 1983). They induce people to select as a group rather than natural selection. In Hayek's view, rules have evolved because the groups who practiced them were more successful and displaced others. Thinking and acting are governed by rules that have evolved in a society, and thus are the products of the experience of generations (Hayek, 1973). Through group selection, this overall configuration of rules will evolve towards an optimal configuration based on consistent general principles (the "law of liberty" based on the protection of property rights).

Hayek (1976) also made it quite clear that he saw group selection as the most important mechanism of cultural evolution, which indirectly influences institutional change. He wrote that "cultural evolution is founded wholly on group selection." Culture may represent a group-level adaption that helps populations of humans adapt to environmental changes (Wilson, 2007). Groups with more efficient rules and orders tend to grow and multiply, while groups with less efficient rules and orders tend to perish and disappear.

Understanding a substantial amount of human adaptation requires understanding the cultural learning processes that assemble our behavioral repertoires over generations. True imitation, or observational learning—the direct and accurate copying of behaviors, strategies or symbolic knowledge—is necessary for cumulative cultural evolution (Tomasello, Kruger, and Ratner, 1993). Individuals acquire their behavior by directly observing and copying the details of others' techniques, then individual learning can build atop previous innovations (Henrich. and Gil-White, 2001). True imitation have gradually accumulated and improved through a cultural evolutionary process analogous. details that often specify cognitive mechanisms people use to extract adaptive ideas, beliefs, and practices from their social environments (Joseph Henrich and Richard Mcelreath, 2003).

Spontaneous change is a typical path of the evolutionary process. Spontaneous orders evolve in a process of cultural evolution in which natural selection operates on the order of the group (Hayek, 1967, 1973). Hayek (1973) defines a spontaneous order – a "grown", "self-generating", or "endogenous" order – as one that has evolved without deliberate action to create the order. The spontaneous order, like any other order, emerges as a result of individual action. However, unlike the artificial order it was not designed; the artificial order "has been made by somebody putting the elements of a set in their places or directing their movements," like the order of a battle. Such an order can presumably be imposed on a group, by directing its members to follow certain rules.

In my thesis, I define informal institution as spontaneously and endogenously shaped rules. I take the evasive entrepreneurs to be the cause of the variations in informal institutions. Evasive entrepreneurs are innovators who break existing rules and patterns and introduce new ways of production or organization. The institutions may be only later formalized in a political process.

2. Role of Entrepreneurs in the Process of Institutional Change

Following the discussion above, I argue that the theory of institutional change neglects the role of entrepreneurship in countries with ailing political processes. Entrepreneurship is a remarkably neglected parameter in institutional change. My hypothesis is that evasive entrepreneurs can trigger informal institutional change, which will influence formal institution. In this chapter, I will provide a brief review of entrepreneurship to show the gap in existing literature. The goal is to show that entrepreneurship and evasive entrepreneurs could be considered as important impetuses for institutional change.

2.1 What is entrepreneurship

Many researchers define the entrepreneur in the economy (Schumpeter, 1942; Kirzner, 1973). Three main views of the the entrepreneurial process are important: Schumpeter's view of the entrepreneur as innovator, Kirzner's notion of entrepreneurship as arbitrage, and the view of entrepreneurship in history as one of betting on ideas (Peter J. Boettke and Christopher J. Coyne, 2003).

Schumpeter views an entrepreneur as an innovator who is an agent of the change that is the source of his famous creative destruction (Schumpeter, 1942). "Creative Destruction" vividly characterizes innovation as "industrial mutation", which incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one (Thomas K. McCraw, 2007). Schumpeterian entrepreneurs introduce a new method of production, open a new market, discover a new source of supply, or reorganize an industry (Ohyama et cl, 2009). In addition to being an innovator, Schumpeter also emphasizes that the entrepreneur is a leader. His actions channel the means of production into previously unexploited markets, and other producers follow him into these new markets (Schumpeter, 1961; Peter J. Boettke and Christopher J. Coyne, 2003).

Kirzner implies that individuals secure entrepreneurial profits on the basis of knowledge and information gaps that arise between people in the market (Kirzner, 1973). A Kirznerian entrepreneur is an alert person, discovering opportunities by acting as an arbitrageur or a price adjuster in the marketplace, capitalizing on knowledge or information asymmetries (JPJ. de Jong and Marsili, 2010). It is obvious that his emphasis on the entrepreneur, as the agent driving the competitive equilibrium forces of the market, focuses attention on the entrepreneur not as a creator, but as being merely alert (Kirzner, 2008).

Klein (1997) argues that the terms "entrepreneur" and "entrepreneurship" are used in many different ways, and not always consistently. Typically people mean a specific kind of business, like a startup company, a small company, or a high-growth company. But we also use the word "entrepreneurial" to describe a particular kind of thinking—being creative, showing initiative, being alert to opportunities, exercising responsibility.

The third view of entrepreneurship is the notion of entrepreneurship in history as one of "betting on ideas" (Mokyr, 1990). This notion concludes that a number of institutions facilitated entrepreneurs in their role as risk takers and innovators.

There are also some other categories of behavioral, occupational, and synthesis definitions (Naude, 2013). Behavioral definitions also stress the risk-taking dimension of entrepreneurship. Kanbur (1979) describes the entrepreneur as one who "manages the production function" by paying workers wages (which are more certain than profits) and shouldering the risks and uncertainties of production. Such definitions are seen as very relevant for developing country contexts characterized by high risk and uncertainty. A synthesis definition offered by Gries and Naudé (2011) defines entrepreneurship as "the resource, process and state of being through and in which individuals utilize positive opportunities in the market by creating and growing new business firms." Shane and Venkataraman (2000) define an 'opportunity' as when goods can be sold at a profit. From a development perspective this is inadequate because it implies that utility from entrepreneurship depends only on monetary gains.

In my thesis, I choose Schumpeter's definition to view entrepreneurs as innovators who are the source of creative destruction. They can trigger institutional change by opening a new market or discovering a new source of supply, or by reorganizing an industry. Entrepreneurs existed alertness yet at some moments, the disruption was institution and got institutionalized.

2.2 Effect of entrepreneurship on economic growth

Most of the research about the role of entrepreneurship focuses on how entrepreneurs' activities make the economy successful or unsuccessful under different institutions.

Macro-level empirical work has mainly been concerned with how entrepreneurship influences economic measures of development, such as GDP, productivity, and employment. The U-shaped relationship implies a higher rate of entrepreneurial activity in low-income countries than in middle-income countries (Wennekers. 2005). This result may reflect on the fact that entrepreneurs in developing countries are less innovative and tend to be proportionately more 'necessity' motivated (Ács, Z.J. et al. 2008, Gollin 2008). Higher levels of GDP may therefore be associated with more 'innovative' forms of entrepreneurship.

Most micro-level studies focus on the why and how of entrepreneurship because of its important role on economic growth. As these findings refer to the impact of the average entrepreneur, they may suggest that focusing on the average entrepreneur may not be the best policy stance. It may be better to focus on the small subset of innovative entrepreneurs that do make a difference. Studies find that innovative firms, particularly in high-tech sectors, have on average higher levels of productivity, tend to enjoy higher employment growth, and cause positive spillovers for other firms (Stamand and Wennberg, 2009).

The Austrians have long realized the importance of the entrepreneur and the need for economic analysis of the institutional organization that influences economic actors (Peter J. Boettke and Christopher J. Coyne, 2004). Schumpeter (1942) recognized that the entrepreneur (in addition to all economic actors) would have to adapt to his surrounding institutional environment. The entrepreneur working within the societal institutional framework will adjust and adapt his actions to the incentive structure he faces. Scholars confirm the relationship between institutional change and entrepreneurship. The degree of benefit of entrepreneurs' activities to the society is very heavily influenced by current social institutions and legal structures, which immediately suggests that this is a matter that merits the attention of those in government who design economic policy. In addition, the misallocation of entrepreneurship can and often does result from government action. Such action is often driven by vested interests (Baumol, 2008).

One role of the state that has received more attention is in industrial policy

(Szirmai et cl. 2013; Ács and Naudé, 2013). Here, old models of import protection and state-owned enterprises have been replaced by policies that rely more on the private sector and entrepreneurship, but with the government still playing an important role in addressing market failures in the entrepreneurial start-up and growth process. Taxation is another policy that will have enormous influence on entrepreneurs. Meza and Webb (1987) make the case that credit market imperfections may lead to 'overinvestment' when banks cannot accurately judge entrepreneurial ability. Because banks cannot observe any entrepreneur's ability ex ante, the interest rates on start-up capital will reflect average entrepreneurial ability. If the proportion of entrepreneurs of low ability increases, higher borrowing costs will follow, which impose a negative externality on entrepreneurs of high ability, who will consequently borrow and invest less. Entrepreneurs with low ability might also hinder development because such entrepreneurs may have less productive workers, who will earn reduced wages as a result, and in turn reduce the opportunity costs of self-employment, thereby causing the entry of even more low-ability entrepreneurs (Ghatak, 2007).

Baumol (2008) offers an example of that in India. A substantial number of industries and firms were required to provide estimates of their production the following year, and some industries have legal restrictions on the use of computers. This institution had a negative effect on entrepreneurial action. Poverty began to be rolled back (and allowed India to achieve striking growth), only when these regulations were weakened or eliminated and the market received some freedom, changing the structure of the incentives offered to entrepreneurs.

The effect of institutions on entrepreneurship has been well established, Yet, only recently a few researchers began to focus on the influence of entrepreneurs' activities on institutional change, especially in developing countries where property rights and the rule of law do not exist, or are poorly defined or enforced.

Before I focus on this effect, it is necessary to identify the types of entrepreneurs, and then focus on the type that has a stronger influence on institutional change.

2.3 Types of entrepreneurship and effect on institutional change

Entrepreneurship is an extremely complex and multidimensional phenomenon and not a single unified process (Hannafey, 2003). Different kinds of categories have been used: productive, unproductive and destructive entrepreneurs (Baumol, 1990); replicative entrepreneurs and innovative entrepreneurs (Baumol, 2008); productive, unproductive and evasion entrepreneurs (Elert and Henrekson, 2014).

Baumol (1990) was the first scholar to make the distinction between productive, unproductive and destructive entrepreneurship. He defines entrepreneurs as "persons who are ingenious and creative in finding ways that add to their own wealth, power, and prestige."

Innovation can be perceived as a productive contribution from entrepreneurs, financial activities that facilitate production, or any activities that contribute to producing goods and services (Baumol, 1993). Unproductive and destructive entrepreneurship can take many forms (Baumol, 1990, 1993; Dallago, 1997, 2000). A key idea in defining unproductive and destructive entrepreneurship is that not everything that is entrepreneurial is necessarily desirable (Sauka, 2008). Often, an entrepreneur makes no productive contribution to the real output of an economy, and in some cases even plays a destructive role (Baumol, 1990). Many scholars accept this category, as Sauka and Welter (2007) point out that there is no consensus on the question of which activities can actually be regarded as productive, unproductive or destructive.

Another subdivision is between "replicative" entrepreneurs and "innovative" entrepreneurs. A replicative entrepreneur is someone who organizes an enterprise of a variety that has been launched many times before, and of which many other examples are currently extant. The innovative entrepreneur, as the name implies, does something that has not been done before (Baumol, 2008).

A new distinction among productive, unproductive and evasive entrepreneurs was made recently (Coyne and Leeson, 2004; Elert and Henrekson, 2014). Productive activities—arbitrage and innovation—constitute the very essence of economic growth and progress. When engaged in productive activities, entrepreneurs drive economic growth through arbitrage and innovation. In contrast, unproductive activities include those that benefit the entrepreneur but harm society in general. Examples include crime, rent seeking, and other behaviors that destroy existing resources (Christopher J. Coyne and Peter T. Leeson, 2004). Evasive activities include the expenditure of resources and efforts in evading the legal system or in avoiding the unproductive activities of other agents.

Evasive entrepreneurship was first used by Coyne and Leeson (2004), "activities include the expenditure of resources and efforts in evading the legal system or in avoiding the unproductive activities of other agents." Elerta and Henreksona (2014) present their definition: "Evasive entrepreneurship is profit-driven business activity in the market that introduces Schumpeterian technological or organizational innovations, in order to exploit opportunities for arbitrage by evading the existing institutional framework."

My argument in the thesis is that evasive entrepreneurs are different from unproductive or destructive entrepreneurs; they can be both productive and unproductive depending on the effect of the rule-breaking and the dynamic of the change triggered by their institutionally disruptive actions. It is my conjecture that in countries with failing political processes, rule-breaking behavior may have largely positive effects.

2.4 Evasive entrepreneurs trigger institutional change

As innovators, entrepreneurs make up a group that grows if its actions are more fit than the old patterns. The individual entrepreneurs search for new patterns of action if the old ones are unsatisfactory. Their ideas and actions evolve in the society in which they live, and which is thus the product of their actions extended over generations. Some of these rules gradually become formalized, and change the old laws or formal institutions.

Recently the literature is paying more attention to the influence of entrepreneurs' activities on institutional change, especially in developing countries where property rights and rule of law do not exist or are poorly defined or enforced. The new insight is that some of those activities have been unproductive or even seriously damaging to the general welfare (Baumol, 2008). Entrepreneurship can contribute to multidimensional wellbeing through what people can achieve through their capabilities (Gries and Naudé, 2011). Individual level data from the Global Entrepreneurship Monitor (GEM) show evidence of an inverse U-shaped relationship between entrepreneurship and national happiness. Opportunity-motivated entrepreneurship may contribute to a nation's happiness, but only up to a point (Naudé, 2013). Whereas scholars viewed entrepreneurship initially as being restricted to innovation and business creation, the view has expanded towards one where entrepreneurship is seen more appropriately as a social phenomenon that reflects the broader institutional characteristics of a society. Entrepreneurship is not only concerned with business success, as measured by profits, but also with subjective welfare and non-economic wellbeing. Entrepreneurship is a catalyst for structural change and institutional evolution (Naude, 2013).

When exogenous elements change (due to technological developments, political circumstances, or population changes), institution always reflects slowly because of legal lag. Evasive entrepreneurs can choose more efficient but illegal way that may be later institutionalized which may be prohibited in order to pursue higher profit. Thus, they would become new rule-breakers. Although there are theories in place that regard exogenous parameter changes as a basic source of the impetus for institutional change, the true agent who accepts that change and develops the new institution is a group of evasive entrepreneurs. In order to change an unreasonable institution, evasive entrepreneurs can be productive and often cue the government to accept new institutions by expanding illegal business.

Evasive entrepreneurship has been considered to be a dynamic character, which can remedy the inertia of political and economic institutions (Chatterji, A. et al. 2013; Scott 2008). In times of rapid change, driven for example by a high rate of technological progress or new supplies of resources, economic adaptability may be difficult or impossible when actors abide by existing institutions. In such circumstances, evasive entrepreneurship can prevent existing institutions from stifling economic development. (Elerta and Henreksona, 2014):"Formal institutions may prevent or raise the cost of exploiting business opportunities, but are often rife with contradictions. Such contradictions can trigger evasive behavior because entrepreneurs may earn large rents by using their innovations to exploit them, thereby circumventing institutional impediments. While evasive entrepreneurship can either be productive or unproductive/destructive, it may prevent economic development from being stifled by existing institutions during times of rapid economic change. Evasive entrepreneurship becomes sufficiently economically important and it may trigger a response from lawmakers and regulators, leading to institutional change with potentially important welfare implications."

There could be evasive entrepreneurs in any countries or any period as long as institution contradiction exists. For example, companies hire labor from staffing service companies to circumvent employment regulation, the staffing service companies could be the evasive one. Peer-to-peer firms establish networks, e.g., in housing and transportation to avoid hotel and taxi market regulations. Financial innovators create new financial instruments not covered by the existing legal code to help address risk, or help firms avoid capital regulations by technically removing risk from the balance sheet. Recent examples of evasive entrepreneurship that relate to technological innovations include the emergence of rides-for-hire application companies such as Uber and Lyft. Their business idea is to enable customers to summon rides-for-hire via smartphone applications. Such markets are typically heavily regulated with licensing systems that create high entry barriers. In the examples mentioned here, the common feature is that a Schumpeterian-type innovation was introduced with the purpose of earning profits by circumventing the existing institutional framework. Therefore, the discussion of the relation between entrepreneurs and institutions is important for the theory of institutional change.

There is no doubt that Chinese economic reform is a typical example of my argument that evasive entrepreneurs breed institutional change. Chinese farmers gave secret agreements to circumvent poor economic policies, or Chinese entrepreneurs operate without legal titles due to excessive regulation or institution contradiction during the Chinese economic reform, these are typical case of evasive entrepreneurs trigger institutional change. Chinese economic reform follows the theory of institutional change; when the circumstances were changed, entrepreneurs developed more efficient organization for higher profits. The topic in Paper I is largely relevant to my research in Paper II and III: the process of Chinese economic reform. I will discuss the process of Chinese economic reform, and use the model to show why the impetus of economic reform is not the central government, but Chinese evasive entrepreneurs.

Conclusion

As I am primarily interested in explaining institutional change, I need to know how institutions are created. In this paper, I doubt that they can be designed from the top so that I try to come up with a theory which links the change to human action in a evolutionary way. Entrepreneurship is proposed as the source of variation. Evasive entrepreneurs change behavior, it is habitualized, new informal institutions are created which will impact on formal institutions.

This paper reviews the understanding of institutions in economic and general social theory and concludes that an approach that is broader than that of North must be taken to fully account for institutional change. As I am interested in the relationship between informal institution and entrepreneurship, and the informal institutions are the basic variables. I argue that institution as a whole complex of moral rituals, customs with the force of law and the weight of sanctity. Formal institutions are defined as rules that are openly codified, in the sense that they are established and communicated through channels that are widely accepted as official. By contrast, informal institutions are socially shared rules, usually unwritten, that are created, communicated, and enforced outside of officially sanctioned channels. Distinguishing of the informal institution is crucial to understand the game. In my thesis, I define informal institution as spontaneously and endogenously shaped rules.

I review the theories of institutional change and emphasize the evolutionary approach of informal institution. The standard theory of institutional change neglects the spontaneous evolutionary approach, which can better explain how institutional change happens in countries with failing political processes such as China in the early years of economic reform.

The type of emergence of informal institutions has an impact on the change of formal institutions. I show that institutional change may be seen as a situation in which the individual game-models are no longer taken for granted because of quasi-endogenous changes in the objective game-form (Aoki, 2007). Social, political, economic and organizational factors interact rather than operate in a unidirectional manner. Exploitation of opportunities caused by failing old institutional patterns is an important path of institutional change, and entrepreneurship plays an important role during institutional change.

I review theory of entrepreneurs, and argue that evasive entrepreneurs to be the cause of the variations in institutions. Evasive entrepreneurs are innovators who break existing rules and patterns and introduce new ways of production or organization.

Institution matter should consist of formal and informal ones. Entrepreneurship is a remarkably neglected parameter. When exogenous elements (e.g. technologically, politically or population related) change, central political process has no opportunity to know what the society can accept. Evasive entrepreneurs can choose more efficient but illegal way that may be later institutionalized which may be prohibited in order to pursue higher profit. Provided that the new behavioral patterns are better, the population of entrepreneurs will grow and change the equilibrium within a society. During this process, evasive entrepreneurs gradually change informal institution. The new structure may cue the central government to change to formal institutions. Political change may thus be only secondary and reflective of a spontaneous change of informal institutions. Entrepreneurship is key for productivity and growth, not only because it can exploit opportunities created by secure property rights within the optimal institutional framework, but also because it may be the decisive force in creating institutions conducive to economic growth.

I gave a few examples that evasive entrepreneurs could influence informal institution in any countries, so that the theory developed may contributes to the general theory of the institutional change. And I will use Chinese economic reform as an example to discuss and analyze this theory in Paper II and III.

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Paper II Chinese Economic Reform: Economic Analysis of Evasive Entrepreneurs

Abstract

There is an extensive body of literature that attempts to explain the causes of China's miraculous economic growth. Institutional change is the key element of the explanation, but the cause of Chinese institutional change remains controversial. The main purpose of this paper is to re-interpret the cause of Chinese institutional change by the application of theoretical models of institutional change. I argue that Chinese economic reform is a bottom-up process driven by a group of evasive entrepreneurs. During the reform, institutional contradiction and the vacant area that was not recognized by the legal and political system offered entrepreneurs opportunities to fight institutional passivity and influence informal institution, which in turn affected the formal institution. Evasive entrepreneurs reformed existing informal institutions by enlarging their illegal businesses. While the method of effecting institutional change as a result of evasive entrepreneurs is a sub-optimal one, it is an adequate low-cost choice for developing countries without a democratic history.

JEL classification: K42, C70

Keywords: Economic analysis, Evasive Entrepreneurs, Institutional Change, Chinese economic reform

Introduction

During the last 35 years, there has been an explosion of new interest in Chinese economic reform (Reynolds, 2014). A country's economic development is generally driven by two "wheels": one of which is technology and the other is the institution. In 1976, China was a developing country, especially with regard to it economy and technological advancements. Notably, the wide use of these new technologies relied on a suitable institutional system (Zhang, 2009). Thus, institutional arrangements favorable to economic performance incentivize the restructuring of property rights so that private returns are roughly equivalent to social returns. In an analysis of economic action, institutional theory has maintained that an aggregate result could either include higher or lower transaction costs and thereby, shape the structure of incentives (Nee and Su, 1990).

Therefore, the institution is a more significant driver of progress for Chinese economic reform. Indeed, China has miraculously implemented institutional change that resulted in China's rapid economic development (Zhang, 2009). Thus, it is necessary to observe how Chinese institutional change could be implemented under a totalitarian regime.

In this paper, my purpose is to re-interpret the causes of China's institutional change since 1976. I define Chinese informal institution as spontaneously and endogenously shaped rules. I argue that Chinese institutional change is a result of the expansion of evasive entrepreneurs' illegal business. Evasive entrepreneurs led states to adopt new institutions in two different stages.

Farmers in poverty-stricken villages who had capitalist spirits, secretly started private businesses. The government chose to neglect illegal private business during the economic collapse. However, once these underground businesses expanded to the point that they influenced the income of middle and small-sized enterprises (SOEs) and the government's tax revenue, local government (LG) began to lobby Beijing to legitimize the new institution to increase the public revenue. Entrepreneurs also gradually began to ask the government to recognize the legal status of the private economy and request more distinct legislation of property rights. These evasive entrepreneurs are innovators who break existing rules and patterns and introduce new ways of production or organization. Evasive entrepreneurs, as innovators, influenced informal institution, which gradually changed the formal institution through a political process. This is the first stage of the changing process.

However, the reform process has not been linear, rather it has formed a zigzag pattern of two steps forward and one step back (Brodsgaard and Zheng, 2007). When the economy stabilized, the process started the second stage. Central government may refuse formal institutional change in areas that had been controlled by interest groups. As a result, LG would refuse institutional needs or go back to neglect informal institutional change according to central government’s choice. Informal institution that have been changed might be enforced to stop, or been neglected which will induce corruption between evasive entrepreneurs and local government.

During the two stages, formal institution would be changed toward a position direction but not linear. Corruption and interest group are caused, thus, this method of effecting institutional change is a sub-optimal one.

1 The Context of Chinese Economic Reform

Chinese GDP growth was quite rapid during the 35 years. A popular conclusion is that China has grown economically by relying on seemingly inefficient policies, practices and institutions such as public ownership of township and village enterprises (TVEs) and financial controls. However, Chinese economic reform should be divided into two stages: from 1976 to the end of the 1980s and from the 1990s to the present. Although GDP growth was rapid during the last 35 years, the effects of the growth differed substantially. In the 1980s, the rapid GDP growth was accompanied by swift personal income growth, an improving income distribution and a steep decline in poverty. However, in the 1990s, the welfare implications of the rapid GDP growth caused a number of social problems in China (Huang, 2006).

Correspondingly, a number of economic policies have been reversed since the end of the 1980s. In the 1980s, economic policy was moving toward a virtuous kind of entrepreneurial capitalism, which was progressively liberal, primarily in rural areas. Institutional arrangements favorable to economic performance incentivize the restructuring of property rights so that private returns are roughly equivalent to social returns. However, the country's economic policy moved toward a state-led brand of capitalism in the 1990s, which cracked down on the private sector (Huang, 2006).

Related data shows the positive correlation between Chinese economic growth and economic policy change. I use fixed-asset investment (FAI) data as indicator to measure the dependency. There are two reasons why this is a better measure of policy than GDP. One is that fixed-asset investments remain substantially controlled by the state; thus, changes in the patterns of fixed-asset investments are a more accurate reflection of the policy preferences of the Chinese state. The second reason is that in a poor country, capital is scarce relative to labor. So capital allocation is more indicative than labor allocations of the fundamental orientation of the economic system.

In Table 1, private share of the total FAI during 1981-1989 doubled in comparison to that in 1993-2001, and private share of equipment purchase during 1981-1989 tripled in comparison to that in 1993-2001, which means that private entrepreneurs got fixed-asset investments easier in 1980s than 1990s. Moreover, the growth rate of state owned enterprises (SOEs) during the 1990-1992 period tripled over that in the 1980s, and the FAI growth rate of private went less since 1990. It's obvious that the economic policy moved toward a state-led brand of capitalism in the 1990s, which has positive correlation with the effects of the economic growth.

Table 1 Fixed-asset investment (FAI) measures of private-sector development: Period averages (%)

	1981-1989	1990-1992	1993-2001	2002-2005
Panel (A) Share/ratio indicators: Registered private sector				
1) Private share of total FAI:				
a) All private	21.4	19.8	13.3	14.7
b) Rural private	19.2	17.1	9.5	5.5
2) Private share of equipment purchases:				
a) All private	11.3	5.1	4.7	9.3*c*
b) Rural private	11.3	5.1	4.7	5.9*c*
c) Rural private/rural collective	118.5	38.9	28.8	30.8*c*
Panel (B) Real annual growth (deflated to 1978 prices)				
3) FAI (fixed-asset investment):				
a) All private	19.9	2.6	12.4	26.0
c) SOEs	8.1	23.8	9.1	13.4

Sources: Based on various sources on fixed-asset investments compiled by the NBS.

Therefore, the institution is a quite significant driver of progress for Chinese economic reform. It can be seen that Chinese economic reform is a product of institutional change. Indeed, China has miraculously implemented institutional change that resulted in China's rapid economic development (Zhang, 2009). Thus, it is necessary to observe how Chinese institutional change could be implemented under a totalitarian regime when we research Chinese economic reform.

As we discussed in the first paper, in order to profit, evasive entrepreneurs choose new modes of production outside of the law and thereby trigger institutional innovation by evading the existing formal institutional framework. The behavioral change will gradually spread and form a new informal institution, which may or may not cue the central government to change to formal institutions contingent upon various factors which I identify in this paper.

In order to explain the process of institutional change in China, I choose the process of private property as example, because private property is the most important tag that China goes from socialism to capitalism. In this chapter, I will review the history of Chinese economic reform to show evasive entrepreneurs is the initial element who spontaneously start and change the informal institution, which gradually influence formal institution. I explain the history by three stages: spontaneously initial phase, the process of informal institutional change and how it influences formal institution.

1.1 Evasive entrepreneurs' spontaneous change

The most puzzling question in Chinese institutional change concerns what promoted the Chinese government to rapidly shift from the totalitarian regime of the Mao Era to the present institution that encompasses a capitalist economic system and a socialist political system (Huang, 2006)? In general, it can be said that this institution is the result of a strong authoritarian national leadership and an elite state bureaucracy pursuing developmental goals and industrial policy (Wade, 1990).

There is no doubt that Deng Xiaoping is the most important leader in Chinese economic reform, however, reform in rural China has been started in secret since 1976, Deng Xiaoping regained his position as Vice Premier of China from a counter-revolutionist in the span of five months (from February to July 1977). Deng has no ability to design any policy to start the reform. In fact, from 1976 to 1984, when the private entrepreneurs acted quite actively, there is no formal institution changed, and no design of reform was given. China's institutional change in China was not a design of the Beijing government (Huang, 2006; Victor, 2009). Although many forms of strategies tend to misrepresent the reform process and the cause of institutional change, they wrongly presume government determinism of reform or a government-imposed institutional change, and then they attribute the "Chinese Miracle" to government's performance, or some effective policies of the authoritarian government (Feng, Ljungwall and Guo, 2011).

Now the question is who started the reform in secret in rural China. In 1976 after Mao died, 20 million middle school graduates (ranging from 15 to 18 years old) who had been sent to the countryside in Mao's era, returned. They found it impossible to find a job in the state sector. These young individuals were jobless and restless and thus, took to the streets and even blocked the railway in an effort to place significant social pressure on the government. Simultaneously, China experienced recurring food and economic crises before 1978 (Zhu, 2012) and the Cultural Revolution put the country's finances and people in a passive position and destroyed China's statistical system. Although it is not possible to obtain China's official economic data from 1966 to 1976, we still can know China's economic situation in 1976 from simple GDP and per capita GDP data together with CPC leaders' speeches. China's citizens' living standard decreased by 30% compared to that of 1966. In 1976 China's politics and culture were a mess and China's society, economy and culture were all on the verge of collapse. Ordinary people, especially people in rural China, urgently need to break the old mode of production and increase production efficiency to survive.

In the meantime, local government also went through a hard period. On the one hand, the Cultural Revolution destroyed the country's finances that local government was hard to get fiscal revenue from central government. On the other hand, local government must face the risk of ordinary people because of the famine and unemployment. Central government also wanted to ignore them alone if they can meet their own economic needs, as long as they did not threaten the state sector or challenge the party's political power（Coase and Wang, 2013）.

The pressure from young people who had no income combined with poor government finance led to the decision that the Chinese government could not support the poor or deal with any turmoil. The mode of production during Cultural Revolution led to a serious institutional contradiction, which eventually resulted in the Chinese economic reform. This institutional contradiction and a relatively safe circumstance indirectly created room for people with entrepreneurial spirits and market forces back to China during the first decade of reform. Citizens survived by becoming evasive entrepreneurs.

People in rural China, who face the famine and relatively safe circumstance, became the first evasive entrepreneurs in Chinese economic reform. They chose to change the mode of production, tried to destroy the public ownership, and want to have private enterprises and property. At the beginning, they created two new mode of production that gradually overturned single public ownership. Their changing gradually influenced local informal institution.

Household-responsibility system

These evasive entrepreneurs who faced the extremely impoverished and autocratic policy, only had two choices to survive: do some illegal business or overthrow the totalitarian regime. Entrepreneurs who lived in rural relatively away from central control began to do some illegal activities. As already noted, in 1976 China still enforced the "collective farming system," which could not support Chinese basic demands in rural areas, while a nationalized system in urban areas destroyed government finance. Under collective agriculture, because cadres[2] maintained a near monopoly control over the management and allocation of economic resources, people often chatted and joked with one another while they worked. Consequently, the low value of work points and the lack of sufficient rewards for hard work led to low productivity (Schurmann, 1968). Under this "free-rider" dilemma, it was determined that the "collective farming system" could not support Chinese basic demands in rural areas and the nationalized system in urban areas destroyed government finance. Increasingly, people found Mao's economic policy to be wrong and desired a return to private economy. The farmers, in theory, ran the risk of jail sentences, although they had the implicit support of local reform-minded officials, who chose not to enforce the rules of the collective farming system (Elert and Henrekson, 2014).

[2] Here cadres includes people who work in government agency, and has power to enforce rules.

In December 1978, eighteen of the local farmers met and agreed to break the law at the time by signing a secret agreement to divide the land into family plots. Each plot was to be worked by an individual family who would turn over some of what they grew to the government and the collective whilst at the same time agreeing that they could keep the surplus for themselves. At the time, the villagers were worried that another famine might strike the village and just want to find a way to survive. After this secret reform, Xiaogang village produced a harvest that was larger than the previous five years combined. This attracted significant attention from surrounding villages and before long the government in Beijing had found out (Elert and Henrekson, 2014). Farmers in Sichuan, Guizhou, Gansu, Inner Mongolia and the Henan Provinces also started to study this system.

In fact, they spontaneously shifted to the “household-responsibility system” in secret, which means that while each farm household was assigned a fixed quota of grains that they had to sell to the government at official prices, any extra grain could be sold at market price. Although the “fixing of farm output quotas for each household” was illegal and farmers could only do so in secret, this system obviously played an important role in rural development by incentivizing people and the adoption of technologies. Researchers who conducted in-person field investigations in rural areas reported that the threat of famine, exasperated by the drought, forced farmers to secretly assign the collective land to each household. As a result, the grain production saw a sharp increase. Between 1976 and 1980, total factor productivity grew by almost 6% per year in the agricultural sector (Zhu, 2012). Because of the success, more and more evasive entrepreneurs in different provinces accepted this system in secret, and this gradually became an informal institution followed by all over the country later.

The establishment of township and village enterprises

Since productivity growth in agriculture directly contributes to aggregate productivity growth, farmers need more efficient enterprises that create extra grain to sell at market price. Meanwhile, agricultural productivity growth also has an indirect influence on nonagricultural sector because of household-responsibility system. Workers can be reallocated to the nonagricultural sector, which provides a cheap labor force and increases labor participation. However, inefficient state-owned enterprises and the illegal status of private enterprise negatively influenced farmers' profits. The conflict between both influences pushed the legalization of illegal entrepreneurs' activities towards the structure of township and village enterprises (TVEs). Therefore, evasive entrepreneurs asked for more efficient enterprises, which were also connived by local governments. Township and village enterprises (TVEs) appeared under this circumstance.

However, TVEs are always considered a strange economic form; whereas elsewhere in the world the concern is that an unconstrained government will undermine economic growth (Frye and Shleifer, 1997), the TVEs support economic growth because they are subject to effective constraints (Montinola, Qian, and Weingast 1996). This so-called Chinese characteristic is adverse to Adam Smith's theory that the majority of economists accept the general claim that private ownership is more efficient, on average, than state ownership. Although the Chinese TVEs are controlled by townships and villages (LG) nominally, TVE refers to companies located in townships and villages, which is wholly different than the "collectively owned" enterprises that existed before the economic reform. The system is only to protect this illegal business. Many TVEs were "township and village owned" in the sense that theoretical ownership rested with the collectives, either as a legacy of earlier sponsorship or because township and village governments established the new TVEs after the breakup of the agricultural collectives. In 1985, out of the 12 million businesses classified as TVEs, more than 10 million were purely private (Huang, 2006). Thus, it can be observed that TVEs are a significant success for the private-sector.

From 1983 to 1984, even if there is no any law to accept the TVEs, evasive entrepreneurs spontaneously formed this system, and local government gradually gave tacit consent to this illegal activity. Although private business was illegal and no formal rules protected private property before 1984, institutional contradiction indirectly created room for Chinese entrepreneurs during the first decade of reform. They spontaneously created new system and gave up the old rules.

1.2 Bottom-up change

In 1980s, agricultural productivity quickly improved to the point of surplus. In cities, because of the food surplus, food coupons were no longer the only currency used to buy food. Since cheaper labor was available in non-agricultural sectors, the restrictions on collection ownership were reduced. However, the effects of ex ante rural entrepreneurship also included rural financial reforms, which had a disproportionately contributory effect on the overall entrepreneurial and market development because rural China was already predisposed toward capitalism (Huang, 2006). Thus, evasive entrepreneurs could develop new businesses in non-agricultural areas because of increasing income, a simpler rural loan system and cheaper labor. The household-responsibility system helped rural China eradicate poverty. Although this system was illegal, between 1978 and 1984, total factor productivity grew almost 6% per year within the agricultural sector (Zhu, 2012).

Local government had three choices to face the illegal business: neglect it, try to lobby central government and change formal institution or enforce the old rule. As we discussed above, local government also face the problem of financial collapse and revolution risk. Eventually, these entrepreneurs' success attracted more and more provinces to join in. Local government gradually accepted these institutional innovations as informal institution. Moreover, a compliant attitude toward illegal action from the CG within the agricultural sector created a relaxed economic environment that the Chinese citizens noticed. For example, in the early 1980s, Chinese leaders took a number of proactive and highly symbolic steps such as returning assets to former capitalists, direct and public meetings between some of the top leaders of the country and private entrepreneurs and, in some of the local cases, publicly apologizing to those private entrepreneurs who had been wrongly treated by the government in the past (Huang, 2006). The entrepreneurs' successful was gradually accepted by local government as an informal institution.

These entrepreneurs' success caused central government's attention. They also faced three choices: to accept the informal institution as a formal one that will change socialism, to stop these illegal activities, or to keep it as an informal institution and neglect the private entrepreneurs. Beijing's problem is to explain socialism and capitalism. If it accepts the legal position of private property and business, the country will goes to capitalism. Communist Party of China (CPC), as a socialist party and ruler of China, would be illegal. If Beijing refuses innovation, which means they might face the revolution by the poverty-stricken population. In fact, it had been impossible at that time.

Meanwhile, the greater and greater success of private entrepreneurs certainly stimulated local government and central government to accept this new institution because of the potential revenue. The central government chose the third way at the beginning: to keep it as an informal institution and neglect the private entrepreneurs. However, when the private sector enlarged extremely which influenced the state-owned enterprises (SOEs), local and central government changed.

By 1982, the Central Committee of the CPC issued the first “Document No. 1” concerning rural economic policies to clearly delineate that “contracting production output, responsibility and planting are mainly different distribution methods of work achievement. To contract output and hand-over amount cancels work-point distribution, which is a simple method and popular among people.” At the beginning of 1983, production teams with "households responsible for fixed land" occupied 98% of the total production teams in China. This meant that China's agriculture, originally based on maintaining public ownership of land, allowed farmers’ households to farm the land through a contract. In 1984, “Document No. 4” clearly delineate that “we will encourage to support for the development of township enterprises”. In this way, central government accepted private enterprise and connived the legislation of private property in an informal way. At the same time, CG presented that economy goes to capitalism and politics keeps socialism, which was not opposed by people. Beijing started its speed of accepting private entrepreneurs after protecting legislation of CPC.

Moreover, the fiscal decentralization of the early 1980s gave greater decision-making power to LGs and linked fiscal revenue to the career potential of local officials, creating strong incentives for them to promote these enterprises. This increased the incentive for local governments to participate in and enhance local economic development. Local government also urged to give private businesses legal position; on the other hand it decreased the cost of formal institutional change.

Till 1988, household-responsibility system was mentioned for the first time as a kind of socialist mode of production. Afterwards, it became a national policy (Xu, 2013). In 1996, China's Township and Village Enterprises Law officially recognize the legal status of TVEs. In this way, these new institution spontaneously developed by evasive entrepreneurs were accepted as formal institution. This changing eventually influences the development of private property in China.

1.3 Reform in the 1990s

Although illegal business influenced informal and formal institution, the process of institutional change since 1990s was different with 1980s. After the 1989 Tiananmen crackdown, social problems were classified as the results of TVEs. As a result, the policy was tightened and the development of the township and village enterprises fell into a downturn. After 1989, Chinese reform policy moved toward a state-led brand of capitalism, which implemented a crackdown against the private sector.

In non-agriculture areas, the reform included both a dual-track system and a fiscal contracting system, largely influenced by agricultural reform. Under the dual-track system, state-owned enterprises were still given quotas on both production inputs and outputs, to be transacted at official prices, but they were also allowed to buy inputs and sell output beyond quotas at market prices. Central government also promoted fiscal reform by delegating economic decision-making powers to lower-level governments and providing them with fiscal incentives. The “Dual-track system” allowed businessmen to gain access to capital and raw materials from the markets. The “Fiscal contracting system” allowed LGs to tax the enterprises under their judicial wing. A number of the large-scale, state-owned enterprises were converted into shareholding companies after 1998, which largely improved productivity growth. Furthermore, lower-level governments had more fiscal incentives to help SOEs develop, while local preferential policy and strong loan support favored SOEs.

Although central government changed its policy and foster large number of SOEs, private sector has definitely became one of the most important economies. Article 11 of the 1988 Constitutional amendment stipulates “the state allows the private economy to exist and develop within the law. The private economy is a supplement to the socialist public economy.” The 1999 Constitutional amendment recognize the legal status of Household-responsibility system:

Article 15: “Rural economic system contains household-responsibility system”

Article 16: “individual and private sectors and other non-public sectors of the economy are important parts of socialist market economy. "

Till 2004, Chinese constitution formulates that the state protects individual economy and private economy. The state guides, supervises and encourages the non-public economy.

To sum up, Chinese institutional reform was not a top-down process or thorough revolution (Herrmann-Pillath, 2006). On the contrary, China’s path of reform is basically one characterized by gradual reform and opening-up. Chinese institutional change is the result of spontaneous change and “bottom-up” construction of economic institutions (e.g. Victor, 2009; Coase and Wang, 2013; Wu J.L., 2008; Wu X.B., 2008). Evasive entrepreneurs happen first locally and spontaneously, and after becoming a performance benchmark and having constituted an informal institution, thus providing a basis for their further enforcement. They changed informal institution with a quite low cost, which eventually are recognized (or denied) and furthered by the government (Feng, Ljungwall and Guo, 2011).

In the next part, I will also use the process of legislation of Chinese private business, and explain how it works by modeling the evasive entrepreneurs.

2 Modeling the Evasive Entrepreneurs

The purpose of this chapter is to discover how evasive entrepreneurs (EE) led states to adopt new institutions. For this purpose, I use game theory and payoff function to answer the following questions: How did evasive entrepreneurs influence informal institution? How formal institutions were changed? Why did CG change the path of reform after 1989?

2.1 Theoretical model

The theoretical model of informal institutional change is easy to explain. Evasive entrepreneurs try to find the maximum profit under formal institution, but they will choose to challenge the old institution when it severely limits their business. Their illegal behavior will thereby unconsciously contribute to a change in informal institutional. Local government may enforce the old rules or just get some bribe and decide not to punish the evasive entrepreneurs. However when they foresee a huge profit from private tax, they can also lobby central government. Formal institution will be changed when central government decides to accept the changing in informal sector.

We assume both governments and entrepreneurs are rational persons. The payoff equals benefit from public (PuB) and private (PiB) minus the cost of public (PuC) and private (PuB).

And the payoff functions are as follows:

U_i=*PuB+PiB-PuC-PiC (LG)*

U_i*'=PuB –PuC (CG)*

u_i=*PiB-PiC(EE)*

In general, for government, PuB includes how much in tax revenue the government receives from private business (Pi) and how much revenue from non-private businesses (NPi), and r should be used as the LG's proportion of total tax (T). PiB captures the benefit of LG from bribes (B). Cost of local government (C_{LG}) includes the public cost of local government (C_{LGU}) and private cost(C_{LGI}). Cost of central government will only be public cost(C_{CG}).

For entrepreneurs, only PiB and PiC are considered, PiB contains the expected income from illegal business (or private business) (H_i), PiC means the cost for evasive entrepreneurs (C_{EE}).

We have the variables as follow:

	PuB	PiB	PuC	PiC
Evasive Entrepreneurs (EE)		H_i		C_{EE}
Local government (LG)	P_i *r NP_i *r	B	C_{LGU}	C_{LGI}
Central government (CG)	P_i *(1-r) NP_i *(1-r)		C_{CG}	

And the payoff functions are as follows:

U_i=PuB+PiB-PuC-PiC (LG) => $Ui=(P_i *+ NP_i) * r - C_{LG}$

U_i'=PuB –PuC (CG) => $Ui'=(P_i *+ NP_i) * (1-r)-C_{CG}$

u_i=PiB-PiC(EE) => $u_i = Hi-C_{EE}$

In a specific economic sector, entrepreneurs will choose to challenge the old rule as soon as the utility is positive, when Hi is extremely huge they will venture to do illegal business. During the process, as the behaviors spreads out the informal institutions will be changed. This process is spontaneous and endogenous. At the same time, Hi has positive relation with T, which means formal institution would also be changed when CG can get enough benefit from these illegal business.

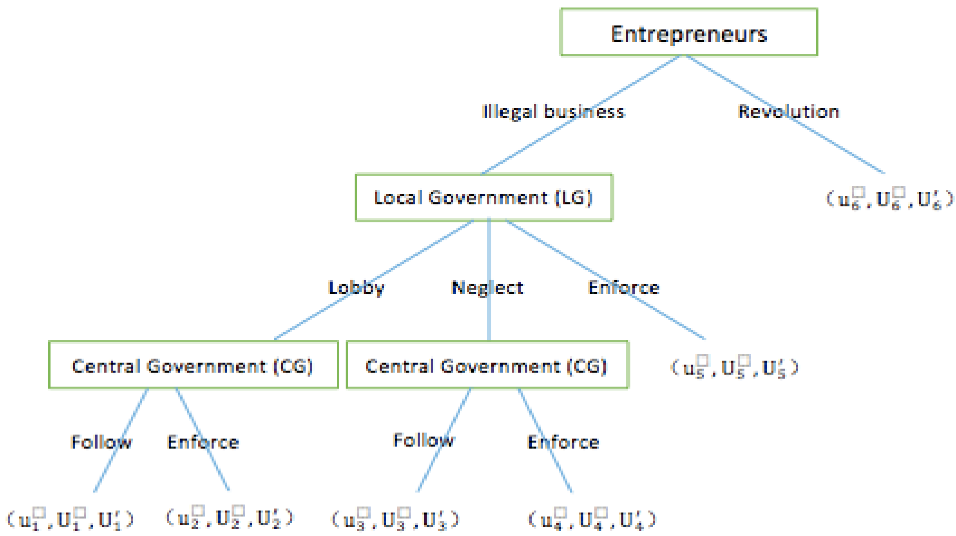
Absolutely, the LG's proportion of total tax "r" and cost are also important elements in the model, which will influence the game theory between LG and CG. When r goes higher and LG could get more benefit from tax, they would more likely to lobby CG. Evasive entrepreneurs are innovators who break existing rules and patterns and introduce new ways of production or organization. The institutions may be only later formalized in a political process. The theoretical model could be applied to many specified area during Chinese economic reform. I will use it to explain the process of private property in China under this theoretical model.

2.2 Chinese reforms model

Modeling the evasive entrepreneurs who triggered Chinese institutional change is straightforward. After 10 years of Culture Revolution, Chinese people had experienced and understood the system of socialism. They had known the disadvantage of Mao's socialism. As previously discussed, in 1976 China's CG faced decimated government finances and a high risk of revolution from extremely poor farmers. These factors caused them to acquiesce to illegal action within the agricultural sector. However, the CG could not design a reasonable economic policy because of the information asymmetry. For the CG, it was difficult to know the particulars of time and place given the vast dimension of the country and the collapse of the government. The evasive entrepreneurs in China, however, knew the demand of society. The Chinese people with entrepreneurial spirit expected a relaxed economic environment in the future. The very same people who could hardly survive under the old institution became the first Chinese evasive entrepreneurs.

The process of Chinese economic reform should be researched by dividing it into two processes: the entrepreneurial capitalism (1976-1989) and state-led brand capitalism (1990-now). In this chapter, I model the first stage and attempt to explain why the CG neglected the illegal businesses without changing any of the failing formal institutions and why they accepted the new institution after 1984. We model the process of institutional selection as a sequential game between evasive entrepreneurs (EE), LG and the CG, in which the entrepreneurs act first, followed by a reaction from LG and eventually the CG. I use backward induction to calculate the game's subgame perfect equilibrium.

Figure 1 sequential game between the entrepreneurs and government



We have the variables as follow:

	PuB	PiB	PuC	PiC
Evasive Entrepreneurs		H_i		C_{EE}
Local government	$P_i * r$ $NP_i * r$	B	C_{LGU}	C_{LGI}
Central government	$P_i*(1-r)$ $NP_i *(1-r)$		C_{CG}	

In general, for government, PuB includes how much in tax revenue the government receives from private business (Pi) and how much revenue from non-private businesses (NP_i). PiB captures the benefit of LG from bribes (B).

The payoff functions of LG and CG are as follows:

U_i=*PuB+PiB-PuC-PiC (LG)* => $Ui = (P_i + NP_i) * r - C_{LG}$

U_i*'=PuB –PuC (CG)* => $Ui' = (P_i + NP_i) * (1-r) - C_{CG}$

Cost of local government (C_{LG}) could be the cost of lobby for central (C_{lobby}), the risk of engaging in corrupt activities ($C_{corruption}$), and cost of enforcing the old rule (C_{punish}); Cost of central government (C_{CG}) could be the cost of changing old rules ($C_{changing}$), the cost of punishing corruption ($C_{anti\text{-}corruption}$), and cost of enforcing the old rule (C_{punish}). More specifically, the respective payoff functions are as follows:

Central government:

$U_1' = (NP_1^* + P) * (1-r) - C_{changing}$

$U_2' = NP_2 * (1-r) - C_{punish} - C_{anti\text{-}corruption}$

$U_3' = NP_3 * (1-r)$

$U_4' = NP_4 * (1-r) - C_{punish} - C_{anti\text{-}corruption}$

Local government:

$U_1 = (NP_1^* + P) * r - C_{lobby}$

$U_2 = NP_2 * r - C_{lobby} - C_{corruption}$

$U_3 = B + NP_3 * r$

$U_5 = NP_5 * r - C_{punish}$

At the beginning of Chinese economic reform, evasive entrepreneurs chose between a revolution and conducting illegal business by violating government regulations in order to survive. However, their payoff depended on how LG and the CG would react to their action. The LG could have enforced the old rules, tolerated the illegal activity or pressured the CG to legalize it. The action of the LG in turn depends on the reaction of the CG, which could either follow the lead of the LG or enforce the status quo (Figure 1).

In 1976, at the beginning of reform, the scale of the private economy was extremely small, which means that T could be assumed to be infinitely small. Since the government was highly centralized, we can assume that C_{punish} and $C_{anti\text{-}corruption}$ of CG is also infinitely small. $U_2' = NP_2 * (1-r) - C_{punish} - C_{anti\text{-}corruption}$ is preferred to $U_1' = (NP_1*+P_1) * (1-r) - C_{changing}$, when CG tax from the private sector is smaller than the cost of changing. These conditions were met at the beginning of the reform. If LG moved to lobby the CG at the beginning, it would suffer a high risk that CG would choose to punish the LG and enforce the old law.

Thus, LG choosing to neglect illegal business, $U_3' = NP_3 * (1-r)$ is obviously preferred to $U_4' = NP_4 * (1-r) - C_{punish} - C_{anti\text{-}corruption} = U_3' - C_{punish} - C_{anti\text{-}corruption}$. Thus, the LG chose between U_2 and U_3 and U_5. When T is small, $U_2 = NP_2 * r - C_{lobby} - C_{corruption}$ is less than $U_3 = B + NP_3 * r$, and $U_3 > U_5 = NP_5 * r - C_{punish}$, which means at this time, for LG, choosing to neglect illegal businesses and receive bribes from evasive entrepreneurs is the best strategy.

Initial evasive entrepreneurs made decisions based on their expectations of LG and CG's choices: revolution or conduct illegal business by violating government regulations. The ultimate utility of different strategy i (u_i) is decided by the private benefit (PiB) and private cost (PiC). Cost of evasive entrepreneurs (C_{EE}) could be the cost of revolution ($C_{revolution}$), the risk of doing illegal business ($C_{illegal}$) and the cost of corruption (B).

In order to analyze the process, a payoff function is employed: $u_i=PiB-PiC$. The relative payoff functions are as follows：

$u_i=PiB-PiC \quad => \quad u_i = Hi-C_{EE}$

$u_1 = H_1$

$u_2 = H_2*q - C_{revolution}$

$u_3 = H_3 - B$

$u_4 = H_4*q - B - C_{revolution}$

$u_5 = H_5*q - C_{revolution}$

$u_6 = H_6*q - C_{revolution}$

In the game (Figure 1), when evasive entrepreneurs move to overthrow government, they will get u_6.[3] When evasive entrepreneurs choose to conduct illegal business to maintain life, their utility will be decided by the attitudes of LG and CG, which we analyzed above. LG will choose U_3 when they face illegal business, so that comparing u_3 and u_6 is key for evasive entrepreneurs.

For initial evasive entrepreneurs, Hi denotes the expected income from illegal business (or private business), $C_{revolution}$ denotes the cost of revolution, C_{punish} denotes the risk of doing illegal business and B denotes the cost of bribes for local officers. If we suppose that a strategy consists of a set N={1,2,…,n} of evasive entrepreneurs with utility functions of the form: ui=PiB-PiC, we have: u6=H6 - $Cr_{evolution}$. Considering China's history in the last phase of dynasty (or extremely poor era in society), the probability that an uprising will be successful is rather high, so that q will be very high as well as q approaches 1; evasive entrepreneurs should face a centralized government, so that $C_{revolution}$ could be infinitely great. Since revolution is assumed to be infinitely great, revolution is the worst choice for evasive entrepreneurs. On the other hand, H_3>H_6 and C_{bribe}=B+C_{punish}, thus, it is obvious that evasive entrepreneurs' choice depends on the cost of bribes. It's obvious that u_3>u_6.

Meanwhile, since u_3>u_6 for evasive entrepreneurs, they will choose to do illegal business rather than revolt. Because (u_3, U_3, U_3') is the Nash equilibrium at this time, evasive entrepreneurs did not choose to overthrow the autocracy during the reformation period. They will only move to revolt when the government returns to the old institution.

2.3 The game between local and central government

Chinese institutional change occurred in 1984, when the scale of illegal business became larger than the CL expected. The cost of change was less than before because a number of provinces could be used as successful examples. Furthermore, when r increased, LG could benefit more from tax revenue than from corruption because of the taxation reform that occurred in the 1980s. Thus, the Nash equilibrium changed between LG and CG.

[3] As we talked, Chinese economy has been destroyed at the end of Culture Revolution, so that most of people has no way to survive under the old institution. Revolution was the only way for most of Chinese if planned economy was continued.

In our model, as the H_i and B increased, $\boldsymbol{u_1 = H_1}$ rose to higher than $\boldsymbol{u_3 = H_3} - B$. Thus, in the long term, a new formal institution will be the best choice for entrepreneurs. Neglected illegal business will always be a sub-optimal strategy for them, even though it remains better than the choice of revolution. While these illegal private operations expanded and political circumstances became more and more open, LG and the CG had to change their strategies:

1. The scale and size of private owners expanded drastically, so that taxes from private business (P_i) increased and the revenues from non-private sector (NP_i) would become smaller than before.

2. Local government could benefit more from total tax revenue due to the tax reform that was implemented in the 1980s, so r was higher than before.

3. As illegal businesses grew, the new institution became accepted as an informal institution, which means that $C_{changing}$ could be quite low.

When illegal businesses began to significantly expand and the T increased enough to cover the cost of institutional change, $U_1' > U_2'$ and $U_3' > U_4'$. Because $C_{changing}$ could be close to 0, P*(1-r) is larger than 0, $U_1' > U_3'$. Thus, the CG would change their strategy and change the institution if LG decides to lobby and LG will get $\boldsymbol{U_1 = (}NP_1{*}{+}P\boldsymbol{) * r - C_{lobby}}$。If LG stay to neglect, they will have $\boldsymbol{U_3 = B} + NP_3 \boldsymbol{* r}$. Under the CG's choice, C_{lobby} could be infinitely small. For LG, if the local tax revenue from private business (P*r) is greater than the benefit from bribes (B), they will also accept the new institution, which means LG will lobby CG to change formal institution when the scale of private sector is large enough.

During entrepreneurial capitalism (1976-1989), the scale of private business, the tax sharing fiscal system, the benefit from bribes and cost of corruption decided the choice of the CG and LG. In the early years, although evasive entrepreneurs developed private business, it was difficult to influence the revenue from SOEs, as cost of changing was quite high and LGs had no incentive to lobby because shared tax r was relatively low. Thus, both the CG and LG chose to neglect these illegal activities. However, when Chinese evasive entrepreneurs became more successful and tax reform was implemented in 1984 (Zeng, Li, S. and Li, Q., 2013), total tax T and LG's proportion of total tax r both increased significantly. As a result, the cost of changing was decreasing, which in the end led to $U_1' > U_3'$ and $U_1 > U_3$, and both the CG and LG changed their strategies.

Obviously, the logic of the theoretical model is easy: evasive entrepreneurs try to find the maximum profit under formal institution, but they will choose to challenge the old institution when it severely limits their business. Their illegal behavior will thereby unconsciously contribute to a change in informal institutional. When local government foresee a huge profit from private tax, they can also lobby central government. Formal institution will be changed when central government decides to accept the changing in informal sector.

However, in the 1990s the state-owned enterprises (SOEs) were reformed and gradually monopolized the market in some areas. As a result, the government could get more benefits from Pub. The government became an uncertain factor and indeed, reconsidered their strategy, which hindered Chinese economic reform. In the subsequent chapter, I explain this post-1990 dilemma.

3 Post-1990 Dilemma

3.1 State-led brand of capitalism

In 1989, 89 Democracy Movement happens in Beijing, central government held dominant position soon and repressed students with low cost. This event has two signs: firstly, central government had renewed from Cultural Revolution, their ability of controlling revolution is more strong than before, so that cost of revolution for evasive entrepreneurs is quite higher than before; secondly, people have more choices than 1970s, rejecting or punishing people will not result in all the people's revolution, which means C_{punish} and $C_{anti\text{-}corruption}$ went quite lower.

After 1989, the balance was broken when the economic reform enter into 1990s. The probability of revolution had significantly decreased, as evasive entrepreneurs had more opportunities beyond participating in illegal activity or rising up against the regime. This made the $C_{anti\text{-}revolution}$ approach to 0. Moreover, state-owned reform led to the fact that R became less influenced by private enterprises. Finally collusion between government and businessmen took shape gradually in some area, private entrepreneurs prefer to pay more bribes without changing old rules in order to hold back other competitors. This means B for LG will increase and they will prefer neglecting to lobby in some area. These factors largely influenced the choices of the CG.

In recent private areas or areas with strong state-owned companies, when $P * (1-r) < C_{changing} - C_{punish} - C_{anti\text{-}corruption}$, $U_1' < U_2'$, CG would change their strategy to enforce the old institution. In fact, P and $C_{changing}$ are relatively steady data, so that the cost of punishing and anti-corruption will has positive relation with formal institutional change. If CG can easily control local government and easily punish illegal action, formal institution will be harder to accept. A typical issue is after 1989, financial collapse had been controlled and central government had restored from Culture Revolution, C_{punish} and $C_{anti\text{-}corruption}$ went quite lower, so that economic policy went back to state-owned capitalism comparing to 1980s.

When it was expected that the CG would enforce the old institution, LG would face quite a high cost of lobbying and corruption. Thus, the best choice for LG in such cases was to terminate illegal business (U_5). When $P_1 * r - C_{lobby} < 0$, i.e. the tax from private enterprise profit is less than the costs of lobbying ($U_1 < U_5$), the LG would also choose to stop the illegal business in some specific areas. As the profits from private enterprise in the new areas increase, a higher level of civic capital is available, costs of changing decrease and the evasive entrepreneurs again push the government to accept the new institution. Following the above game theory, Chinese economic institutional change occurred gradually from socialism to capitalism.

However, as a passive reform, Chinese institutional change did not produce efficient private property, which eventually leads China to a post-1990 dilemma. A typical example of this can be seen in the iron and steel market in the 1980s. According to the policy, a private enterprise could buy and sell iron or steel in the market, but in reality, they could only buy iron or steel from state-owned enterprises whose leaders also have positions in government or the judicial sector. These leaders decided who could be the buyer and decided the price of iron and steel. Private entrepreneurs had to bribe officials if they wanted to be a buyer or if they wanted a lower price.

In this way, more and more local officials found that they could make money by giving limited rights to private enterprises. New institutional changes continue to occur through the lobbying of local officials, but corruption is still a reality. The CG limits the legal position and freedom of private entrepreneurs, however the level of the limit was so flexible that it produced serious corruption in China, which in turn increased the number of evasive entrepreneurs who break reasonable regulations in an effort to become rich, reducing the social welfare. Huang (2008) has presented that although China moved away from a free market economy in the second decade of reform, it missed a fundamental change in the economy in the 1990s: Chinese economic reform also produced well-known failings (such as a weak financial sector, rising income disparities, constraints on private-sector development, etc.). The reason for this is that China reversed many of its highly productive rural experiments and policies beginning in the early 1990s.

Although the vested interest group postponed the reform since 1990s, the process from socialism to capitalism is an inevitable trend. Government and entrepreneurs will not allow China go back to collective economics system, which is bad to both. Central government gradually recognizes the legal status of private property, but sometimes tightens policy for private enterprises. The Chinese economic reform moves in an ascending spiral process

3.2 Discussion

Chinese economic development should be attributed to the success of private entrepreneurs and the resulting mild and low-cost institutional change. The only way for private entrepreneurs to deal with the dilemma of institutional change was to combine Chinese traditional culture with western capitalism. Multi-party competition had virtually no precedent in Chinese history and lack of a legal tradition and one-party autocracy are difficult to maintain in a “top-down” democracy. However, multiparty competition does not work unless it is cultivated and disciplined by a free market for ideas, without which democracy can easily be hijacked by interest groups and undermined by the tyranny of the majority (Coase and Wang, 2013).

Economists have agreed that institutions tend to adapt to changing external conditions (Kingston and Caballero, 2008). Chinese institutional change appears to confirm the theories of institutional change. Chinese institutional change was the result of evasive entrepreneurs’ success in illegal businesses; a number of farmers in a poverty-stricken village started private business. Local government chose to neglect illegal private business when they realized that the economic would collapse. This changing gradually turned to be informal institution. When the underground businesses expanded to the point where they could influence the income of SOEs and the government's tax revenue, LG started to lobby Beijing to legitimize the new institution to increase public revenue.

Through the creation of the "household responsibility system," for example, agricultural productivity improved significantly and evasive entrepreneurs began to influence non-agricultural areas. When Chinese evasive entrepreneurs became exceedingly successful and the political risk was much less than it was in 1976, LG began to lobby CG to accept the private entrepreneurs to increase tax revenue. The CG eventually accepted it as a national policy and a new system in 1988 (Xu, 2013). Entrepreneurs also gradually request more distinct legislation regarding property rights.

Proposition 1: Institutional contradiction and the institutional vacancy due to technical or organizational change could offer entrepreneurs opportunities to conduct illegal businesses, which reduce institutional passivity and induce political reforms, which in turn affect the institutional conditions.

Proposition 2: Evasive entrepreneurs can induce reforms of existing institutions by making their underground businesses sufficiently disruptive. Evasive entrepreneurs could be considered rule-breakers.

This approach is a double-edged sword. On the one hand, gradual reform is beneficial for the stability of politics, economy, and social order, as well as the stability of regime. According to general economic theory, it improves the efficiency of resource allocation and expands the production frontier, but still limits further enhancement for resource allocation and thus further expansion of the production frontier (Feng, Ljungwall and Guo, 2011). Following upgrades to the industrial sector and enhancements to education, the Chinese market will offer more opportunities for common people, which will reduce corruption that results from poverty or the storage of opportunity.

The strong bias against the acquisition of wealth and position as a result of Schumpeterian behavior is also dismissed (Baumol, 1990). In ancient China, when the sovereign was in financial strains, it was acceptable for him to confiscate the property of wealthy subjects. This practice led to those who had resources avoiding investing those resources in any sort of visible capital stocks, which in turn, was a substantial impediment to economic expansion (Balazs 1964,). As the protection of intellectual property developed and various property protections were realized as a result of globalization, Chinese entrepreneurship will be become increasingly more sustainable. Corruption and business-official collusion due to evasive entrepreneurs will also be limited. As Balazs (1964) has noted:

Corruption, which is widespread in all impoverished and backward countries, was endemic in a country where the servants of the state often had nothing to live on but their very meager salaries. For example, a Chinese official entered upon his duties only after spending long years in study and passing many examinations; he then established relations with protectors, incurred debts to get himself appointed, and then proceeded to extract the amount he had spent on preparing himself for his career from the people he administered-and extracted both principal and interest. The degree of his rapacity would be dictated not only by the length of time he had had to wait for his appointment and the number of relations he had to support and of kin to satisfy or repay, but also by the precariousness of his position.

However, on the one hand, the downside of gradualist reform is that it may be used by the vested interests to impede the process of reform and the stronger the vested interests, or the more of them, the more resistance. And the gradual reform itself could be used as an instrument for corruption since gradualism generally means marginal breakthroughs in changing some existing rules or policies. Institutional change induced by evasive entrepreneurship is the sub-optimal option.

Proposition 3: The creation of institutional change as a result of evasive entrepreneurship is sub-optimal, as it often induces corruption. However, it is an adequate low-cost choice for developing countries without a democratic history.

As previously analyzed, institutional change induced by evasive entrepreneurship is the sub-optimal option. When developed at the most basic level, corruption and business-official collusion will result and induce more social problems, not less. However, China is changing and as a result, the rural way of life became subject to abuse. "Rejecting the customary ways of rural life, modern people denigrate everything rural. The rural village is no longer a place to which successful people want to return (Fei, 1992).” Meanwhile, after the Cultural Revolution, China remains ruled by a single political party, but the party has distanced itself from radical ideology. China is a communist state in name alone. For example, the anti-libertarians (conservatives) and the libertarians (liberals) both exist in China and are both allowed to express their ideas in public. This means that China is no longer ideologically monolithic, as it was in the days of Maoism.

Moreover, a significant number of people support what we would refer to as classical liberal or libertarian values (Boaz, 2015). Additionally, the technologic innovation of the internet has increasingly empowered the Chinese people to exercise their political voice. The internet has made it difficult and costly to control ideas. As our modern economy becomes more and more knowledge driven, the gains from the free exchange of ideas are too great; the costs of suppressing it are too high (Coase and Wang, 2013). Globalization offers Chinese culture and Confucian values an opportunity to mix with Western values. China should determine how best to solve this dilemma. Although many scholars pointed to Chinese problems after the 1990s, it should also be noted that technological innovation and globalization provided China with a new opportunity.

Conclusion

Successful Chinese reform is not the result of Chinese characteristics of the road. On the contrary, success is based on the free market economy and capitalist institutions. Chinese economic growth and development are a consequence of institutional change.

Although China was an autocracy under Mao in 1976, Chinese institutional change was not a top-down process or a thorough revolution. Rather, Chinese institutional contradictions offered entrepreneurs opportunities to conduct illegal businesses. However, they eventually broke down institutional inertia and induced political reforms, which in turn affected the institutional conditions and social welfare through the broadening of their illegal business.

Nevertheless, this type of institutional change was arduous, proven by the utility function and game theory. Our theoretical model explains when income from illegal business is extremely huge evasive entrepreneurs will venture to do illegal business. This will eventually influence informal institution that may change formal institution. This process is spontaneous and endogenous. The theoretical model could be applied to many specified areas during Chinese economic reform. I explain the process of private property in China by this theoretical model.

Initially, when illegal business increases, social unrest factors had been largely decreased, as LG would not risk stopping these evasive entrepreneurs. At this time, the best choice for LG and CG was to neglect these illegal activities. Evasive entrepreneurs also chose the sub-optimal choice. Once Chinese evasive entrepreneurs became successful and enlarged their illegal business extremely, and the political risk was much less than 1976, LG reformed the tax law to receive more revenue from private entrepreneurs. They will accept this changing as informal institution, and later may lobby to the CG to legalize some of the activities to gain more tax revenue.

However, when the reform came about in the 1990s, since the probability of revolution was low, CG chose a new strategy based on its own utility. For this reason, we found less open markets in a number of areas. The probability of revolution, the private business scale and the cost of changing an institution were factors that CG considered when making its choice, which also influenced LG’s choice.

The process of Chinese institutional change proved that evasive entrepreneurs can induce reforms on existing institutions by making illegal business sufficiently disruptive. Moreover, illegal business can effectively enhance social welfare. During this process, increasing corruption and business-government collusion will decrease social welfare, but institutional change due to unreasonable systems or technical changes will enhance welfare. However, this method is sub-optimal, as it often induces corruption and decreases social welfare, but it is a low-cost choice for developing countries without democratic precedent.

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Paper III

Legalization of Informal Financing in China: An Empirical Analysis of Institutional Change

Abstract

In what way do evasive entrepreneurs affect the institutional change of informal financing? As we proposed the theoretical model in paper II, evasive entrepreneurs can change informal institution by enlarging their illegal business, which will influence formal institution. In this paper, I analyze the legalization process of informal financing as example to prove that the extent of informal financing will have positive effect on institutional change. The larger the scale of informal financing the more likely it is for the government to modify formal institutions. To answer this question, different process in 32 provinces that gradually accept informal financing as legal financing should be observed. In Paper III, I examine the relationship between the scale of informal financing and that of legal institutional change using data from surveys carried out between 2005 and 2016. Through this empirical analysis, I exhibit that, through political processes, changing the scale of informal financing effects institutional change. Other factors, including proportion of local revenue to GDP, corruption level, education and technology level, have also been shown to have an effect on the probability of legal institutional change.

JEL classification: *K42*, D02, C12

Keywords: *Evasive Entrepreneurs, Informal Financing, Legalization, Institutional Change*

Introduction

In general, the literature on institutional change and evasive entrepreneurs has described how different institution influence entrepreneurs' activities and economic growth. This thesis, however, focuses on explaining the influence of evasive entrepreneurs on institutional change. In paper II, I explain entrepreneurship is a remarkably neglected parameter of institutional change. In a specific sector and period, evasive entrepreneurs can choose efficient behavior that may be prohibited in order to pursue higher profit. Provided that the new behavioral patterns are better, the population of entrepreneurs will grow, change the equilibrium within society and turn it into a norm. The new structure may cue the central government to change the formal institutions. Political change may thus be only subsequent and reflective of a spontaneous change of informal institution. And a model in China was used to explain the process.

In the final paper of my thesis, I conduct an empirical analysis to explain how evasive entrepreneurs affect legal institutional change within the Chinese finance industry, which proves the model in paper II. On the one hand, data in the early period of "Chinese economic reform" could not be available; on the other hand, as we talked, the model in Paper II could be used in any specified sector with institutional contradictions, so that a new period of Chinese institutional change could be considered to prove the model.

This topic is especially significant for China due to the fact that the country's monopolistic financial market largely restricts economic growth. Indeed, the most important and largest components of the financial system in China – state-owned banks and the public equity market – contribute little to financing private firms. For this reason, informal financing in China is quite a large market, especially for medium-sized and small enterprises (SMEs) (Allen, Qian and Xie, 2013). The World Bank's survey in China (IFC, 2000) has indicated that private firms may be forced to limit their investment to retained earnings. Thus, in the informal credit market, entrepreneurs with better political and social ties will incur lower transaction costs and experience less uncertainty in financing their arrangements. Moreover, a number of empirical studies have revealed that informal financing has a positive effect on supporting firm- and economic growth (Guiso, Sapienza and Zingales, 2004; Durlauf, 1999). Therefore, research concerning the legalization of informal financing is significant.

To determine what factors promote the legalization of informal financing, I firstly review the literature of informal financing to define informal financing and explain its importance for economic growth. Additionally, I provide the current legal framework within which informal financing occurs in China and its effect on the development of informal financing. Subsequently, I conduct an empirical analysis to exhibit the changes that occurred to the formal institutions that govern China’s financial market between 2005 and 2016 in provinces with larger scales of informal financing. Moreover, corruption level, technology level and proportion of local revenue to GDP are also shown to have an effect on the probability of legal institutional change.

1. Literature Review

This chapter reviews previously conducted research on informal financing. The aim of this literature review is to establish a connection between previous literature and the following research question: What elements effect the legalization of informal financing in institutional change? The chapter begins by reviewing the concept of informal financing and how related financial activities are being integrated into China’s financial system. This chapter also explores the importance of legalization in informal financing. Finally, informal financing in China is investigated with regard to how it has been established and the possibility of there being disadvantages to informal financing in the country.

1.1 Informal financing

Definition

Formal and informal finance always coexist in markets with weak legal institutions and low levels of income (Germidis et al., 1991). Poor people either obtain informal credit or borrow from both formal and informal financial sectors simultaneously (Andreas Madestam, 2014). Recently, a large strand of literature has extensively discussed informal financing and its effects.

In this paper, I define informal financing as contracts or agreements that are conducted without reference or recourse to the legal system for the present exchange of cash and the subsequent promises of cash in the future. Informal finance includes, but is not restricted to: trade credit, interpersonal borrowing (money from friends or family), private money houses, pawnshops, community cooperatives, etc. (Tsai, 2002).

Why informal financing exists

Informal financing exists for three reasons. First, information asymmetry is the endogenous reason for informal financing and explains the prosperity of informal financing. Modern corporate finance theory has explained that financing plight, which is the main problem for companies, is a result of information asymmetry (Joseph E.Stiglitz and Andrew Weis, 1981). Indeed, private firms are significantly less likely to obtain loans, are subject to higher loan standards and receive smaller loans, and consequently, are more likely to resort to trade credit financing compared to large firms (Brandt and Li, 2003). The asymmetric information problem is particularly severe for small firms, firms without bank relationships and for firms during periods of credit tightening. This is particularly severe in developing countries, since they typically comprise less developed financial systems, inadequate business laws and insufficient intermediary services. The fact that SMEs cannot receive sufficient formal financing under information asymmetry is what causes informal financing to prosper (Franklin Allen，Meijun Qian, and Jing Xie, 2013). Theoretical work on informal financing has typically assumed that the informal sources (investors) have superior information through business relations or social networks to aid in monitoring and enforcement operations and hence, reduce moral hazards and adverse selection problems. In particular, those based in social networks often involve an altruistic relationship as well (Lee and Persson 2012).

Second, financial repression refers to the notion that a set of government regulations, laws and other non-market restrictions prevent an economy’s financial intermediaries from functioning at their full capacity (Ronald McKinnon and Edward Shaw, 1973). The financial repression theory (McKinnon, 1978) perceives informal finance as a result of State intervention within the financial market, which can potentially discourage savings while reducing the supply of credit provided by formal institutions. Consequently, a number of individuals are prevented from accessing credit, which leads to a phenomenon that makes unorganized informal money markets easily accessible (Van Wijnbergen, 1983). The majority of developing countries adopt a “policy of financial repression” to develop the national economy. This policy, however, leads to higher risk in formal finance, which creates conditions for informal finance (Schrader.H, 1994). Nevertheless, due to the existence of financial repression, it is difficult to explain why informal financing continues to be popular in developed countries.

Third, an inadequate financial market causes informal financing to emerge in developing countries. As a result, non-market institutions gain importance, which eliminates formal financing risk and the difficulty of financing. Researchers have argued that SMEs rarely obtain capital from formal channels in developing countries without adequate financial markets, e.g. in Mexico, India and Zimbabwe (Christopher Wodruf, 2001).

1.2 Role of informal financing

Informal financing plays an important role in economic development because of the existence of inadequate financial markets, financial repression and informal asymmetry.

The usage of informal financing is significantly and positively associated with firms’ access to bank loans. Informal financing supports private firms, especially small and medium-sized enterprises. An empirical analysis has revealed that disclosed informal financing contributes approximately 8%-10% to the total financing for firms’ working capital and new investments (Franklin Allen，Meijun Qian and Jing Xie, 2013). Moreover, a number of empirical studies have indicated that informal financing has a positive effect on firms’ economic growth (Guiso, Sapienza and Zingales, 2004; Durlauf, 1999).

Another positive effect of informal financing comes from informal lenders, who are also a channel for bank funds (Hoff and Stiglitz, 1998). The legal protection of banks is essential to ensure credit availability; banks have access to unlimited funds. Conversely, informal lenders are constrained by the available resources (Andreas Madestam, 2013). However, informal lenders possess a monitoring advantage over banks and they can affect poor people's access to credit by solving the problem of information asymmetry. In this regard, Biais and Gollier (1997) and Peterson and Rajan (1997) have argued that informal financing can solve the asymmetric information problems associated with bank financing, which precludes small or young firms from bank credits, since the usage of informal financing incorporates private information between suppliers and their customers. Thus, informal credit may improve borrowers' relationships with the banks. Moreover, informal loans increase the return on productive activities, since they cannot be diverted (Coleman and Cohn, 2000). This decreases the misuse formal funds, allowing banks to extend more credit. Thus, informal finance complements the banks by providing larger formal loans to poor borrowers (Andreas Madestam, 2014). Simultaneously, informal lenders' monitoring ability also helps banks reduce agency costs by allowing them to channel formal credit through the informal sector.

Finally, firms’ development is positively associated with the usage of informal financing (Abdulsaleh and Worthington, 2013). Capital from informal sector serves to improve firms’ creditworthiness, which attracts investors who are willing to invest money into the business. Consequently, firms begin substituting internal with external financing sources, including venture capitalists, trade credit and bank loans to name a few. Although these firms are willing to pay the current interest rates, they cannot obtain funds because lenders are unwilling to lend to them. In the informal credit market, entrepreneurs with better political and social ties incur lower transaction costs and experience less uncertainty when arranging their finances (Wei Liu and Willy Spanjers, 2005). Empirical evidence has also indicated that informal financing plays an important role in developing and transitional economies (Durlauf, 1999).

Legislation is important

More focus should be placed upon the legal regulation of informal financing, as it has a positive effect on SMEs and economic growth. Moreover, the level of regulation influences the development of informal financing. Indeed, regulating informal financing affects the use of private capital, since weaker legal institutions increase the risk of financial market (Andreas Madestam, 2014).

For example, weak legal institutions for the enforcement of contractual commitments are often found in developing countries and transitional economies. Where legal institutions are weak, bilateral relationships (such as social ties and reputation) can substitute for the courts in supporting contracting (Bolton P. and D. Scharfstein, 1990). Due to the possibility of default and lack of effective contract enforcement mechanisms, lenders have additional incentives to restrict the supply of credit, even if they have more than enough funds to meet a given demand and the borrower is willing to pay a high interest rate.

In the subsequent chapter, I use the example of informal financing in China to display the importance of its regulation and then test which elements affect the regulation process.

2. Informal Financing in China

In this chapter, I review the role of informal financing and current legal framework in China. Then I prove different legal practices of informal financing effect China's financial development differently so that legalization of informal financing is important.

2.1 Role of informal financing in China

In China, although access to financing is crucial for the ongoing and sustainable growth and profitability of the small and medium enterprises sector (SMEs), millions of small firms are discriminated against by banks and financial markets. Moreover, the growth of SMEs promotes the growth and development of existing businesses and boosts national economic growth overall (Abdulaziz M. Abdulsaleh and Andrew C. Worthington, 2013). For this reason, informal financing such as financial assistance from family and friends (Abouzeedan, 2003), trade credit, venture capital and angel financiers is an important financing source for SMEs. Informal finance is an essential feature of credit markets in developing and poor regions of emerging economies such as, for example, China (Allen, Qian and Qian, 2002). Jagannathan (1987) has found that the small-firm sector is highly organized and regulated through informal rules shaped by social capital. Moreover, empirical evidence supports the important role of social capital in China and other developing and transitional economies (Allen, Qian and Qian, 2002; Tsai,2002).

Allen, Qian and Xie (2013) have determined that the most important and largest components of China's financial (state owned banks and the public equity market) contribute little to financing private firms. Informal financing in China, on the other hand, is a rather large market, especially for SMEs. The data for China indicates that of the 2,326 firms in the sample, 1,789 reported not having an existing loan from a bank or a financial institution. Moreover, 1,237 firms reported not having a bank loan simply because they did not apply for one. Of the 1,666 private firms, 1,301 firms reported not having an existing loan from a bank or a financial institution, 933 of which reported that this was due to a lack of applying for one (Meghana Ayyagari, Asli Demirguc-Kunt, and Vojislav Maksimovic, 2008). The six main reasons provided for not applying for a loan are: do not need loans, application procedures for bank loans are too cumbersome, collateral requirements of bank loans are too stringent, did not expect to be approved, interest rates are too high when paying back the loan and corruption in the allocation of bank credit (Meghana Ayyagari Asli Demirgüç-Kunt Vojislav Maksimovic, 2007). The World Bank's survey in China, (IFC 2000) has indicated that private firms may be forced to limit their investment to retained earnings. In the informal credit market, however, entrepreneurs with better political and social ties incur lower transaction costs and experience less uncertainty in arranging their finances.

Both government policies and empirical evidence reveal that banks prioritize state-owned firms in terms of credit allocation, which subsequently implies that many SMEs face discrimination from the formal finance sector in China. Tsai (2002) and Allen (2005) have argued that the informal financing market has played a significant role in the Chinese economy by serving the needs of the private entrepreneurs who have been shut out of the formal banking system (Meghana Ayyagari Asli Demirgüç-Kunt Vojislav Maksimovic, 2007). As previously noted, one of the reasons for the poor performance of capital markets is the pervasive influence of the government. Equity markets are largely a vehicle for privatization by the government, rather than a market for capital raised by firms with growth opportunities. Furthermore, government entities possess a large portion of the non-tradable shares, reducing the corporate governance role of the market (Meghana Ayyagari Asli Demirgüç-Kunt Vojislav Maksimovic, 2007).

Informal financing in China has financed SMEs within a particularly overburdened and overly constrained banking system. Without the capacity to obtain a bank loan, a majority of firms have depended on informal organizations (those not under the established banking system) and individuals to acquire the necessary financing for their projects. While informal financing is flexible and adaptable to the changing economic situations, a strand of literature has debated the effects of informal financing (Allen, Qian, and Qian, 2005; Fisman and Love, 2003; Ayyagari, Demirguc-Kunt and Maksimovic, 2010).

2.2 Current legal framework

Informal financing has existed in China since the 1950s, but was made illegal after 1990. The government's ban on some informal financing in the 1990s was politically and economically driven. In 1997, Chinese criminal law declared informal financing to be illegal fund-raising if it met the following requirements:

(1) Pooling funds without the legal approval of a relevant authority or under the disguise of legitimate business;

(2) Advertising through the channels in terms of media, promotional events, leaflets and mobile SMS;

(3) Guarantee the return of the principal within a certain duration in the form of currency, material object(s) or equity;

(4) Raising the funds from the unspecific objects in public.

However, legal practice is quite confused. Folk financing has actually been viewed as illegal fund-raising since 1993 when it concerns a large amount, even if it did not meet the aforementioned requirements. Additionally, a portion of activities included within the concept informal financing are considered legal, For example, interpersonal lending and trade credit – the most basic strategies entrepreneurs use to satisfy short liquidity needs – are legal because the interest rate does not exceed the government mandated ceiling. Conversely, private money houses charge much higher interest rates or fees and are regarded as illegal by the People's Bank of China. A number of informal sources claim that legal status varies over time and across regions. For example, rotated saving was once a praised practice in rural China, but it is now banned in almost all Chinese cities. While a number of pawnshops are legally registered, others are registered with non-financial regulators and may or may not engage in illegal lending practices.

Since 2000, legal fund-raising was not enough for entrepreneurs' development. Thus, the scale of illegal informal financing (mainly intercompany loans) is currently increasing. In provinces with a larger scale of private economy, intercompany loans are more likely accepted by law. As internet technology has developed, crowd funding has simultaneously developed in China, and rapidly. Crowd funding, which emerged outside of the traditional financial system, is the practice of funding a project or venture by raising monetary contributions from a large number of people. Crowd funding often occurs via internet-mediated registries, however the concept can also be executed through mail-order subscriptions, benefit events and other methods. Crowd funding, which raises funds from unspecific objects in public, is typically considered informal financing. Since 2014, crowd funding has become an important kind of informal financing, which has gradually been accepted by local courts.

The legalization of micro-credit companies is also one process involved in the legalization of intercompany loans. In 2008, the Chinese central government decided to experiment with micro-credit companies within a number of provinces. However, until 2014, the rulings of cases involving intercompany loans continued to be within the Supreme Court of China; the first and second civil trial court of People's Republic of China Supreme Court judged similar intercompany loans cases differently.

The First Circuit of the Supreme People's Court (2015) states in Case No.116 that "the relationship between parties in this case should be recognized as inter-enterprise lending, the action of inter-enterprise lending has violated mandatory financial regulation. Thus, the contract between the two companies was determined to be invalid"[4]. However, the Second Circuit of the Supreme People's Court (2014) states in Cases No.95 that "although corporate lending contracts violate the relevant financial regulations, the action in this case is temporary financial behavior between firms which may disrupt the financial order situation, but which is not against mandatory financial regulations. This implies that only the firm's financial situation can be affected when financial regulations are violated by informal financing activities, leaving out the financial regulation"[5].

The contradiction of these central judgments and the significant demand for informal financing are two of the main reasons why provinces choose different legal practices.

Since 2011, several provinces began to recognize legal status of informal financing. Figure 1 shows different choices of 31 provinces (exclude Taiwan, Hongkong, Macau). Formal legal system of informal financing gradually changed. Most provinces still enforce the old rule and informal financing is regarded as illegal action. However, three provinces, Jiangsu, Zhejiang and Sichuan accept informal financing as legal action with partial statutory regulation; and 9 provinces offer informal financing legal status with statutory regulation.

[4] See (2015) No. 116. Xinjiang Kaisheng Co., Ltd v. Deyou Co. Ltd. Available at <http://www.court.gov.cn/wenshu/xiangqing-8676.html> (accessed on 30.11.2017)

[5] See (2014) No. 95. Shanghai Shenhao Investment Co., Ltd. and Bosideng Co., Ltd. Available at < http://www.court.gov.cn/wenshu/xiangqing-5942.html> (accessed on 30.11.2017).

Statutory regulation	Partial statutory regulation	Inaction
Hebei Inner Mongolia Shanghai Jiangxi Shandong Hunan Hubei Yunnan Shanxi(陕)	Jiangsu Zhejiang Sichuan	Beijing Jilin Liaoning Guangxi Tianjin Shanxi(山) Heilongjiang Chongqing Tibet Xinjiang Gansu Ningxia Anhui Fujian Qinghai Henan Guangdong Guizhou Hainan

Figure 1

Source: Province Administrative Regulations, Case judgment of informal financing, Notice of the Higher People's Court of different provinces[6]

Shandong Shanghai and Shanxi were the first provinces that created regulations that recognize informal financing as legal action in 2012, then Yunnan created such formal regulations in 2013, and Hubei created in 2014, the other provinces created formal regulations in 2016. Furthermore, three provinces, Sichuan Jiangsu and

[6] See http://vip.chinalawinfo.com/case/

Zhejiang have local statutory regulations that concern informal financing, all of which created these regulations as a result of the positive judgment. 18 provinces, however, have refused to produce formal statutory regulations7 and have no positive case judgment.

Region	**Year (Institutional change)**
Hebei	**2016**
Inner Mongolia	**2016**
Hunan	**2016**
Jiangxi	**2016**
Hubei	**2014**
Yunnan	**2013**
Zhejiang	**2013**
Shandong	**2012**
Shanxi (陕)	**2012**
Shanghai	**2012**
Sichuan	**2011**
Jiangsu	**2011**

As Meghana Ayyagari (2007) has indicated, informal governance can function as a stepping-stone toward efficient formal institutions. Therefore, based on this review of empirical literature, it is necessary to ask the following question: “Does the scale and proportion of informal financing as well as the corruption level increase the likelihood of changing the formal institutions in consequence of expanded activities of evasive entrepreneurs? The following empirical analysis of informal financing and institutional change focuses on the period between 2000 and 2015, when parts of informal financing were still illegal in China. As this informal financing scale increased, evasive entrepreneurs gradually attained legality for their actions within China’s court system.

2.3 Legalization of informal financing is important

[7]Actually micro-credit companies also exist in these provinces even if they are illegal.

As I talked above, the role of informal financing is important to private economy. Meanwhile, the contradiction of legal practice gives the room to different choice of provinces. I use the scale of informal financing (SCL) displays the level of local financial development, and I show that different legal practices of informal financing effect China's financial development differently. Thus, the legalization of informal financing is important to financial development and entrepreneurs.

Table 1 Variable Description and Data Source

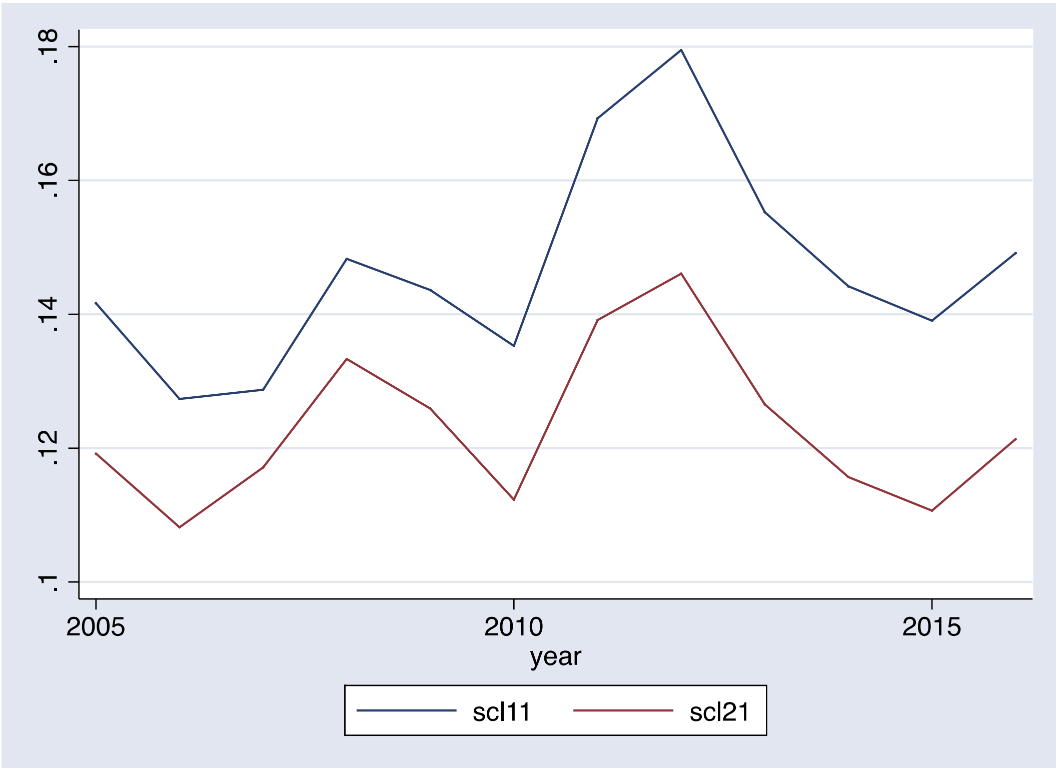
Variable	Description	Sources
SCL	It means the scale of informal financing each year in different provinces. The data is not direct, and it's calculated as following. The unit is billion yuen.	http://data.stats.gov.cn
SCLGDP	Means the proportion of SCL in GDP of every provinces, the unit is percentage.	http://data.stats.gov.cn

I classified scale of informal financing proportion (SCLGDP) into 2 groups: scl1 (provinces that recognize legal status of informal financing) and scl12 (provinces that refuse to recognize legal status of informal financing). A description and summaries of the data are presented in Tables 1 and 2. There is no direct data for the scale of informal financing (SCL). Since informal financing scales are not clearly modeled within the literature, I emphasize the effects of social capital on constraints in credit markets. Many Chinese papers use the θ-value method to measure informal financing scales. We assume that there is no informal financing in Beijing: Θ = (formal financing + security financing + actual utilization of foreign capital) / Beijing GDP. The other provinces' illegal informal financing scale = Θ * GDP - (formal financing + other financing + actual utilization of foreign capital).

Table 2 Summary of SCLGDP Types

```
. sum scl11 scl21

    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
       scl11 |        108    .1467711    .0147675   .1273364   .1794655
       scl21 |         36    .1229474    .0113897   .1081622   .1460754
```



x=years, y=scale of informal financing/GDP(%)

The mean values of scale of informal financing corresponding to statutory regulation (1) and partial statutory (2) are .1467711, .1229474, respectively. The result clearly indicates that the level of financing development is higher in provinces with statutory regulation than those in partial statutory. Moreover, we can observe from Figure 1 that the level of informal financing is higher in provinces with statutory regulation than provinces with case law ordering.

Thus, there is a significant difference in the informal financing scales and the marketization of credit capital allocation for total financing in various provinces under different legislation conditions.

3. Empirical Analysis of Institutional Change

Since the legalization of informal financing has a positive effect on financial development, it is necessary to understand how evasive entrepreneurs promote the legality of informal financing. The majority of empirical analysis concerning Chinese informal financing focus on special provinces or how it effects overall economic growth. The empirical analysis of financial legal changing is a contribution to Chinese legal research.

3.1 Data and hypotheses

Legalization of informal financing is a typical case of Chinese economic reform, which I showed the process of change in Paper II of the thesis. During the reform process, evasive entrepreneurs attempted to conduct illegal business by e.g. providing loans with higher interest rates from private enterprises. As the scale of informal financing increased, local government changed their attitudes from neglecting the subject entirely to lobbying for its legalization with provincial and central government. This led some provinces accept informal financing as legal action with statutory regulation. The level of corruption and local revenue level may also influence institutional change. Since entrepreneurs also developed technology to be evasive, I also include technology as a factor which may influence institutional change.

My dataset presents the old legal institution of informal financing from 2005 to 2016, divided into the different Chinese provinces. The purpose of my analysis is to account for all the factors affecting the institutional change of informal financing.

Table 4 Variable Description and Data Source

Variable	Description	Sources
IC	Whether informal financing is given a legal position by provinces.	http://vip.chinalawinfo.com/case/
faiinformal	Faiinformal is the fixed asset investment from informal financing each year.	http://data.stats.gov.cn
SCLGDP	Means the proportion of SCL in GDP of every provinces, the unit is percentage.	http://data.stats.gov.cn
CL	CL is level of corruption in different provinces each year. Corruption level (CL) is the number of bribery and corruption crime cases divided by the total population.	http://data.stats.gov.cn
LRGDP	LRGDP is what proportion of local revenue to GDP. It means the sum of the local government's revenues divided by the GDP in that province each year.	http://data.stats.gov.cn
Educationlevel	Educationlevel is the percentage of people in higher education in different provinces each year.	http://data.stats.gov.cn
TECH	TECH is the development level of technology each year. It means the number of patents divided by the number of people working in	http://data.stats.gov.cn

	the area of science or technology research and development.	

The level of institutional change (IC) is arranged according to the current legal framework, presented in Figure 1. The proportion of local revenue to GDP (LRGDP) is the sum of the local government's revenues divided by the GDP in that province. The development level of technology (TECH) is the number of patents divided by the number of people working in the area of science or technology research and development.

I use two variables to measure the scale of informal financing, the fixed-asset investment (faiinformal) and SCLGDP (the proportion of scale of informal financing in GDP of every provinces). SCLGDP is not a firsthand data so that I also chose faiinformal to measure.

We use the number of bribery and corruption crime cases per province and total population per province to measure the corruption level. Corruption level is the number of bribery and corruption crime cases divided by the total population. We emphasize the effects of social capital on constraints in credit markets, in particular the fact that informal financing scales are not clearly modeled within previous papers.

3.2 Model

Using the collected data and the legal categorization, I specify the following logit regression：

$$\mathbf{Y_{p,t} = b_0 + b_i\, x_{i,t} + e}$$

In this model, $\mathbf{Y_{p,t}}$ is the legal change of informal financing in provinces in the year t, the dependent variable. Legal change of informal financing means that a province had begun to change local law and lobby for legal position of informal financing to the central government. Statutory regulation, partial statutory regulation and case law ordering are all considered attitude changes of the local government. Inaction is viewed as no change at all. Furthermore, $\mathbf{Y_{p,t}}$ is a binary variable. The final variable, $\mathbf{x_{i,t}}$, is a vector of the control variables described above. The coefficient $\mathbf{b_0}$ is an intercept and $\mathbf{b_i}$ is a vector of the control variables' coefficients. Finally, **e** represents stochastic errors. In my analysis I use two specifications of this model.

$$\textbf{(1)}\ \mathbf{Y_{p,t} = b_0+b_1\, x_{1,t} + b_2\, x_{2,t} + b_3\, x_{3,t} + b_4\, x_{4,t}} + b_5 x_{5,t} + \mathbf{e}$$

$$\textbf{(2)}\ \mathbf{Y_{p,t} = b_0+b_1\, x_{1,t} + b_2\, x_{2,t} + b_3\, x_{3,t} + b_4\, x_{4,t} + e}$$

The first specification has the variable of corruption of level. The second specification accounts only for the influence of fixed asset investment from informal financing each year (which means the scale of informal financing),, the technology level and the fiscal revenue to the local government's GDP and educational level..

The dataset analyzed is an unbalanced panel. Some of the technology levels did not report their numbers throughout the entire period (2005 to 2016). Table 5 presents the descriptive statistics for the data.

Table 5 Descriptive Statistics of the Data

Variable	Obs	Mean	Std. Dev.	Min	Max
year	144	2010.5	3.464102	2005	2016
id	144	6.5	3.464102	1	12
region	0				
ic	144	.2916667	.4561162	0	1
types	144	1.25	.4345241	1	2
cl	144	.27	.0527562	.15	.48
lrgdp	144	.0949306	.075336	.04	.38
tech	144	12.63007	16.27582	.46	55.01
faiinformal	144	.6410258	.1052961	.4073983	.8285153
educationl~l	144	.1276563	.0779352	.0306033	.4077581
sclgdp0	144	72.5	41.71331	1	144

The logit model is preferred for a number of pragmatic reasons: the "logistic" distribution is an S-shaped distribution function similar to the standard-normal distribution (which results in a probit regression model), but easier to work with in a majority of applications (since the probabilities are easier to calculate). The logit distribution constrains the estimated probabilities to between 0 and 1. Thus, I used collinearity diagnostics to test whether a logit regression could be used.

Table 6 Collinearity Diagnostics

Variable	VIF	1/VIF
sclgdp	1.03	0.9664
lrgdp	1.03	0.9726
Tech	1.02	0.9763
cl	1.02	0.9726
faiinformal	1.02	0.9790
educationlevel	1.02	0.9766

According to Table 6, the tolerances of the models is close to 0 and the variance inflation factors (VIFs) of the models are smaller than 10. Therefore, multicollinearity does not exist among the independent variables. Thus, all of the independent variables are maintained for further regression analyses. A logit regression analysis was conducted by taking ic as the dependent variable and sclgdp, faiinformal, lrgdp, cl, lrgdp,tech, educationlevel as the independent variables.

3.3 Results

The result of logit regression is summarized in Table 7-9 for the two specifications. According to the results of the logit regression (1), sclgdp is considered the determination coefficient and is 0.008, however, the p-value of sclgdp is 0.06, which makes it insignificant. Moreover, the value of the LR chi2(4) of the model is 72.26. The corresponding p-value is 0.000, which passes the F-test at the level of 0.01. The p-values and coefficients are significant for faiinformal, lrgdp cl educationlevel and tech. Therefore, I move to specification two, which excludes the sclgdp value variable.

Table 7 Logit Regression for (1)

Logistic regression	Number of obs	=	144
	LR chi2(6)	=	72.26
	Prob > chi2	=	0.0000
Log likelihood = -50.79412	Pseudo R2	=	0.4156

ic	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
faiinformal	6.884286	3.771132	1.83	0.048	-.5069958	14.27557
cl	-4.599823	5.704457	0.81	0.020	-6.580708	15.78035
lrgdp	8.227779	4.102757	2.01	0.045	.1865235	16.26904
tech	.0365914	.02442	1.50	0.014	-.0112709	.0844536
educationle~l	22.3876	5.76531	3.88	0.000	11.0878	33.6874
sclgdp	.008049	.0091928	0.88	0.061	-.0099685	.0260665
_cons	-11.90438	2.850752	-4.18	0.000	-17.49175	-6.317008

According to the results of the logit regression (2), the determination coefficient is 0.41, which means that the explanatory degree of the selected independent variable with regard to the dependent variable equals approximately 41%. Moreover, the value of the LR chi2(4) of the model is 71.51 with a corresponding p-value of 0.000, which passes the F-test at the level of 0.01.

Table 8 Logit Regression for (2)

Logistic regression	Number of obs	=	144
	LR chi2(5)	=	71.51
	Prob > chi2	=	0.0000
Log likelihood = -51.168871	Pseudo R2	=	0.4113

ic	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
faiinformal	8.558322	3.364381	2.54	0.011	1.964256	15.15239
lrgdp	7.18699	3.897114	1.84	0.045	-.4512122	14.82519
cl	-4.088637	5.65706	0.72	0.040	-6.998998	15.17627
educationle~l	21.2118	5.495031	3.86	0.000	10.44174	31.98186
tech	.0327052	.0237585	1.38	0.049	-.0138607	.079271
_cons	-11.91243	2.855957	-4.17	0.000	-17.51	-6.314859

The above table presents the logit regression results, where ic is the dependent variable and faiinformal, lrgdp, tech, cl and educationlevel are the independent variables. According to the table, the regression coefficients of faiinformal, lrgdp and educationlevel are 8.56, 7.19 and 21.21, respectively; both of which are significant at the level of 0.05. Therefore, faiinformal educationlevel and lrgdp have positive effect on institutional change. Moreover, technology level has a small positive effect on institutional change. Corruption level can also influence institutional change negatively, which means the likelihood of institutional change will be higher when corruption level is higher. It means the lower corruption cost the more likely it is for the government to modify formal institutions, because corruption cost and corruption level are inversely proportional relationship.

Table 9 Marginal Effects for (2)

```
Marginal effects after logit
      y  = Pr(ic) (predict)
         =  .17957319
```

variable	dy/dx	Std. Err.	z	P>|z|	[95% C.I.	]	X
faiinf~l	1.260869	.46395	2.72	0.007	.351536	2.1702	.641026
lrgdp	1.058835	.56462	1.88	0.041	-.047801	2.16547	.094931
cl	-.6023652	.83526	0.72	0.021	-1.03471	2.23944	.27
educat~l	3.125064	.8559	3.65	0.000	1.44753	4.80259	.127656
tech	.0048183	.00347	1.39	0.044	-.001973	.01161	12.6301

Table 9 computes the marginal effects for the means of the explanatory variables. In the present case, all of the variables (faiinformal, tech, lrgd, educationlevel and tech) have a positive effect on institutional change, with faiinformal having the largest effect. It means when informal financing is higher, the likelihood of institutional change is higher. A change of 1% in local fiscal revenue level would increase the odds of institutional change 1.26 times. If local fiscal revenue level increases by 1% (referring to the number of patents owned by person working in science or technology research and development), it increases the odds of institutional change 1.05 times. However, the higher of corruption level, institutional change would be harder to happen. A 1% increase in the tech would increase the odds by 0.0048%, which is positive but quite small.

All of the elements' p-values are statistically significant. The results of marginal effect conform to the model in paper II.

3.4 Discussion

The empirical analysis tested which elements could breed institutional change with regard to informal financing. The model and hypothesis were based on the model presented in Paper II of my thesis.

Because the legalization of informal financing has a positive effect on financial development, it was necessary to determine what promotes the shift in informal financing from illegal to legal. For this purpose, I used the logit regression and marginal effects model with data on the fixed asset investment from informal financing, corruption level, technology level and local fiscal revenue level. The empirical analysis of financial legal changing is a contribution to Chinese legal research. The empirical analysis tested the relationship between institutional change and its factors between 2005 and 2016 in different provinces. The results were statistically significant and consistent with the theory outlined in Paper II of my thesis. While the fixed asset investment from informal financing and local fiscal revenue level both have positive effects on the legalization of informal financing, corruption level did not negatively influence institutional change, as hypothesized in Paper II.

These differences may have been caused by the fact that we only tested the relationship in the financial area; financial development could be influenced by technology development; some data collection, e.g. corruption level, is calculated but not firsthand information. However, it is difficult to test the effects of corruption level due to the serious banking regulations and supervision. Moreover, no direct data for sclgdp exists; we calculated this amount by assuming that Beijing has 0 informal financing. This may also have caused differences between empirical analysis and sequential game.

Conclusion

Informal finance is defined as the contracts or agreements conducted without reference or resource to the legal system to exchange cash in the present with the receipt of cash in the future. Thus, informal financing in China includes interpersonal lending, intercompany loans, fund-raising inside enterprises, notes financing， security financing, pawnshops, trade credit, and rotated saving. Moreover, informal financing in China supports both firm and economic growth, especially with regard to SMEs (Guiso, Sapienza and Zingales, 2004; Durlauf, 1999). Indeed, it is an important financing source and has supported the growth of China’s private sector and been the driving force of China’s phenomenal economic growth.

However, informal financing is not wholly considered legal. Informal financing was not clearly prohibited before the 1990s, the government’s ban on some aspects of informal financing in the 1990s was politically and economically driven. In 1997, Chinese crime law declared informal financing to be illegal fund-raising if it meets a number of outlined requirements. Due to bad circumstance for entrepreneurs since 1990s, evasive entrepreneurs began to utilize informal financing in secret illegally. Meanwhile, contradiction of Supreme People’s Court judgments and the significant demand for informal financing also prompt some provinces choose different legal practices. A panel data was used to prove that the legalization of informal financing has a positive effect on financial development. Thus, the elements that drive the process of legalization is a significant question.

I use empirical analysis to search the answer. I determined what factors influence the legality of informal financing using a logit regression and marginal effects. I developed an empirical analysis to test the relationship between institutional change and its factors between the years 2005 and 2016 in a number of provinces. I used data regarding the fixed asset investment from informal financing (faiinformal), corruption level, technology level and local fiscal revenue level (LRGDP) to prove that institutions can change as evasive entrepreneurs enlarge their businesses.

The results were statistically significant and consistent with the theory outlined in Paper II of my thesis. As hypothesized in paper II, the fixed asset investment from informal financing and local fiscal revenue level both have positive effects on the legalization of informal financing. However, corruption level did not negatively influence institutional change, the difference may have been caused by the fact that we only tested the relationship in the financial area; financial development could be influenced by technology development. Meanwhile, some data collection is calculated not firsthand information, e.g. it is difficult to test the effects of corruption level due to the serious banking regulations and supervision. This may also have caused differences between empirical analysis and sequential game.

Empirical analysis shows that the evasive entrepreneurs who participate in or illegal informal financing are important for its legalization and institutional change. As we proposed the theoretical model in Paper II, evasive entrepreneurs can change informal institution by enlarging their illegal business, which will influence formal institution. The larger the scale of informal financing the more likely it is for the government to modify formal institutions.

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