Alternative Legal Institutions, Xinfang, and Finance

Jiafu An, Jo Danbolt, and Wenxuan Hou[1]

The University of Edinburgh Business School, 29 Buccleuch Place, Edinburgh, EH8 9JS, UK

Abstract

China's growth miracle achieved under weak legal institutions poses a puzzle to the literature on the law-finance nexus. In this paper, we shed light on the puzzle by identifying an important alternative legal institution, known as *xinfang*, which is parallel to courts and administrated by the Chinese government for citizens to file cases and resolve disputes and complaints. Based on the provincial *xinfang* regulations, we construct an index on their regional quality and argue that strong rule of *xinfang* promotes financial development through protecting property rights, providing checks on government and meeting changing social needs. The results confirm our predictions in that regions with stronger *xinfang* system are associated with more developed equity and debt markets. We also find that *xinfang* exerts stronger impact than formal legal institutions and compliments the latter. The results are robust to the control of endogeneity.

---

[1] Corresponding Author: E-mail: wenxuan.hou@ed.ac.uk; Tel: +44 (0) 131 651 5319

1. Introduction

Many studies seek to explain the cross-sectional variations in financial systems[2]. La Porta et al. (1997, 1998, 1999, 2000, henceforth LLSV) and Beck, Demirguc-Kunt, and Levine (2001, 2003a, b) attribute this difference to countries' legal institutions. According to their perspective, places with better legal systems can more effectively foster the development of financial market. Seminal work on Chinese institutions, however, argues that this law-finance nexus does not apply to China (Allen, Qian and Qian, 2005; Clarke, Murrell and Whiting, 2008). While the law and its enforcement are weak, China has one of the world's largest financial markets, second only to the United States in terms of total market capitalization[3]. This fact raises some critical questions, such as why, despite the weak legal institutions in China, are Chinese investors willing to finance firms? What, if not judicial, are the institutions that support the development of China's financial market?

This paper sheds light on the puzzle by identifying and studying an important alternative institution that facilitates the financial development in China. Broadly defined as a mechanism for the governments and its associations to receive grievances, file complaints, and seek resolutions[4], xinfang is a commonly used means by citizens to resolve disputes and pursue justice in both imperial and contemporary Chinese society. We argue that xinfang is crucial for protecting private property rights, supporting private contracts, providing government checks and therefore facilitating the development of financial market.

Deeply embedded in the Chinese culture and history, the xinfang system parallels, and sometimes even replaces the judiciary system (Lang, 2004). For example, between 1949 and 1979, during which the legal institutions were largely absent, xinfang was the only channel to

---

[2] For example, La Porta, Lopez-De-Silanes, Shleifer and Vishny, 1997, 1998, 1999, 2000, Acemoglu, Johnson and Robinson, 2001, 2002, Rajan and Zingales, 2003, Beck, Demirguc-Kunt, and Levine, 2001.
[3] See http://english.sse.com.cn/investors/IntroductiontoSSE/C-MarketOverview/.
[4] See the Xinfang Regulations of People's Republic of China, 2005. More recently, many provincial xinfang bureaus developed online xinfang systems that enabled citizens to file complaint through the internet. Some provinces even allow xinfang cases filed via video chat (Xinfang Regulation of Guangdong, 2015).

resolve people's grievances (Liu, 2005). Even today, many provincial xinfang regulations explicitly charge xinfang bureaus to handle disputes involving violations of people's legal rights as well as illegal behaviour of government officials[5]. Yunnan xinfang regulations explicitly state that government organs charged with xinfang responsibility must accept "appeals of illegal decisions" of government, courts, procuratorates of the same administrative level[6] (Minzner, 2006). In 2016, President Xi reiterated the importance of the xinfang system and assured cases filed under the xinfang system will be well-dealt with[7].

We argue that xinfang promotes financial development through three channels. First, the "adaptability"[10] channel stresses the ability of the xinfang system to evolve with the changing economic conditions of the society. According to the National Xinfang Bureau, dispute resolution under the xinfang system does not only depend on the rigid interpretations of legal rules; instead, it consults the laws and depends largely on state policies, social norms and the sense of justice. Therefore, xinfang bureaus have significant discretion in dispute resolution. Posner (1973) states that legal systems that incorporate the essence of judicial discretion would efficiently respond to the changing commercial demands. Thus the xinfang system has the ability to help minimize the gap between the contracting needs of the society and the capability of the legal system, with positive repercussions on financial markets (Beck and Levine, 2003).

The second channel is "property protection". According to this channel, xinfang systems can effectively improve the security of private property, such as lands, factories, houses, equipment, patents, etc. Disputes concerning local government expropriation, such as coercive acquisitions of land and properties, are generally regarded as politically sensitive issues in China. As a result, local court, largely influenced by local government, often fails to

---

[5] See Zhejiang and Gansu xinfang regulations for further information.
[6] See Yunnan xinfang regulations for further information.
[7] See http://news.xinhuanet.com/legal/2016-04/21/c_1118698018.htm
[10] We borrow the word "adaptability" from Beck and Levine (2003) and Beck, Demirguc-Kunt and Levine (2003).

file this type of cases for aggrieved citizens (Zhang, 2003; Clark, et al., 2008; Yu, 2004). The xinfang system, in contrast, provides a channel through which an ordinary citizen can seek resolution of property disputes from higher administrations, which in turn improves the security of private property rights. Therefore, the "property protection" channel predicts that the xinfang system enhances the security of private property, which leads to a better contracting environment as well as a more developed financial market.

Third, the "political participation" channel emphasizes the xinfang system's ability to provide checks on government expropriation through engaging citizens to participate in the political system (Paik, 2012). Survey results show that both the frequency and growth rate of xinfang cases concerning expropriation and coercive behaviour by local government officials are significant (Zhao, 2003; Meng and Lan, 2004). This reflects that citizens are increasingly participating in the political system and monitoring the state through the xinfang system. Levine (2005, p61) states that "any government strong enough to define and enforce property rights is also strong enough to abrogate those rights". Thus, checks on government are vital in supporting property rights as well as the development of overall financial market. The "political participation" channel, therefore, predicts that the xinfang systems can promote the financial development through enhancing public monitoring of the government.

The xinfang system is relatively more decentralized than the legal system. While provincial governments do not have the authority to pass laws[13], they are able to establish their own xinfang regulations. Under the legal system, all 31 provinces in China follow the same set of statutory laws and the only variation among provinces is the law enforcement. Under the xinfang system, however, both regulations and their enforcements vary greatly across provinces. This enables us to measure the regional rule of xinfang and to examine their impact

---

[13] The term "laws" refers to the national laws issued by the National People's Congress (NPC) or its standing committee. It does not include the administrative regulations issued by the State Council, local decrees issued by local people's congresses, and administrative and local rules issued by an administrative agency of the central government or by local people's government (Firth, Rui and Wu).

on regional financial development, and therefore allows us to empirically evaluate the influence of the xinfang system on financial institutions.

We use cross-sectional regressions on a panel for 31 provinces in Mainland China with annual data over 1992-2014. To measure the quality of xinfang system across China, we code the xinfang regulations of 31 provinces over the period of 1992-2014 based on four broad categories derived from judicial reforms of 26 developing countries (Messick, 1999; Buscaglia, 2006). We then develop 63 indicators from the four broad categories, each measuring a specific aspect of the provincial xinfang system. We aggregate these 63 measures into a xinfang index that measures the quality of the xinfang system in each province each year. To measure provincial financial development, we use two sets of indicators. The first set measures the development of the stock market, including total capitalization/Gross Domestic Product (GDP), floating capitalization/GDP, the trading volume of the equity market/GDP, the number of initial public offerings/population and the number of listed firms/population. The second set measures the development of the debt market, including total loans/GDP, medium and long term loans/GDP, short term loans/GDP, deposits/GDP and fixed investment/GDP. Most of these measures have been used in previous financial development studies (e.g., Ragan and Zingales, 2003; Beck, Demirguc-Kunt, and Levine, 2001; 2003a, b), and the main purpose of these indicators is to capture the functions of the financial markets, such as mobilizing savings, allocating resources, exerting corporate governance, managing risks, and facilitating the trading of goods, services and contracts (Levine, 1997).

We find that, *ceteris paribus,* better xinfang system is associated with better financial development. Our baseline results show that the xinfang system enters both significantly and positively in eight out of ten regressions. After controlling for the impact of legal and political institutions, government characteristics, accounting quality, religion, provincial gross domestic productions (GDP) as well as other geography factors, our results remain. Consistent with the

4

law and finance theory (LLSV, 1997, 1998), we also find that the legal system exerts a significant impact on financial development. However, our results show that the strength of legal impact is less powerful than that of the xinfang system on the development of financial markets. Lastly, our results show that places that have both better developed legal and xinfang systems can more efficiently foster financial development.

To address the endogeneity concerns, we need an exogenous source of variation in the xinfang system. Literature shows that the function and development of the xinfang system depends on the state-social interaction (Minzner, 2010) and social stability. During 1966-1976, a political movement—the Cultural Revolution—produced nationwide chaos and severely damaged the xinfang system. While the entire xinfang system was endangered, the magnitude of such damage varied across provinces. We exploit this variation to derive a possible source of exogenous variation among the provincial xinfang systems. Particularly, we argue that more severe damage on the xinfang system during the Cultural Revolution leads to inferior development of the xinfang system afterwards. We use the unusual death-toll in each province to proxy the level of damage.

We instrument the xinfang index by the unusual death-toll during the Cultural Revolution (May 1966—December 1976)[14] in each province, because it is highly likely to meet the two conditions for a valid instrument, namely relevance and exclusion. The relevance condition requires a strong association between the unusual death-toll and the xinfang index. Although the Cultural Revolution damaged China's institutions including the xinfang system (Walder and Su, 2003; Su, 2011), the degree of such damage varied across provinces. We believe the unusual death-toll is a good proxy for the magnitude of such damage in each province. We argue that places with higher number of unusual deaths suffered more severe

---

[14] Most of the unusual deaths were caused by political reasons and happened during the 1966-1971 period. For a detailed and rigorous analysis, see Walder and Su (2003) and Su (2011).

damage on the xinfang institutions during the Cultural Revolution, which in turn would lead to more difficulties and longer duration in rebuilding the xinfang system afterwards. Consequently, xinfang systems have experienced less development in these places than those with less damage during the Cultural Revolution. In short, higher unusual death-toll during the Cultural Revolution (May 1966—December 1976) leads to less developed xinfang system thereafter. Empirically, we find that the unusual death toll is indeed strongly associated with the xinfang index at the 1% significance level with a R^2 value of 32%. The Kleibergen-Paap F-statistic is 11.37, above the conventional value of 10, commonly viewed as a threshold in literature.

The exclusion condition requires no correlation between the instrument and the error term of the baseline estimation model, indicating that the instrument can only affect financial development via the xinfang system. We believe that it is highly likely that level of damage in each province during the Cultural Revolution, as measure by the unusual death-toll, is exogeneous to the development of financial markets. There are three reasons for this outcome. First, the unusual deaths of thousands of people during the Cultural Revolution was a result of the battle between two political factions due to the differences in their political ideology (Walder and Su, 2003; Su, 2011). It is highly unlikely to associate with economic or financial significance. Second, the time lag between the occurrence of the unusual death (1966-1971) and the establishment of the stock market (1990) is large[15]. Perhaps more importantly, neither the officials nor the citizens of China would have thought about the financial market during 1966-1971 where most killings happened, because under Mao's rule (1949-1976), central planning and collective ownership of the communism was the dominant theme. Empirically, our falsification tests show that the unusual death-toll is unlikely to be correlated with the error

---

[15]The rapid development of debt market reached in around 1990s. See Almanac of China's Finance and Banking, 1986-2014.

term of the baseline estimation models. Additionally, by dividing 31 provinces into high and low unusual death-toll groups, we find similar financial developments in the two groups[16]. After instrumenting the xinfang index, our results are even stronger.

In the additional tests, we find that government also exerts an impact on the xinfang-finance relationship. Particularly, we show that government intervention has a positive influence on the xinfang-finance nexus, while government scale has a negative effect on the relationship. Finally, we show that these results are not a consequence of different income levels in different provinces, consistent with the new institutional economics literature (North, 1981, 1990).

This paper makes four contributions. First, this is the first paper to explain theoretically and to measure empirically the determinants of the alternative legal institutions—xinfang—and their impacts on financial development. Although legal scholars and political scientists have shown the xinfang system to be an alternative legal system (for example, see Minzner, 2010), this paper goes much farther in evaluating its impact on protecting property rights, supporting private contract, and facilitating financial development.

Second, this paper also contributes to the research on the law-finance nexus (LLSV, 1997, 1998, 1999, 2000; Beck, Demirgüç-Kunt, and Levine, 2001, 2003a,b; Levine, 2005; Beck and Levine, 2008). Although a large body of literature has linked legal institutions to financial development, they mainly focus on different aspects of the formal legal institutions. Building on the law and finance view as well as dynamic law and finance view, we provide a new perspective to look at the law-finance nexus: the alternative legal institutions and finance view. Since our setting naturally controls for the impact of legal origins and initial endowment, we show that differences in alternative institutions also help explain cross-sectional variations in financial institutions. While the discussion in this paper is specific to China, arguably the

---

[16] Mean comparison results by year is available upon request.

circumstances of this Chinese case apply to many other countries with alternative legal institutions.

Finally, this paper provides an alternative explanation of why China has weak legal institutions but still enjoys one of the fastest growing economies in the world. Allen, Qian, and Qian (2005) argue that it is the reputation and personal relationship that support the external finance of private firms. This paper provides new explanation that the xinfang system has a strong, positive impact both on equity and debt markets, therefore contributing to firm finances.

The paper is organized as follows. Section II introduces the alternative legal institutions-xinfang. Section III reviews the literature and develops hypotheses. Data is presented in Section IV. Section V shows the results and VI shows impact of national xinfang regulations on the function of provincial xinfang systems. Further robustness checks are presented in Section VII and Section VIII concludes.

2. The alternative legal system—xinfang

Previous studies have attempted to reveal the Chinese xinfang system to a wider spectrum of audiences. Some of them apply translations such as "lodging complaints" (O'Brien and Li, 1995), "appealing to higher authorities" (Michelson, 2004), "contacting" (Luehrmann, 2003). Others directly borrow the terms from the Western petition system to describe xinfang system (Minzner, 2006). However, some of the key insights of the xinfang system are lost in these translations. While these terms may seem familiar to Western audience, they may also lead to confusions such as what is xinfang? What are the differences between xinfang and Western petition systems? What are defining characteristics that differentiate the xinfang from the formal legal system?

This section attempts to answer these questions. Broadly defined as reaching governments and its associations through letters, personal visits, fax and telephone calls to express grievances, file complaints, and seek resolutions, xinfang is a commonly used means

by citizens to resolve disputes and pursue justice in both imperial and contemporary Chinese society. In contrast to the formal legal dispute resolution which heavily relies on a set of rigid legal rules, officials resolving xinfang case not only consult laws, but also base their decisions on social norms, state policies, and a sense of justice which has been repeatedly stressed in the Party's internal regulations and disciplines. In the latest version of the Constitution of the Party, The General Principle has reiterated that the Party should improve people's livelihood and address issues that people are mostly concerned about according to justice and other principles[17].

Deeply embedded in the Chinese history, the xinfang system was firstly introduced by an ancient tribe leader to improve his ruling policies by collecting information from the masses (Liu, 2005). During imperial times, the xinfang system gradually evolved into a governance tool. By allowing citizens to report grievances and file complaints directly to the central government via the xinfang channel, the emperor effectively mitigated the agency problem between himself and the local cadres. After the civil war, the Communist Party has carried xinfang system over to the People's Republic of China serving the same political purpose. Over time, this xinfang channel has developed into a system that parallels, and sometimes even replaces the formal legal system (Lang, 2004). Between 1949 and 1979, for example, during which the legal institutions were largely absent, xinfang was the only channel to resolve people's grievances (Liu, 2005). Even today, many provincial xinfang regulations, such as Zhejiang and Gansu provinces', explicitly charge xinfang bureaus to handle cases that involve violation of people's lawful rights as well as reports that reveal the illegal behaviour of government officials[18]. Under Yunnan provincial regulations, government organs charged with the xinfang responsibility must accept "appeals of illegal decisions" of government, courts,

---

[17] See the Constitution of the Party.
[18] See Zhejiang and Gansu xinfang regulations for further information.

procuratorates of the same administrative level[19] (Minzner, 2006). While disagreements remain, the bulk of evidence[20] shows that the xinfang system has gradually evolved into an alternative justice system in China, overlapping with the formal legal system. Figure A in appendix shows a timeline of the development of the xinfang system.

2.1 Xinfang versus petition

While the term "petition" captures some elements of xinfang activities, such as seeking response from the government, it is fundamentally different from xinfang system in a number of ways. First, the standards of xinfang cases are different from those of petitions. Under xinfang system, the types of cases can cover a wide range of topics such as enforcement of contract, security of property rights, protection of individual's legal rights, community relations, environmental issues and public services as well as political affairs[21]. In contrast, the Western petition system often imposes various limitations on what types of cases can be filed. For example, UK regulations clearly state petitions about personal interests, party political, violations of law and intellectual property rights will be rejected[22]. U.S. regulations also have similar clause that petitions that do not address the policies of the federal government will not be accepted[23].

Secondly, according to Xinfang Regulations of People's Republic China (2005), there is no threshold for the number of citizens that have to get involved in a particular case in order to get a response from the government. A case can be filed either by a single person or a group of individuals with shared interests under xinfang system, and the probability of government

---

[19] See Yunnan xinfang regulations for further information.
[20] Shanghai requires xinfang workers have knowledge of relevant regulations and the law. Gansu province requires that xinfang workers have an ability to mediate. Many other provincial regulations explicitly grant petitioners the right to ask xinfang workers for legal advice and information and permit government xinfang bureaus to arrange the participation of legal professionals such as lawyers to provide assistance to xinfang bureaus.
[21] For further information, see 31 provincial xinfang regulations over 1992-2015.
[22] See https://petition.parliament.uk/ for more information.
[23] See https://petitions.whitehouse.gov/ for more information.

response does not depend on the number of people who file the case. In contrast, under the Western petition system, the process of filing a complaint is generally heavily regulated and getting a response from government is much more difficult. According to the U.S. regulations[26], a petition must reach 150 signatures to cross the first threshold and be searchable on the government website, and must reach 100,000 signatures within 30 days to get a government response. Similarly, the U.K. threshold [27] on filing is 5 signatures and requires 10,000 signatures for government response.

Lastly, the scale of xinfang system is significantly larger than petition system's. According to state petition agency in the U.K.[31], the total number of cases filed within the most recent 6-month window is 4,426 (calculated on 21st, December, 2015). In contrast, a rough estimation of the number of cases filed during the same period under xinfang system reaches three million, about 650 times higher than in the UK. Figure 1 shows the total number of xinfang cases filed each year over the 2004-2013 period. Further, according to the Chinese national xinfang bureau (the State Bureau for Letters and Calls), there are 25 different xinfang bureaus in Beijing alone[32] and thousands of xinfang offices distributed through government organs nationwide, such as courts, procuratorates, tax bureaus, land and resource bureaus, environment bureaus, etc.

[Insert Figure 1 about Here]

Arguably, the large number of cases filed in each year may result from the lower procedural formalism of xinfang system. Based on Shapiro's (1981) criteria for an ideal court, xinfang system has less regimented steps for filing and therefore may lead to shorter duration of dispute resolution, higher enforceability of contract, higher honesty, consistency and fairness

---

[26] See https://petitions.whitehouse.gov/ for more information.
[27] See https://petition.parliament.uk/ for more information.
[31] See https://petition.parliament.uk/ for more information.
[32] See http://www.bjxfb.gov.cn/xfzn-ldjdrrcap/c28-a32.html (last visited June 03, 2015)

than Western petition[33] systems (Djankov et al., 2003). Generally, Western petition systems are more heavily regulated and have higher procedural formalism than xinfang system, which often leads to longer duration of dispute resolution and lower consistency within the system (Djankov et al., 2003).

2.2 Xinfang versus legal system

In contrast to the legal system, xinfang system is relatively decentralized. While provincial governments do not have the authority to pass laws, they are able to establish their own xinfang regulations. Under the legal system, all 31 provinces in China follow the same set of statutory laws, and the only variation among provinces is the law enforcement. Under xinfang system, however, both regulations and their enforcements vary greatly across provinces. Specifically, each province has enacted their own xinfang regulations. The promulgation date of these provincial xinfang codes also varied. Figure 2 shows the promulgation dates these regulations.

Although both legal and xinfang systems are widely used to resolve disputes, the procedures are different. The procedure of resolving a xinfang case varies by provinces, but generally takes the following steps summarized in appendix figure B.

After filing a complaint in a xinfang bureau, the citizen will receive an official notice within 5-7days[34]. This carries the information of how the case will be dealt with, either filed, transferred or rejected. If the case is transferred to another xinfang bureau, the citizen will receive a similar notice indicating whether the case is accepted or rejected within 5 days upon the transfer. When a xinfang case is successfully filed, it will be resolved with a written judgement by the involved government officials over the next 30-60 days. Based on the province in which the case is filed, this period can be extended up to three months. After

---

[33] The ombudsman system in Sweden also limits the content of the cases to governmental issues. For more information, see http://www.jo.se/en/.
[34] See Xinfang regulations of 31 provinces over 1992-2015.

receiving the written judgement, citizen who filed the case has two options: either accept it, or appeal. If they choose to appeal, the appellate result can take 30-90 days based on where it is filed. Although some provinces only allow two appeals, citizens can always rephrase their case and start over. In fact, there is no limit on how many times a case can be appealed as long as the citizen rephrases the compliant[35](Ying, 2004).

Figure C in appendix illustrates the simplified procedure of filing and resolving an average legal case. In contrast to a xinfang case, a lawsuit takes both longer and incurs higher costs to resolve: while a case in xinfang system takes up to three months to reach a judgement, it can take six months in an average civil litigation[36]. Similarly, while the xinfang bureaus do no charge any fee in dispute resolution, courts typically require different types of litigation fees[37] to be paid in order to proceed.

Despite the variations in the dispute resolution procedure, they differ in a number of other important respects. Frist of all, the principles and basis used to resolve disputes are different under the two systems. Under the formal legal system, judgements are made strictly according to the interpretations of the legal rules, while under the xinfang system disputes are resolved after consulting the laws, state policies, social norms and principles of fair and justice stressed in the Party's Constitution. This difference consequently leads to variations in their capabilities to evolve with the changing economic conditions, i.e., meeting the contractual needs. According to Bailey and Rubin (1994) and Beck and Levine (2003), rigid statutory laws are both slow and costly to change, which leads to low efficiency in adapting to changing economic conditions. In contrast, dispute resolution under xinfang system does not depend on

---

[35] See Xinfang regulations of 31 provinces over 1992-2015.
[36] See the Civil Procedural Law of People's Republic of China, 2012.
[37] The admission fees of a civil litigation typically ranges from 50 RMB to 2.5% of the value at stake. Representing fees of lawyer varies across provinces (Measures on the Payment of Litigation Costs, 2006). Typical cost for hiring a lawyer in Hebei province ranges from 1500 RMB to 5% of the value at stake. For more information, see http://www.hbfz.gov.cn/.

rigid legal rules. Instead, it depends on the involved officials' understanding of state policies, social norms and experience that incorporates both institutions and the demands of the society. Therefore, arguably the xinfang system may adapt to the changing circumstances more efficiently than the formal legal system.

Secondly, xinfang system is more independent from the government influence of current administrative level than the formal legal system. The Chinese administrative system is composed of a strong central government, led by the Chinese Communist Party (the CCP), and four levels of subnational governments, i.e., provincial, prefectural, county, and township. In the 1980s, where China began its economic reform, the central government has given enough autonomies to each local government so that they could implement policies and execute reform ideas in their jurisdictions (Xu, 2011). These autonomies also extend to the appointment, promotion and dismissal of the leadership of local courts as well as controls of their finance and logistics (Chen, 2003). Therefore, courts are subject to great local government influence and are quite likely to act in the government's best interests rather than the society's. While giving autonomies, the central government has also maintained strong political control over the subnational governments. Particularly, the career of provincial government officials (the first subnational administrative level), including promotion and dismissal, completely rests on the hands of the central government. This political control also extends to the lower administrative level, for example that the provincial government controls the prefectural officials and the prefectural government controls the county officials (Xu, 2011). The xinfang system, which involves seeking higher administrative level to resolve disputes, is thus less subject to government influence from the current administrative level (O'Brien and Li, 2004; Ying, 2004).

Third, the xinfang and the formal legal systems differ in the quality of their enforcements. Specifically, the xinfang system has better enforcements than the formal legal

system. As discussed earlier, the formal legal system derives its power from a set of rigid legal rules and is subject to local government interference. Thus there is limited space for it to exert its legal power. For example, disputes in which government is itself a litigant are often either judged favourably towards the government or simply refused to file (Pils, 2005). Even if the government lost the case[38], the court would hardly enforce it because its dependence on local governments. In the contrast, under the xinfang system, enforcement is relatively more powerful because it derives its authority from a higher administrative level. Even if a local government is involved in a xinfang dispute and judged loss, the enforcement would not be difficult since the order is from higher level of administration which exerts politically control over the current administrative organization (Cai, 2004; Pils, 2005).

Finally, the purported political functions of these two justice systems are different. Although both systems are regarded as governance tools for the ruling bodies, they serve different political functions. While the primary function of legal institutions has always been resolving conflicts and maintaining social order, the purported function of xinfang system has varied greatly in different times (Liu, 2005; Li, 2010). For example, in imperial China, it was initially established by the emperor as a monitoring mechanism to address the agency problem between the emperor and the local officials. During Chinese civil war shortly after the Qing dynasty ends, xinfang system was used by the Communist Party to gain support and maintain a close relation with the vast masses in order to win the war. In contemporary China, its main political purposes are to fill the gaps between the ever-evolving contracting demands of the society and the legal system's capability and to serve as a safety valve between the governing party and the masses.

2.3 Monitoring mechanisms

---

[38] Statistics in 2013 shows an 8.62% probability that government loses in a legal case. See http://www.legaldaily.com.cn/index_article/content/2014-09/01/content_5745517.htm?node=5955

The structure of the xinfang system automatically provides a channel through which government officials of higher administrative level monitor the lower-ranked xinfang officials. In the earlier section we mentioned that the same dispute can in fact be filed repeatedly under the xinfang system. If citizens get an unfair or unjust decision from a local xinfang bureau, they can always seek resolution from higher level of administration. This mechanism also allows the central government to monitor each subnational governments. If the xinfang resolution that citizens get is at odds with the prevailing state policies or social norms, the higher administration can immediately abolish the previous judgement and issue a new one. Simultaneously, the official who issued the original judgement may be disciplined accordingly. Additionally, maintaining social stability has been one of the priorities for governments at all levels. Therefore, officials who preside over disputes under the xinfang system have to consider the social influence of each case. If citizens get unfair treatment during the course of the dispute resolution, social stability may be at risk within the jurisdiction of the presiding officials.

3. Literature review and hypotheses

A substantial body of literature shows a strong positive association between finance and economic growth (e.g., King and Levine, 1993; Levine, 1997; Levine and Zervos, 1998; Demirguc-Kunt and Maksimovic, 1998; Rajan and Zingales, 1998; Claessens and Laeven, 2003). This raises an important question: if finance is so economically beneficial, then why do some countries have well-established value-enhancing financial systems, while others do not? Scholars give a number of explanations. Some take a structural perspective, such as the law and finance theory (La Porta, Lopez-De-Silanes, Shleifer and Vishny, 1997, 1998, 1999, 2000, henceforth LLSV) and the endowment theory (Acemoglu, Johnson and Robinson, 2001, 2002, henceforth AJR; Beck, Demirgüç-Kunt, and Levine, 2003b). Others explain this variation in financial institutions from a dynamic perspective, including the political theory (Rajan and

Zingales, 2003) and the dynamic law and finance theory (Beck, Demirguc-Kunt, and Levine, 2001).

The structural perspective holds that the historical factors, such as legal origins and initial endowments, exert a persisting impact on financial systems. In this strand of view, the key elements explaining the cross-sectional variations in financial systems are the security of the property rights and checks and balances on government expropriation.

The law and finance theory incorporates these elements into the four most influential legal origins in the world, namely the British common law, Scandinavian, German and French civil law. It holds that legal traditions vary in terms of the protection they put on property rights versus the rights of the state, and this variation has enduring impact on a country's contracting environment as well as the overall financial system (LLSV, 1997, 1998, 1999, 2000). Therefore, the law and finance theory predicts that British common law countries, which place more emphasis on property rights over the rights of the state, have better developed financial markets than countries with other legal traditions.

The endowment theory links property rights and checks on government to the geography and disease environment of those countries colonized by Europeans over the previous centuries. More specifically, the endowment theory argues that in places where the environment favours settlement, the Europeans would migrate and create institutions with strong emphasis on property rights protection and checks on government, whereas in places where the disease environment is inhospitable, the creation of extractive states with less emphasis on property rights is more likely (AJR, 2001). Thus the endowment theory predicts that those colonies with favourable geography and disease environment introduce more protection of property rights and therefore enjoy better-developed financial systems than the extractive states (Beck, Demirguc-Kunt, and Levine, 2003b).

Although both theories focus on the historical determinants of the financial systems, their emphases are different. While the law and finance theory stresses the important role played by the colonizers, the endowment theory emphasizes the impact of the geography and disease environment of the colonies. Beck, Demirguc-Kunt and Levine (2003b) investigate their relative roles in explaining the cross-country differences in financial development, and they find that both legal origins and initial endowment exert a first-order impact on current financial systems. However, after controlling for the impact of each other, the initial endowment explains more of the variations in stock market developments and financial intermediaries.

In contrast to the structural perspective, the dynamic view focuses on the time-variant determinants of financial development, such as the strength of political forces and the adaptability of legal systems. Rajan and Zingales (2003) find that many countries, such as the United States, the United Kingdom, Australia, France, etc., experienced great reversals in financial development during the period of 1913-1999: some of them had more advanced financial markets in 1913 than in 1999, and the relative level of financial development in some countries, such as the U.S. and France, had also reversed. This finding reveals that the historical determinants from the structural perspective are no longer enough to explain the cross-country variation in financial systems.

The political theory introduces an important variable factor to account for both time-series and cross-sectional differences in financial developments and explains the great reversals during 1913-1999. The logic of this theory is that once a group gains power, it will pursue policies and establish institutions that benefit themselves and its allied interest groups (North, 1990; Olson, 1993; Beck, Demirgüç-Kunt, and Levine, 2001). Ragan and Zingales (2003) apply this logic to the incumbent groups, both from financial sector and the industry, and argue that the incumbents are generally hostile to the development of arm's length markets because

these markets introduce competition that threatens their monopoly powers. However, there are occasions when the incumbents support the development of financial markets, and particularly, when a country's border is open to both trade and capital flows, the opposition to financial development is largely muted (Ragan and Zingales, 2003).

Instead of stressing the enduring influence of property rights on financial development, the dynamic law theory emphasizes the impact of a more variable element of law – jurisprudence. According to this theory, legal origins differ in terms of the law-making power they attach to the judges, and the security of such power facilitates the legal system to adapt to the changing contract demands of the economy, with positive repercussions on financial development (Beck, Demirgüç-Kunt, and Levine, 2001, henceforth BDL). Therefore, the dynamic law and finance theory predicts that countries that have adopted British common law, in which judge responses case-by-case to the commercial needs of the society (Dawson, 1960), can adapt more efficiently to minimize the gap between the demand of the economy and the legal system's capabilities and thus enjoy a correspondingly more developed financial system than countries with civil law systems (Beck, Demirgüç-Kunt, and Levine, 2001). Further, the dynamic law theory also accounts for the difference between German and French civil law countries.

Although the law and finance and dynamic law theories focus on different elements of the legal system, they are not mutually exclusive. In fact, both law theories reflect the important role of contracting environment in the development of financial markets. More specifically, there are two particular mechanisms through which the legal systems influence private contracts and the overall financial markets. First, the "political" mechanism, as reflected in the law and finance theory, holds that a) legal origins differ in terms of the distribution of the political power between private property owners and the state; b) more power assigned to the private property owners leads to better contracting environment, with positive ramifications on

financial markets (Beck, Demirgüç-Kunt, and Levine, 2003). Second, the "adaptability" mechanism, as stressed in the dynamic law theory, contends that a) legal systems differ in terms of their capabilities to evolve with the commercial demand of the society; b) countries with legal institutions that can adapt more efficiently to minimize the gap between the contracting needs of the economy and the capabilities of the legal system enjoy correspondingly better-developed financial markets (Beck, Demirgüç-Kunt, and Levine, 2003).

Both theoretical literature and empirical evidence show that the Chinese xinfang system has similar functions to courts in dispute resolution and sometimes even overlaps and parallels with the formal legal system (Minzner, 2006). Therefore, we predict that the Chinese xinfang system also exerts significant influence on the development of financial market. Particularly, we propose three channels through which the xinfang system affects financial development.

The "adaptability"[41] channel stresses the ability of xinfang system to evolve with the changing economic conditions of the society. According the National Xinfang Bureau, there is no bright-line rules or any rules resembling the statuary laws of a civil law system. This reflects a desire of the central government leaders to ensure that they can intervene at will in xinfang cases that may involve politically sensitive issues or cause social unrest (Minzner, 2006). In fact, the nature of the dispute resolution under xinfang system is more likely to resemble that of case law: judges have significant discretion in resolving disputes (Glaeser and Shleifer, 2002). Posner (1973) states that legal systems that incorporate judicial discretion will efficiently respond to the changing commercial demands. This facilitates the process of minimizing the gap between the contracting needs of the society and the capability of the legal system, with positive repercussions on financial markets (Beck and Levine, 2003a). Thus, the

---

[41] We borrow the word "adaptability" from Beck and Levine (2003) and Beck, Demirguc-Kunt and Levine (2003a).

"adaptability" channel predicts that xinfang system can efficiently adapt to the demand of the economy, and therefore promote financial development.

The "property protection" channel holds that xinfang systems can effectively improve the security of private property, such as lands, factories, houses, equipments, patents, etc. Disputes concerning local government expropriation, such as coercive acquisition of land, are generally regarded as political sensitive issues. Thus, local courts, largely subject to the influence of local government (Zhang, 2003; Clark, et al., 2008), often refuse to file this kind of cases for aggrieved citizens (Yu, 2004). Xinfang system provides a channel through which an ordinary citizen can seek resolution of property disputes from higher administrations, which consequently increases the security of private property rights. According to Chinese provincial governments[42], of all the cases filed in the xinfang systems, land and property (along with litigation-related) disputes have been the most prevalent type. A study of 184 xinfang cases filed during 1998-1999 shows that 51% of these disputes was related with issues on land and property (Zhao, 2003). The increased security of private property facilitates the ability of private owners to invest and transact confidently, with beneficial ramifications on the overall financial markets. Thus, the "property protection" channel predicts that xinfang system enhances the security of private property, which leads to a better contracting environment as well as a more developed financial market.

The "political participation" channel emphasizes xinfang system's ability to provide checks on government expropriation through engaging citizens to participate in the political system. There is a growing consensus among legal scholars and political scientists that one of the main functions of xinfang system is to provide public monitoring on expropriations by

---

[42] Although we have the qualitative description from the yearbooks, we do not obtain the exact statistics regarding the xinfang contents due to its politically sensitive nature. For further information, See the provincial yearbooks of each province over 1987-2014.

government officials or other elite groups with access to political power (Minzner, 2006; Ying, 2004; Yu, 2004; Zhan and Su, 2009). Using a survey of 184 xinfang cases, Zhao (2003) shows that 31% of disputes is related with misuse of government power during 1998-1999. Another study conducted by one of law enforcement officials in Henan province finds that the number of xinfang cases concerning administrative wrongdoings nearly doubled during 1999-2003 (Meng and Lan, 2004). Both the high frequency and growth rate of this kind of complaint show that citizens are increasingly participating in the political system and monitoring the state through xinfang system. According to Levine (2005, p61), "any government strong enough to define and enforce property rights is also strong enough to abrogate those rights". Thus, checks on the government are a crucial determinant of the implementation and enforcement of the rights of private owners as well as the development of overall financial market. The "political participation" channel, therefore, predicts that xinfang systems can promote financial development through enhancing public monitoring on government.

Theoretically, a strong xinfang system would promote financial development through all three channels. However, due to the lack of consistent data and any kind of descriptions of the content of xinfang cases as well as accurate proxies (Acemoglu and Johnson, 2005), it is impossible to determine the relative importance of these channels in facilitating the development of financial markets. Nevertheless, this paper emphasizes the overall influence of good xinfang system on financial markets. Therefore, we propose the following hypothesis:

H1: *Strong xinfang system promotes financial development*.

While the formal legal system has clear value in facilitating the development of financial markets in China ((Berkowitz, Lin, and Ma 2015; Allen, Qian, and Qian, 2005), it faces a number of potential limitations. First, it has higher—relative to the xinfang system—procedural formalism due to its civil law nature (Glaeser and Shleifer, 2002; Djankov, et al.,

2003, henceforth DLLS). Particularly, the Chinese legal system relies on professional lawyers, imposes various procedures on evidence collection and presentation, insists on legal interpretations of claims and judges' decisions, and favors written submission of complaints. DLLS (2003) summarize these limitations as courts' "procedural formalism" and they find that higher procedural formalism is associated with longer dispute resolution, higher corruption, lower honesty and fairness. Therefore, the high procedural formalism in the Chinese legal system may reduce the strength of its impact on financial development.

In addition to the high procedural formalism, the weak judicial independence is another characteristic of Chinese legal system. The state power has dominated the judicial system since the very beginning of the Chinese history (Liu, 2005) and it has not introduced the idea of judicial independence in nearly as consistent a way as in common law countries (La porta, Lopez-de-Silanes, Pop-Eleches, and Shleifer, 2004, henceforth LLPS). In fact, judges have largely remained subordinated to the government officials (LLPS, 2004), and the courts, in most instances, are subject to great political subversion including government's control at the same administrative level (Ying, 2004). In contrast, xinfang system is less vulnerable to the influence of local officials since citizens can directly file cases at higher administrative level including the central government. Indeed, a survey of 632 xinfang disputants in Beijing shows that 77.6% of them regard local officials as "less trustworthy", while 37.6% show a very high regard for central leaders of the Party (Cai, 2002). Thus, the lack of judicial independence may also mitigate its effects in promoting financial development.

The third limitation of the legal system is its weak adaptability to changing economic conditions. China is a large civil law country (Allen, Qian and Qian, 2005) and the dispute resolution under the legal system heavily relies on statutory laws. According to a large body of legal literature, statutory laws are both slow and costly to evolve with the changing conditions (Rubin, 1982; Landes and Posner, 1989; Bailey and Rubin, 1994). Therefore, the gap between

the Chinese legal system's capabilities and the demands of the economy may widen due to its limited adaptability. LLSV (2002) argue that once corporate insiders find a loophole in statutory laws to expropriate outside investors, they can proceed without the risk of adverse court judgments. Thus, the weak adaptability may undermine the legal impact on the development of financial markets. In contrast, the xinfang system has better adaptability than the formal legal system. The judges under the xinfang system have better judicial discretion because their judgement are sometimes based on state policies and social norms regardless of the rigid legal rules.

Finally, the relatively poor quality of the legal enforcement may also mitigate its positive impact in promoting financial development. Due to the administrative structure in China (as discussed under Section 2), government has maintained strong political control over its functioning organs, such as courts (Xu, 2011). Not only do court's finance and logistics depend on the government, the appointment, promotion and dismissal of court's leadership also rest on the government's hands. Therefore, in cases where the government itself or its allied interest groups is the defendant, enforcement is very difficult. On the other hand, the xinfang system, which derives its power from the government officials, has better quality of enforcement.

While both the legal and xinfang systems have an impact on the development of financial markets in China, the strength of such impact under xinfang system may be stronger, due to its lower procedural formalism, more adaptability, more independence in dispute resolution and better quality of enforcement. Therefore, we develop the following competing hypotheses:

H2: *The xinfang system exerts greater impact on financial development than the legal system.*

24

DLLS (2003) emphasize the importance of judicial checks and balances and argues that judicial review helps resist the state's attempts to take property and to suppress political criticisms. Although China does not have any official judicial review mechanisms (DLLS, 2003), xinfang system can provide some checks and balances against courts. Particularly, citizens often challenge the court rulings via xinfang system after receiving unfavourable judgements. This is more likely to be the case when the other party in the dispute has access to political power and the connected government official wants the court to favour his/her allies (Firth, Rui, and Wu, 2011). According to the Law Yearbook of China[45], the average frequency of such challenges reached 2.43 million per year over 2003-2012, and the majority of them have received government responses. Therefore, by providing checks against the courts, xinfang system can effectively complement legal system in supporting the security of property rights.

Although xinfang and legal systems are alternatives, their effects on financial development are not mutually exclusive; in fact, their impact are complementary. On the one hand, xinfang system can complement legal system through strengthening the protection of property rights, improving the adaptability to changing economic conditions, and reducing the duration of dispute resolution. On the other, legal system can complement xinfang system through increasing the consistency in resolving disputes. Therefore, we propose the following hypothesis:

H3: *Places where both legal and xinfang systems are more advanced enjoy better developed financial markets.*

We next examine government impact on the xinfang-finance relationship. Particularly, we assess how government intervention influences the xinfang-finance nexus. Although

---

[45] For further information, see the Law Yearbook of China over 2004-2013.

literature shows that extreme government intervention, including pursuing individual agendas, taking unorganized bribes and imposing varieties of predatory regulations, is harmful for economic development (Shleifer and Vishny, 1993; Knack and Keefer, 1995; LLSV, 1999), positive government intervention can in fact promote private economic activities in emerging countries through enforcing and protecting private property rights (Clarke, Murrell, and Whiting, 2006), maintaining friendly economic relationships with entrepreneurs(Frye and Shleifer, 1997) and harmonizing conflicts among firms and individuals (Ram, 1986). We believe that the xinfang channel is a vehicle through which government exerts its positive intervention. Therefore, we hypothesize that:

H4: *Strong government intervention promotes the xinfang-finance relationship.*

4. Data and methodology

A large body of empirical literature uses cross-country data to establish causal links between institutions and finance (e.g., LLSV, 1997; Ragan and Zingales, 2003; Beck, Demirguc-Kunt, and Levine, 2001; 2003a, b). While these international studies provide powerful insights on institutions and financial development, the inherent statistical and conceptual challenges in interpreting cross-country data may limit their implications (Levine and Renelt, 1992; Levine and Zeros, 1993). Statistically, variables are sometimes measured inaccurately and inconsistently due to the diversity in institutional and political characteristics among a large number of countries. As Levine and Zeros (1993, p.426) note, "a person with detailed knowledge of a country can quickly identify contradictions between readily available data and what actually happened in that country". Conceptually, omitted variables are prominent because the large variations in historical experiences, cultural norms and social institutions. Levine and Renelt (1992) argue that researchers often consider only a small number of variables and ignore the importance of others.

This paper uses sub-national data to mitigate these issues and it has two major advantages. First, the comparability and consistency issues are less serious within a country than cross countries. Second, sub-national data can control for the historical, cultural and social variations that are prevalent in cross-country studies. More importantly, we use sub-national data because xinfang system is China-specific. Our sample consists of a panel for 31 provinces in Mainland China for 1992-2014. Some provinces have developed their provincial xinfang codes earlier than others, such as Jilin and Shandong in 1992, while others created their xinfang regulations relatively late, such Xinjiang and Qinghai in 2013. The year of promulgation of xinfang regulation in each province is presented in figure 2. This yields 557 province-year observations.

[Insert Figure 2 about Here]

4.1 Measuring the xinfang system

In contrast to the legal system, xinfang system is relatively decentralized. While provincial governments do not have the authority to pass laws, they are able to establish their own xinfang regulations. Further, the regulations and their enforcement vary greatly across provinces under xinfang system. Messick (1999) draws from the judicial reforms across 26 developing countries, and develops a set of criteria that measures the effectiveness of a judicial system. We build on these rationales and focus on four main areas that make provincial xinfang systems work more or less effectively. Based on the four areas, we codify the xinfang regulations of 31 provinces over 1992-2014. Below, we briefly describe our method of organizing these data. Table A in appendix shows the exact definition of the variables.

Efficiency of dispute resolution

The first area is the efficiency of dispute resolution under xinfang system. One of Messick (1999)'s criteria for establishing an effective legal system is to speed the processing

27

of cases. An ideal xinfang system should have less backlogs, shorter duration of dispute resolution and less delay. This area covers ten sub-areas, each measuring the efficiency of a specific stage of dispute resolution under xinfang system. For instance, some provinces heavily regulate the time of resolving a case (within 30 days), while other provinces have relatively loose regulation on time (within 90 days). Another example, some places allow for a short extension if the case is not resolved in due time (30 days), while others do not put limit on time extensions. After codifying the xinfang regulations, we aggregate these ten measures into "efficiency of processing cases" index.

Dispute resolution mechanisms

The second area covers various mechanisms related with dispute resolution in each province. Messick (1999), increased access to dispute resolution mechanisms is essential for improving the performance of the xinfang system. In this area, we consider various dispute resolution mechanisms. For example, some provinces provide service of video-chatting with bureau heads so that citizens can resolve their disputes immediately through the internet, while others have limited dispute resolution mechanisms. We also measure the quality of the channels through which citizens get access to the xinfang system. For instance, some provinces provide free posting service to citizens who file case via mail, while others rarely accept mailed cases. In total, we have fourteen measures for this area and we combine them into "disputes resolution mechanism" index.

Access supports and restraints

The third area we consider is access supports and restraints. This area essentially measures the accessibility of provincial xinfang systems. According to Messick (1999), increasing citizens' access to the dispute resolution system is essential for improving its performance. Therefore, when local governments and xinfang bureaus support citizens to file

xinfang cases, more disputes will reach a resolution via the xinfang system. For example, some provinces accept filing in multi languages for ethnic minority citizens and provide standardized filing format for the illiterate, while other provinces do not. In contrast, when provincial governments and xinfang agencies attempt to suppress the number of cases, less disputes will be resolved. For instance, some provincial governments prohibit government officials to file cases in xinfang system, while others do not have such restriction. In total, this area contains thirty specific measures and we aggregate them into "access supports and restraints" index.

Punishment and rewards

The last area is punishment and rewards for xinfang workers. According to the incentive theory (Messick, 1999; Buscaglia, 2006; DLLS, 2003), a legal system works better when the participants have the right incentives. The incentive mechanisms of provincial xinfang systems vary significantly and we focus on nine specific measures. For example, in some provinces, xinfang bureaus punish those who fail to file xinfang cases for citizens when they should, while in other provinces, there is no such regulation. As before, we combine these measures into "punishment and reward" index.

[Insert Figure 3 about Here]

After assembling the data, we aggregate these four sub-indexes into the index of xinfang system. The score of the index ranges from 16.5 to 41.5. Higher score represents better quality of the xinfang system. Since the sub-indexes generally point to the same direction as to which provinces have better xinfang systems, the exact index-construction method is less crucial. Figure 3 shows the general trend of xinfang index over 1992-2014. All indexes demonstrate an upward trend, which indicates that the overall xinfang system is improving. At the provincial level, while most provinces show improvements in their xinfang systems, Tianjin,

Inner Mongolia (Neimenggu), Shandong, and Guangdong provinces have lower scores on their xinfang index more recently.

Further, figure 4 shows the distribution of xinfang index across regions. We observe that municipalities (Beijing, Tianjin and Shanghai) in general have better xinfang system than the rest of provinces according to our index. The difference between autonomous regions (Inner Mongolia, Tibet, Xinjiang, Ningxia and Guangxi) and the rest can also be observed. Non-autonomous regions generally enjoy better developed xinfang systems. What's more, figure 6 demonstrates the variations between provinces with a more religious population and the others. It shows religious areas, such as Shanxi, Anhui and Fujian, have better performing xinfang systems.. Finally, figure 6 shows the variations of xinfang systems among different economic regions. While the central area, including Shanxi, Henan, Hubei, Hunan, Jiangxi and Anhui provinces, has the best performing xinfang system, north eastern area, including Heilongjiang, Jilin, and Liaoning, has the lowest average score according to our xinfang index. Since these differences are statistically significant[46], we control for these regional effects in our models.

[Insert Figure 4 about Here]

4.2 Measures of financial development

According to Levine (1997), the main functions of financial markets including mobilizing savings, allocating resources, exerting corporate governance, managing risks, and facilitating the trading of goods, services and contracts. Therefore, the right measures of financial development would capture the result of all these activities. Unfortunately, due to limited data access, we do not have the direct measures and we are only able to capture part of the result. Thus, we use ten indicators of financial development to examine the associations between

---

[46] Regional differences are not reported in this paper, but available upon request.

xinfang system and financial development and our data source is from the China Statistical Yearbook (1992-2015).

The first set of measures focused on the stock market development. Specifically, we use five indicators including the ratios of total market capitalization to gross domestic product (henceforth, GDP), floating capitalization to GDP, total trading volume to GDP, the number of initial public offerings per million population (henceforth, IPOs) and the number of listed firms per million population in each province each year over 1993-2014. Most of the indicators are self-explanatory and have been wide used in other institutional studies of financial development (e.g., Rajan and Zingales, 1998; 2003; Allen, Qian, and Qian, 2005). A drawback of total capitalization to GDP is this measure captures both floating and non-floating shares. Thus, the presence of a large proportion of non-floating share in some provinces can give an impression of an important stock market when the amount of floating shares is insignificant. To address this potential measurement bias, we accompany this measure with the ratio of floating capitalization to GDP and total trading volume to GDP. Another drawback of total capitalization to GDP is this measure does not reflect the actual amount of capital raised through equity markets (Ragan and Zingales, 2003). The positive side of this measure is that it is consistently available for all provinces and less subject to cyclicality. The numbers of IPOs and listed firms per million population are also used due to possible measurement errors in GDP. These measures are not affected by fluctuations in the stock market but are heavily regulated by government agencies. In the early 20th century, provinces were given quota on the number of IPOs (Hou and Lee, 2014). Thus, these two measures will be noisy proxies for what we try to capture.

The second set contains five indicators of the debt market, including the ratios of total loans to GDP, short-term loans to GDP, medium-to-long-term loans to GDP, total deposits to GDP and total fixed investment to GDP. Levine (1997) argues that mobilizing deposits is one

of the main function of the financial markets. However, as Ragan and Zingales (2003) note, the measure of deposits to GDP only captures the liability side of the debt markets. To address this concern, we use the ratios of total loans, short-term loans and medium-to-long-term loans to GDP to accompany the deposit measure.

4.3 Other variables

To capture the legal impact on financial development, we use three measures including the legal protection of producers (Fan, Wang and Zhu, 2010), the awareness of the property rights, and the rule of law. Legal protection of producers is from Fan, Wang and Zhu (2010), a widely used marketization index for China's provinces. Rule of law is the number of lawyers per million population in each province. The awareness of the property rights is the ratio of the number of companies over the number of patent applications. All three measures have been used in other institutional studies to proxy the legal environment (Berkowitz, Lin and Ma, 2015; Hasan, Wachtel and Zhou, 2009). For each of the three measures, we divide it into quartiles and assign the value of 1-4 to each province each year based on which quartile it belongs to. Each measure ranges from 1 to 4 with 4 representing the highest quality. We aggregate these three indicators into the "law" index.

Allen, Qian and Qian (2005) note the importance of the accounting system and the quality of government in shaping the development of financial markets. Therefore, we include three indicators to capture the effects of provincial governments and the accounting system. Specifically, government intervention and government scale measure the influence of local governments (Berkowitz, Lin and Ma, 2015) and the quality of accounting and legal service captures the influence of the accounting system. The source of the date is from Fan, Wang and Zhu (2010).

Ragan and Zingales (2003) use both trade and capital flows to measure the political influence on financial development. They find that the strength of political power can help explain the cross-sectional difference in financial markets. We apply the political theory and use the sum of import and export values over GDP in each province to capture the political influence on financial development. North (1981) notes the importance of education in developing institutions. Therefore, we control for literacy in our models. Several studies also control for the potential impact of religion on financial development (e.g., Ragan and Zingales, 2003; Beck, Demirguc-Kunt, Levine, 2003). Thus we also add religion into our model. Different from cross-country studies, there is no ready-available data on provincial religions. We therefore use the geography dummy to proxy religion. Specifically, we label one for places where the biggest religious shrines are located, and zero otherwise. Finally, we add three geography dummy variables to capture the effects of autonomous regions, municipalities directly under the Central Government and economic regions in our instrumental variable model.

5. The xinfang impact on financial development

5.1 The baseline results

This section presents results on the relationship between financial development and both xinfang and legal systems while controlling for other possible factors affecting the development of financial markets. The dependent variable is one the ten financial development indicators, including *Total Capitalization, Circulating Capitalization, Trading Volume, No. of Listed Firms, No. of IPOs, Total Loans, Other Loans, Short Loans, Deposits* and *Fixed Investment*[47]. We use the xinfang index of each province over 1992-2014 to examine the relationship between xinfang system and financial development. We include *GovInt, GovScale,*

---

[47] In our regression hereafter, for interpretation purpose, we inflate *Total Capitalization, Circulating Capitalization* by a multiplier of 10, *Trading Volume* by a multiplier of 100.

QuaLA, Literacy, and *ExImport* in all of our regression models as control variables. In our instrumental variable model, we also control for *Autonomous, Municipality, Religion,* and *Eco.Districts* in the regression. The reasons for using these particular control variables are discussed in section 4. Table 1 presents the summary statistics and Table B in appendix shows correlation coefficients matrix.

[Insert Table 1 about Here]

Table 2 and 3 present our baseline results after controlling for the impact of government intervention, government scale, legal environment, religion, politics, as well as geographic factors. Consistent with our hypothesis that the xinfang system exerts a positive influence on the financial system, we observe that the xinfang index is positively associated with all of the stock market development indicators. Specifically, Model 3 shows a one standard deviation increase in xinfang index is associated with a rise by 0.23 unit in *Total Capitalization* and 0.21 unit for *No. of Listed Firms*. For debt market, we see that the impact of xinfang system is significantly positive. Xinfang index enters all five of our debt market regressions with a positive sign and three of them are statistically significant. Specifically, a one standard deviation increase in the xinfang index would improve *Total Loans* and *Deposits* by 0.05 and 0.10 unit, respectively. The evidence in table 2 and 3 also points to the law-finance nexus (LLSV, LLSV, 1997, 1998, 1999, 2000). We observe that our law index in Model 3 enters nine out of ten regressions with a positive coefficient and five of them are statistically significant. Specifically, we see a standard deviation increase in law index would improve *Total Capitalization* by 0.24 and *Total Loans* by 0.05 unit. Consistent with our hypothesis, we observe that xinfang system exerts a stronger influence on financial development. As elaborated in earlier sections, the channels through which the xinfang system exerts influence on the financial markets are adaptability of changing economic environment, private property protection and government checks.

[Insert Table 2 and 3 about Here]

5.2 Instrumental estimates

Our baseline results may be tainted by three potential endogeneity issues. First, our model might be subject to omitted variable problem, although this is less likely in a subnational sample since all provinces share similar institutional characteristics. One potential omitted variable is the level of marketization in each province. While marketization is positively correlated with the development of financial markets (Fang, 2006), it may also exert a positive impact on the development of the xinfang system, and therefore the value of the xinfang index. Particularly, marketization, which promotes private economic activity, can potentially increase the contract demand of the society. This in turn drives the development of the provincial xinfang system. Under this circumstance, our main explanatory variable, the xinfang index, is positively associated with the error term and thus our estimate of the xinfang index's coefficient is upward biased.

Another possible endogeneity problem is simultaneity, or reverse causality. While the baseline results show strong correlations between the quality of the xinfang index and the indicators of financial development, it is difficult to assert causality. One the one hand, the xinfang system may drive the development of financial market through "adaptability", "property protection" and "political participation" channels discussed earlier. On the other, it may be the case that more developed financial markets promote economic activities, which in turn raises the demand of more developed xinfang system. The potential simultaneity bias on the coefficient of the xinfang index is, however, difficult to sign and gauge, because it depends on the relative magnitude of different effects among measures of financial development, the xinfang index, and the variance of the error term, which cannot be known *a priori*.

The final component of the endogeneity issue is measurement error. Despite a rigorous coding and index forming process, the xinfang index may still not capture the quality of the xinfang system completely. A common practice in the literature on similar issues is to assume that the measurement error is uncorrelated with the unobservable explanatory variable—the quality of the xinfang system (Roberts and Whited, 2013). This assumption implies that the potential measurement error must be correlated with the observed xinfang index, which leads to biased estimates. However, this bias is normally negative, rendering a conservative estimate on the coefficient of the xinfang index in our model.

To address these concerns, we use the instrumental estimates. The function and development the xinfang system depends on a complex state-society interaction (Minzner, 2010) and social stability. However, the interaction between the state and the society was interrupted by an exogeneous political movement, the Cultural Revolution (1966-1976). The Cultural Revolution, initiated and led by President Mao (1983-1976), produced anarchy-type chaos in the society and damaged most of the institutions, including the xinfang. Particularly, the Red Guards attacked the xinfang bureaus nationwide, flooded the xinfang bureaus with fakes cases, arrested xinfang workers, and purged officials in the xinfang bureaus (Diao, 1998). Xu Ming, who was in charge of the national xinfang bureau, was arrested and later killed in December 1966. We next exploit this political event to derive a possible source of exogeneous variation on the xinfang system.

Although the Cultural Revolution largely damaged the xinfang institutions, the magnitude of such damage varied across provinces (Walder and Su, 2003; Su, 2011). In our view, higher level of damage on the xinfang institutions leads to longer duration and more difficulties in rebuilding these institutions. To measure the level of destruction in each province

36

during the Cultural Revolution, we use the unusual death-toll in each province[48] (Walder and Su, 2003; Su, 2011). We argue that places with higher number of unusual death toll suffered severer damages on xinfang institutions during Cultural Revolution, which in turn leads to more difficulties in rebuilding the system afterwards. Thus xinfang systems have experienced less development in these places than those with less destructions during the Cultural Revolution.

Our instrument is highly likely to meet the relevance and exclusion condition for a valid instrument. The relevance condition requires a strong correlation between the unusual death-toll and the xinfang system. Theoretically, we argue that the unusual death-toll during Cultural Revolution is a good proxy for the level of institutional damage in each province, thus exerting a significant influence on the development of institutions afterwards including the xinfang system. Empirically, we find that the unusual death toll is indeed strongly associated with the xinfang index at the 1% significance level with a R^2 of 32%. The Kleibergen-Paap F-statistic is 11.37, which is above the threshold of 10 in the literature.

The exclusion condition requires no correlation between the instrument and the error term of the baseline estimation model, which indicates that the instrument can only affect financial development via the xinfang system. We believe that the level of destruction in each province during the Cultural Revolution, as measure by the unusual death-toll, is exogenous to the development of financial markets for three reasons. Firstly, the unusual deaths of thousands of people were a consequence of a war between two political factions. The fight between these two factions was because of the differences in their political ideology, and was directly mobilized by President Mao for his political purpose (Walder and Su, 2003; Su, 2011). Therefore, it was unlikely to associate with any economic significance. Secondly, the financial

---

[48] Most of these unusual death happed during May 1966—December 1971. For a detailed analysis, see Walder and Su (2003) and Su (2011).

market was largely not yet established by 1971. For example, the stock market was created in 1990 and the debt market reached rapid development in around 1990s. This time lag thus allows enough exogeneity. Finally, under Mao's rule, market economy was absent and in fact communism including collective ownership and central planning was the dominant ideology in the society. Therefore, it is highly unlikely that the unusual death-toll is associated with the development of the financial market two decades later. Empirically, our falsification tests show that the unusual death-toll does not appear to be correlated with the error term of the baseline estimation models. Particularly, by dividing 31 provinces into high and low unusual death-toll groups, we find similar financial developments in the two groups[49]. After instrumenting the xinfang index, our results are even stronger. Table 4 presents the results with the instrumental variable.

[Insert Table 4 about Here]

Another potential challenge to the instrumental estimates is that the results may not be applicable to the whole sample. In other words, the parameter estimates of the instrument models are based only on the variation in the xinfang index that is correlated with the instrument, and therefore the results may not reflect the actual relationship between the xinfang index and financial development in provinces where the xinfang system is uncorrelated with the unusual death-toll during the Cultural Revolution. To address this concern, we divide the residuals from the first-stage instrument estimates into high and low residual groups, and we find that the corresponding financial development in these two groups are similar.[50]

We replace the xinfang index with the five sub-indexes in table 5 and 6, and the results are broadly consistent with our hypotheses.

---

[49] Mean comparison results by year is available upon request.
[50] Mean comparison results by year is available upon request.

5.3 Joint effects of the xinfang and the legal systems

Table 7 shows the results after we put the interaction term of law and xinfang indexes into the regression. Consistent with our hypothesis, we observe that places where both legal and xinfang system are stronger enjoy a better developed financial system. The interaction term enters with a statistically positive sign in nine out of ten regressions.

5.4 Joint effects of the xinfang and government

Table 7 also presents the results of the interaction terms of the xinfang index and government intervention. Consistent with our hypotheses, we find that stronger government intervention promotes the xinfang-finance relationship in the stock market. The interaction term enters all five regressions with statistically positive signs. However, in the debt market, we find less such evidence. As elaborated earlier, the effects of government intervention can be both positive and negative. The positive effects include the enforcement and protection of private property rights, therefore promoting private economic activities (Clarke, Murrell, and Whiting, 2006; Frye and Shleifer, 1997; Ram, 1986). The negative effects, on the other hand, could be pursuing individual agendas, taking unorganized bribes and imposing varieties of predatory regulations, with harmful ramifications on the financial market (Shleifer and Vishny, 1993; Knack and Keefer, 1995; LLSV, 1999).

Our results show that the positive impact of government exceeds the negative effects in the capital market, and vice versa in the debt market. This is probably because the provincial government has more control over the debt market since the banks generally conduct their business within their respective provincial jurisdictions. Thus provincial bureaucrats are likely to be able to exert negative influence to purse their individual agendas and benefit their allied

interest groups. In contrast, the capital market is less decentralized than the debt market and operates at the national level. The provincial government officials, subject to strictly political control by the central government, therefore are less able to extract benefits through expropriate the stock market. Perhaps more important for the provincial bureaucrats, seeking recognition from the central government by promoting provincial economic activity, such as a higher number of listed firms, more IPOs and larger public companies, is more effective for their personal interest.

6 The impact of national xinfang regulations

In the 1980s, China started a series of reforms aimed at promoting its economic performance. As part of the reform package, provincial governments have been given autonomies to initiate, negotiate and implement policies, reforms, and regulations[51] within their jurisdictions (Xu, 2011). In the meantime, the central government has remained political control over the provincial governments. Particularly, the political career of the provincial government officials, such as appointment, promotion and dismissal, rests on the hands of the central government. This administrative structure allows the provincial government officials enough autonomies to conduct economically-beneficial reforms in their respective jurisdictions but also leaves the central government with the authority to intervene at will (Qian, Roland and Xu, 2006; Qian and Xu, 1993).

The relationship between the national xinfang regulation and the provincial xinfang regulation resembles the administrative structure. At one hand, the national xinfang regulation provides guidance and gives autonomies to the provincial xinfang bureaus. As long as the provincial xinfang regulations do not contradict to the national xinfang code, provincial xinfang bureaus can adopt and follow their own regulations. At the other hand, the national xinfang

---

[51] Laws enacted by subnational governments and congresses are called regulations in China.

regulations has higher legal status. Once the provincial xinfang codes contradict to the national xinfang regulations, the xinfang bureau should follow the national xinfang regulations. This creates three possible scenarios under which our previous xinfang-finance results may be different: a). the national xinfang code does not affect the function of the provincial xinfang systems; b). the national xinfang code does influence the function of the provincial xinfang systems; however, such influence can be assumed to be equal among all provinces; c). the national xinfang code does affect the function of the provincial xinfang system and the impact on each province is different conditional on the quality of its provincial xinfang system. Under the first two assumptions, our results are the same as the ones we presented in the previous section. Because our data is a sub-national panel over 1992-2014, no impact of national xinfang code or similar impact on all provinces would have provide the same set of results.

However, under assumption three, our results may differ. This assumption holds that the effects of national xinfang regulation are different across provinces. An implication of this assumption is that quality of the national xinfang system, according to our index, should lie in between the different qualities of the provincial xinfang systems. This creates two further assumptions. First, these provinces with poor xinfang system do not follow the national xinfang code which has better quality and insist on their own regulations. Under this sub-assumption, our results are unchanged. Second, the provinces with lower quality of xinfang system actually follow the national xinfang code which has better quality. Then in this case, the results may differ from the ones presented in the previous section. Following this assumption, we replace the value of the xinfang index in provinces where the quality of the provincial system is lower than the national system with the value of the national xinfang system, and then re-run our models in section five. From table E and F in appendix, we observe that the results are still largely consistent with our hypotheses.

7 Additional assessments

7.1 The Number of Xinfang Cases

After establishing strong correlations between the xinfang index and the development of financial markets, here we examine the effects of the number of the xinfang cases on financial development. We firstly scale the provincial xinfang case number by the corresponding legal case number and then we regress the financial development measures on this xinfang/law case ratio with the set of controls used in our baseline models. The results in Table 8 show that provinces where more xinfang cases are filed experience more financial development than those with relatively less reported xinfang cases.

[Insert Table 8 about Here]

7.2 Control for GDP Per Capita

While there is a growing consensus among economists that financial developments exert a positive impact on long-term economic growth (King and Levine, 1993; Levine, 1997; Levine and Zervos, 1998; Demirguc-Kunt and Maksimovic, 1998; Rajan and Zingales, 1998; Claessens and Laeven, 2003), some authors claim the opposite. Joan Robinson (1952) alleges that it is the economic performance that leads the development of financial markets. As a robustness check, we therefore add provincial GDP per capita as an additional control variable. Results are consistent with our hypotheses. Table C in Appendix shows the details. We also find that the xinfang index is not correlated with the GDP per capita growth[52].

7.3 Lagged variables

To assess the robustness of the results, we lag all the independent variables by two years. The results are broadly consistent with our hypotheses. Table D in Appendix presents the results.

8 Conclusion

---

[52] Results are available upon request.

This paper explains theoretically and assesses empirically the impact of Chinese alternative legal institution, xinfang, on the development of financial markets. We find that *ceteris paribus* regions with more developed xinfang system have more advanced financial markets in terms of their market size and depth. Consistent with seminal work on law and finance, we also find that legal system exerts a first-order impact on financial development. However, the strength of such impact is weaker than xinfang system's influence on the development of financial market. Our explanation for this outcome rests on xinfang system's stronger capabilities in adapting to the changing demands of the economy, protecting property rights, and providing checks on government expropriations. Finally, we show that places where both legal and xinfang institutions are more advanced enjoy a correspondingly better developed financial market.

These findings offer an explanation to the puzzle presented by recent development of Chinese financial market. While the formal legal institutions remain relatively weak, China had become one of the largest financial market in 2012. By taking alternative legal institutions into account, we show that the law-finance nexus actually applies to China.

Although the discussion in this study is specific to the Chinese xinfang system, the circumstances of this Chinese case extend to other types of government influence and may apply to many other countries with alternative legal institutions that protect the rights of private property owners, facilitate private contracts, and provide checks and balances on the state. Since the formal legal institutions tend to be highly persistent and difficult to reform (Acemoglu and Robinson, 2012), the alternative legal institutions may serve as another channel to improve the financial market and the economy.

This paper contributes to previous research on law-finance nexus(LLSV, 1997, 1998, 1999, 2000; Beck, Demirgüç-Kunt, and Levine, 2001, 2003a,b; Levine, 2005; Beck and Levine,

2008). Building on the law and finance view as well as dynamic law and finance view, we present a new perspective to study law-finance nexus: the alternative legal institutions and finance view. While this paper links the alternative legal institutions to finance, future research may show their impact on valuations of listed firms, size of dividend pay-outs, ownership structure, private benefits of control, and so on.

This paper also contributes to the research on legal institutions by providing a new research arena: the alternative legal institutions. Since their important implications on finance and economy, research emphasizing alternative legal institutions is at least equally important as those focusing on formal institutions.

References:

Acemoglu, D., & Johnson, S. (2005). Unbundling Institutions. *Journal of Political Economy*, *113*(5), 949-995.

Acemoglu, D., Johnson, S., & Robinson, J. A. (2000). The colonial origins of comparative development: An empirical investigation. *American Economic Review*, *91*(5), 1369-1401.

Acemoglu, D., Johnson, S., & Robinson, J. A. (2002). Reversal of fortune: Geography and institutions in the making of the modern world income distribution. *Quarterly Journal of Economics*, *117*(4), 1231-1294.

Allen, F., Qian, J., & Qian, M. (2005). Law, finance, and economic growth in China. *Journal of Financial Economics*, 77(1), 57-116.

Bailey, M. J., & Rubin, P. H. (1994). A positive theory of legal change. *International Review of Law and Economics*, *14*(4), 467-477.

Beck, T., & Levine, R. (2008). *Legal institutions and financial development*. NBER working paper No. 10417.

Beck, T., Demirgüç-Kunt, A., & Levine, R. (2001). *Law, politics, and finance*. World bank policy research working paper 2585.

Beck, T., Demirgüç-Kunt, A., & Levine, R. (2003a). Law and finance: Why does legal origin matter? *Journal of Comparative Economics*, *31*(4), 653-675.

Beck, T., Demirgüç-Kunt, A., & Levine, R. (2003b). Law, endowments, and finance. *Journal of Financial Economics,* 70(2), 137-181.

Berkowitz, D., Lin, C., & Ma, Y. (2015). Do property rights matter? Evidence from a property law enactment. *Journal of Financial Economics*, 116(3), 583-593.

Blanchard, O., & Shleifer, A. (2000). *Federalism with and without political centralization: China versus Russia.* NBER working paper No. w7616.

Buscaglia, E. (2006). *Comparative international study of court performance indicators: a descriptive and analytical account.* Unpublished manuscript.

Cai, W. (2002). Improve xinfang system and achieve a new leap forward in local court construction. *The New Long March,* 08, 50-51.

Cai, Y. (2004). Managed Participation in China. *Political Science Quarterly*, 119(3), 425-451.

Chen, Z. (2003). Capital markets and legal development: The China case. *China Economic Review*, 14(4), 451-472.

Claessens, S., & Laeven, L. (2003). Financial development, property rights, and growth. *Journal of Finance*, 58(6), 2401-2436.

Clarke, D., Murrell, P., & Whiting, S. (2008). *The role of law in China's economic development.* The George Washington university law school public law and legal theory working paper, No.187.

Dawson, J. P. (1960). *A History of Lay Judges*. Cambridge: Harvard University Press.

Demirguc-Kunt, A., & Maksimovic, V. (1998). Law, finance, and firm growth. *Journal of Finance,* 53, 2107–2137.

Diao, J. (1998). Zhou Enlai and the xinfang work during the Cultural Revolution. *Contemporary China History Studies,* (2), 77-80.

Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2003). Courts. *Quarterly Journal of Economics*, 118(2), 453-517.

Fan, G., Wang, X., & Zhu, H. (2010). *NERI index of marketization of China's provinces*. Beijing: National Economic Research Institute.

Fang, J. X. (2006). Evolvement of marketization and improvement of capital allocation efficiency. *Economic Research Journal*, 5(005), 50-61.

Firth, M., Rui, O. M., & Wu, W. (2011). The effects of political connections and state ownership on corporate litigation in China. *Journal of Law and Economics*, 54(3), 573-607.

Frye, T., & Shleifer, A. (1997). The invisible hand and the grabbing hand. *American Economic Review*, *87*(2), 354-358.

Glaeser, E. L., & Shleifer, A. (2002). Legal origins. *Quarterly Journal of Economics*, 117(4), 1193-1229.

Hasan, I., Wachtel, P., & Zhou, M. (2009). Institutional development, financial deepening and economic growth: Evidence from China. *Journal of Banking & Finance*, 33(1), 157-170.

Hou, W., & Lee, E. (2014). Split share structure reform, corporate governance, and the foreign share discount puzzle in China. *European Journal of Finance*, 20(7-9), 703-727.

King, R. G., & Levine, R. (1993). Finance and growth: Schumpeter might be right. *Quarterly Journal of Economics,* 108, 717-737.

Knack, S., & Keefer, P. (1995). Institutions and economic performance: Cross-country tests using alternative institutional measures. *Economics & Politics*, 7(3), 207-227.

La Porta, R., Lopez-de-Silanes, F., Pop-Eleches, C., & Shleifer, A. (2004). Judicial checks and balances. *Journal of Political Economy*, 112(2), 445-470.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R.W. (1997). Legal determinants of external finance. *Journal of Finance,* 52, 1131–1150.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R.W. (1998). Law and finance. *Journal of Political Economy,* 106, 1113–1155.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R.W. (1999). The quality of government. *Journal of Law, Economics, and Organization,* 15, 222–279.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R.W. (2000). Investor protection and corporate governance. *Journal of Financial Economics,* 58, 3–27.

Landes, W. M., & Posner, R. A., (1989). An economic analysis of copyright law. *Journal of Legal Studies*, 18(2), 325-363.

Lang, P.P. (2004), *Reform of the xinfang system must be coordinated with judicial reform.* Retrieved from http://www.cssm.org.cn/view.php?id=4804

Levine, R. (2005). Law, endowments and property rights. *Journal of Economic Perspectives*, 19(3), 61-88.

Levine, R., & Renelt, D. (1992). A sensitivity analysis of cross-country growth regressions. *American economic review*, 82(4), 942-963.

Levine, R., & Zervos, S. J. (1993). What we have learned about policy and growth from cross-country regressions? *American Economic Review*, 83(2), 426-430.

Levine, R. (1997). Financial development and economic growth: Views and agenda. *Journal of Economic Literature,* 35, 688–726.

Levine, R., & Zervos, S. J. (1998). Stock markets, banks, and economic growth. *American Economic Review,* 88, 537–538.

Li, N. (2010). *A study of xinfang system: from the perspective of Party-Masses relationship* (Unpublished doctoral thesis). Party School of the Central Committee of CPC, China.

Liebman, B. L. (2005). Watchdog or demagogue? The media in the Chinese legal system. *Columbia Law Review*, 105(1), 1-157.

Liu D. (2005). *The examination of Chinese legal culture: a perspective of xinfang system* (Unpublished master's thesis). Xiangtan University, China.

Luehrmann, L. M. (2003). Facing Citizen Complaints in China 1951-1996. *Asian Survey,* 43(5), 845-866.

Meng, F., & Lan X. (2004). *The Effect of Xinfang Responsibility Systems on Administrative Lawsuits*, http://www.dffy.com/faxuejieti/xz/200408/20040812200632.htm.

Messick, R. E. (1999). Judicial reform and economic development: A survey of the issues. *The World Bank Research Observer*, 14(1), 117-136.

Michelson, E. (2004). *Causes and Consequences of Grievances in Rural China*. Unpublished manuscript.

Minzner, C. F. (2006). Xinfang: An alternative to formal Chinese legal institutions. *Stanford Journal of International Law*, 42, 103-195.

North, D. C. (1981). *Structure and change in economic history*. New York: Norton.

North, D. C. (1990). *Institutions, Institutional Change, and Economic Performance*. Cambridge: Cambridge University Press.

O'Brien, K. J. & Li., L. (1995). The politics of lodging complaints in rural China. *The China Quarterly,* 143, 756-783.

Olson, M. (1993). Dictatorship, Democracy, and Development. *American Political Science Review*, 87, 567-576.

Paik, W. (2012). Economic development and mass political participation in contemporary China: Determinants of provincial petition (Xinfang) activism 1994–2002. *International Political Science Review*, 33(1), 99-120.

Pils, E. (2005). Land disputes, rights assertion and social unrest in China: A case from Sichuan. *Columbia Journal of Asian Law,* 19, 235-283.

Posner, R. A. (1973). *Economic analysis of law*. Boston: Little-Brown.

Qian, Y., Roland, G., & Xu, C. (2006). Coordination and experimentation in M-form and U-form organizations. *Quarterly Journal of Economics*, 114(2), 366-402.

Qian, Y., & Xu, C. (1993). Why China's economic reforms differ: The M-form hierarchy and entry/expansion of the non-state sector? *Economics of Transition*, 1(02), 135-170.

Rajan, R. G., & Zingales, L. (1998). Financial dependence and growth. *American Economic Review*, 88(3), 559-586.

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

Ram, R. (1986). Government size and economic growth: A new framework and some evidence from cross-section and time-series data. *American Economic Review*, *76*(1), 191-203.

Roberts, M. R., & Whited, T. M. (2012). Endogeneity in empirical corporate finance. Unpublished manuscript.

Robinson, A. D., & Acemoglu, R. (2012). *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*. United States: Crown Publishers.

Robinson, J. (1952). *The Generalization of the General Theory*. London: MacMillan.

Rubin, P. H. (1982). Common law and statute law. *Journal of Legal Studies,* 11, 205-33.

Shapiro, M. (1981). *Courts: A political and comparative analysis*. Chicago: University of Chicago Press.

Shleifer, A., & Vishny, R. (1993). Corruption. *Quarterly Journal of Economics*, 108(3), 599-517.

Su, Y. (2011). *Collective killings in rural China during the Cultural Revolution*. Cambridge: Cambridge University Press.

Walder, A. G., & Su, Y. (2003). The cultural revolution in the countryside: Scope, timing and human impact. *The China Quarterly*, 173, 74-99.

Xu, C. (2011). The fundamental institutions of China's reforms and development. *Journal of Economic Literature*, 49(4), 1076-1151.

Ying, X. (2004). Xinfang resolution: a special mechanism of administrative relief. *Chinese Journal of Law,* 03, 58-71.

Yu, J. (2004). Xinfang—the lack of institutional feature and its political consequences. *Phoenix Weekly*, 2004(32).

Yu, J. (2008). Reflections on the xinfang system reform debate. *Chinese Cadres Tribune,* 05, 16-18.

Zhan, Z., & Su, Y. (2009). Functions of Xinfang System. *Journal of Chinese Academy of Governance,* 02, 96-99.

Zhang, Q. (2003). The people's court in transition: the prospects of the Chinese judicial reform. *Journal of Contemporary China*, 12(34), 69-101

Zhao, S. (2003), Petitioning Incidents and the Xinfang System. Retrieved from: http://www.ccrs.org.cn/NEWSgl/ReadNews.asp?NewsID=5777.

Figure 1

Total Number of Xinfang Cases Filed over 2004-2013
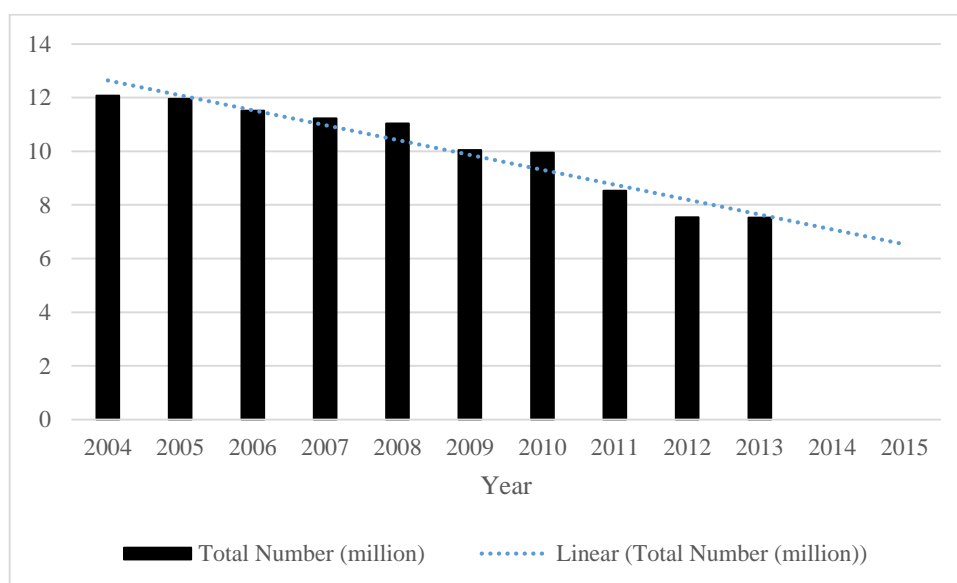
Source: Yearbooks of 31 provinces over 2005-2014
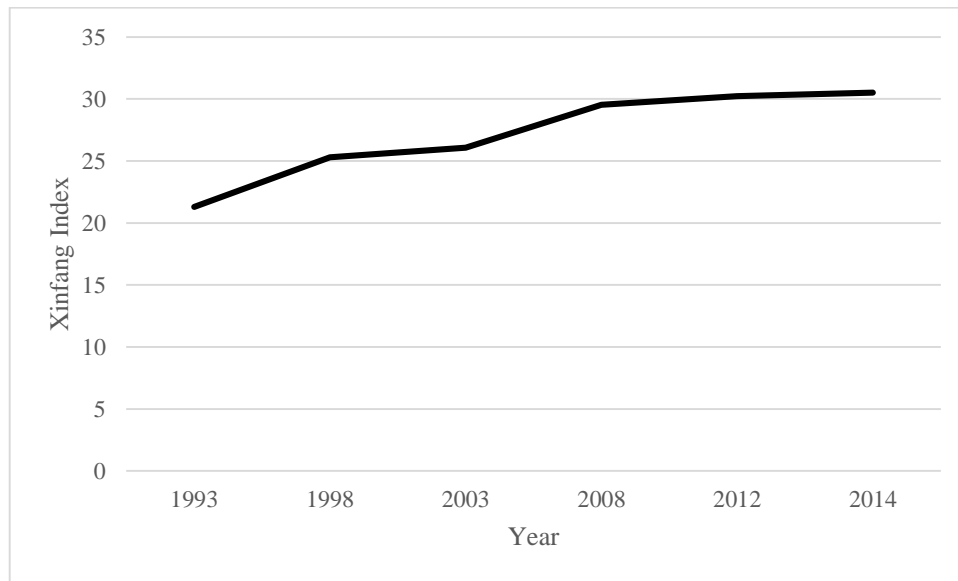
Figure 2

Promulgation Years of Xinfang Regulations
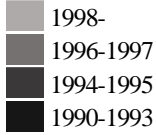
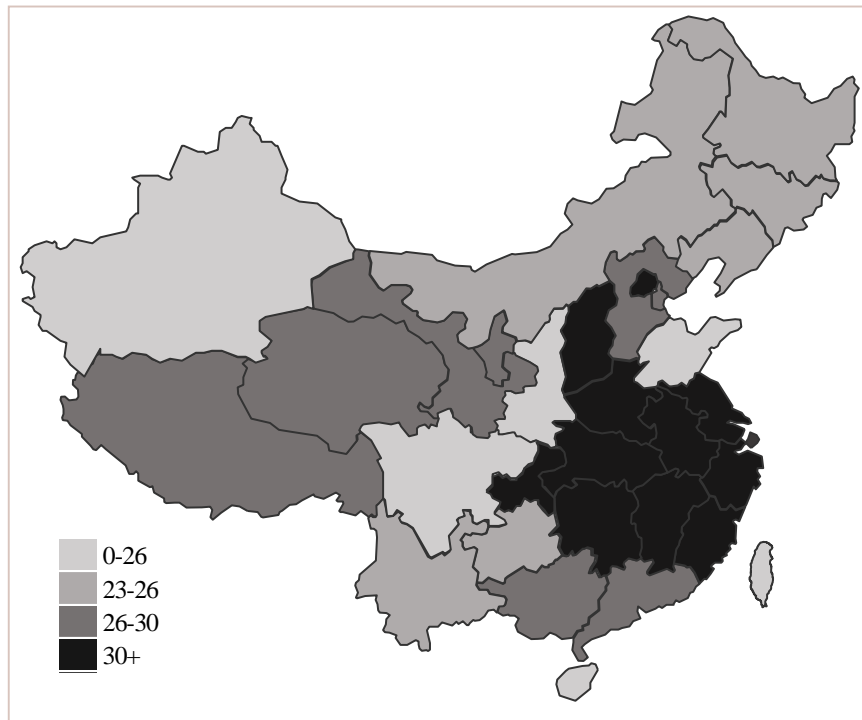Source: Xinfang regulations of 31 provinces over 1990-2014

Figure 3

Average value of provincial xinfang index 1992-2014

Source: Authors' Calculation

Figure 4

Average Xinfang Score Distribution over 1992-2014

Source: Authors' Calculation

Table 1

Summary Statistics

Total Capitalization is the value of provincial equity market as a share of GDP. *Circulating Capitalization* is the value of floating shares in provincial equity market as a share of GDP. *Trading Volume* is the value of total trading volume of the provincial capital market as a share of GDP. *No. of Listed Firms* and *No. of IPOs* are the number of listed firms and IPOs per million population in each province. *Total Loans* is the value of total loans of banks as a share of GDP in each province. *Other Loans* is the value of medium and long term loans of banks as a share of GDP in each province. *Short Loans* is the value of short-term loans of banks as a share of GDP in each province. *Deposits* is the value of total deposit in banks as a share of GDP in each province. *Fixed Investment* is the value of fixed investment as a share of GDP in each province. *Xinfang* is the value of xinfang index in each province. *Law* is the value of the law index in each province. *GovInt, GovScale*, and *QuaLA* are the value of government intervention, government scale and the quality of accounting and legal services indexes in each province (Fan, Wang, and Zhu, 2010). *Literacy* is the proportion of college graduates in each province each year. *ExInport* is the value of the sum of import and export as a share of GPD in each province. *Religion* equals one if the province has over nine Buddhism religious sites or over five Taoism religious sites, and zero otherwise. *Autonomous* equals one if the province is an autonomous region, and zero otherwise. *Municipality* equals one if the province is a municipality directly under the Central Government, and zero otherwise. *Eco. District* is a scale variable where Central area equals four, East area equals 3, West area equals 2 and Northeast area equals 1.

	Mean	Sta.Dev.	Min	Max	Observations
Total capitalization	0.39	0.87	0	15.65	682
Circulating cap.	0.18	0.42	0	0.51	682
Trading volume	0.07	0.08	0	0.70	682
No. of listed firms	1.14	1.66	0	10.41	682
No. of IPOs	0.11	0.23	-0.17	3.19	682
Total loans	1.04	0.34	0.09	2.58	651
Other loans	0.43	0.28	0.03	1.85	651
Short loans	0.52	0.20	0.12	1.30	651
Deposits	1.35	0.62	0.46	4.74	651
Fixed investment	0.49	0.20	0.14	1.24	682
Xinfang	24.53	4.89	16.5	41.5	557
Efficiency Index	2.99	1.68	0	6	557
Mechanism Index	4.99	1.49	2	10	557
Access Index	11.92	2.00	7	17.5	557
Puandreward Index	4.62	1.34	1	8	557
Law	7.47	2.35	3	12	651
GovInt	3.97	3.21	-12.95	10.13	651
GovScale	4.82	3.53	-13.47	10.56	651
QuaLA	2.96	2.85	-12.27	11.28	651
Literacy	1.68	0.86	0.04	6.32	682
ExInport	0.04	0.05	0.004	0.27	651
Autonomous	0.16	0.37	0	1	682
Municipality	0.13	0.34	0	1	682
Religion	0.19	0.39	0	1	716
Eco.Districts	2.61	0.90	1	4	716

Table 2

Impact of Xinfang and Law Systems on Stock Market Development

This table presents the results of estimating the following panel regression models:

(1) Stock Market Development = α + β1Xinfang + β2 X + ε;

(2) Stock Market Development = α + β1Law + β2 X + ε;

(3) Stock market Development = α + β1Xinfang + β2Law + β3 X + ε,

where *Stock Market Development* is either *Total Capitalization, Circulating Capitalization, Trading Volume, No. of Listed Firms, No. of IPOs. Total Capitalization*[53] is the value of provincial equity market as a share of GDP. *Circulating Capitalization* is the value of floating shares in provincial equity market as a share of GDP. *Trading Volume* is the value of total trading volume of the provincial capital market as a share of GDP. *No. of Listed Firms and No. of IPOs* are the number of listed firms and IPOs per ten million population in each province. *Xinfang* is the value of xinfang index in each province. *Law* is the value of the law index in each province. *GovInt, GovScale*, and *QuaLA* are the value of government intervention, government scale and the quality of accounting and legal services indexes in each province (Fan, Wang, and Zhu, 2010). *Literacy* is the proportion of college graduates in each province each year.

---

[53] In our regression hereafter, for interpretation purpose, we inflate *Total Capitalization, Circulating Capitalization* by a multiplier of 10, *Trading Volume* by a multiplier of 100.

Table 2 (continued)

	Total capitalization			Circulating cap.			Trading volume			No. of IPOs			No. of listed firms		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Xinfang	0.45***		0.47***	0.20***		0.21***	0.15***		0.16***	0.07***		0.07***	0.47***		0.43***
	[5.86]		[5.90]	[6.26]		[6.28]	[2.87]		[2.88]	[4.55]		[4.50]	[4.71]		[4.05]
Law		0.37*	0.49*		-0.10	-0.11		0.34**	0.46**		0.09	0.03		0.21	0.20
		[1.71]	[1.88]		[1.09]	[-0.99]		[2.19]	[2.48]		[1.65]	[0.61]		[0.69]	[0.56]
GovInt	-0.21	-0.14	-0.24	-0.13*	-0.08	-0.13*	-0.44***	-0.33***	-0.46***	-0.10***	-0.10***	-0.10***	-0.71***	-0.47**	-0.74***
	[-1.24]	[-0.96]	[-1.44]	[-1.77]	[-1.34]	[-1.81]	[-3.65]	[-3.13]	[-3.86]	[-2.89]	[-2.61]	[-2.99]	[-3.18]	[-2.29]	[-3.30]
GovScale	0.01	0.03	0.03	0.01	-0.00	0.02	-0.26***	-0.27***	-0.24***	-0.02	-0.01	-0.02	-0.73***	-0.57***	-0.69***
	[0.06]	[0.24]	[0.26]	[0.10]	[-0.00]	[0.27]	[-2.74]	[-3.46]	[-2.64]	[-0.81]	[-0.42]	[-0.67]	[-4.16]	[-3.68]	[-3.96]
QuaLA	-0.95***	-1.02***	-1.00***	-0.31***	-0.31***	-0.30***	-1.14***	-1.23***	-1.19***	0.13***	0.12**	0.13***	0.57*	0.29	0.54*
	[-4.12]	[-4.91]	[-4.34]	[-3.13]	[-3.64]	[-3.06]	[-7.00]	[-8.13]	[-7.27]	[2.80]	[2.28]	[2.69]	[1.85]	[0.98]	[1.75]
Literacy	4.57***	4.54***	4.43***	1.24***	1.45***	1.26***	2.35***	2.49***	2.24***	0.18	0.48***	0.17	6.55***	7.09***	6.53***
	[6.56]	[7.71]	[6.35]	[4.15]	[5.70]	[4.18]	[4.77]	[5.81]	[4.53]	[1.29]	[3.07]	[1.20]	[7.11]	[8.51]	[7.01]
ExImport	4.94***	3.97***	4.22***	2.80***	2.53***	3.00***	6.23***	4.80***	5.53***	1.72***	1.27***	1.68***	17.01***	13.96***	16.82***
	[5.21]	[4.88]	[4.09]	[6.86]	[7.18]	[6.74]	[9.28]	[8.09]	[7.58]	[9.01]	[5.91]	[8.05]	[13.55]	[12.09]	[12.20]
Constants	-13.76***	-4.63***	-17.08***	-5.40***	0.28	-4.76***	2.88*	3.97***	-0.07	-1.72***	-0.77	-1.93***	-11.94***	-2.04	-11.73***
	[-6.43]	[-3.02]	[-6.19]	[-5.87]	[0.43]	[-4.00]	[1.90]	[3.54]	[-0.04]	[-3.99]	[-1.90]	[-3.45]	[-4.21]	[-0.94]	[-3.18]
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.301	0.232	0.304	0.285	0.201	0.286	0.387	0.335	0.393	0.346	0.230	0.345	0.637	0.588	0.633
Obs.	518	651	518	518	651	518	518	651	518	518	651	518	518	651	518

Table 3

Impact of Xinfang and Law Systems on Debt Market Development

This table presents the results of estimating the following panel regression models:

(1) *Debt Market Development = α + β1Xinfang + β2 X + ε;*

(2) *Debt Market Development = α + β1Law + β2 X + ε;*

(3) *Debt Market Development = α + β1Xinfang + β2Law + β3 X + ε,*

where *Debt Market Development* is either *Total Loans, Other Loans, Short Loans, Deposits or Fixed Investment*. *Total Loans* is the value of total loans of banks as a share of GDP in each province. *Other loans* is the value of medium and long term loans of banks as a share of GDP in each province. *Short Loans* is the value of short-term loans of banks as a share of GDP in each province. *Deposits* is the value of total deposit in banks as a share of GDP in each province. *Fixed Investment* is the value of fixed investment as a share of GDP in each province. *Xinfang* is the value of xinfang index in each province. *Law* is the value of the law index in each province. *GovInt, GovScale*, and *QuaLA* are the value of government intervention, government scale and the quality of accounting and legal services indexes in each province (Fan, Wang, and Zhu, 2010). *Literacy* is the proportion of college graduates in each province each year. *ExImport* is the value of the sum of import and export as a share of GPD in each province. Year and province fixed effects are included. The symbols *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 3 (continued)

	Total loans			Short loans			Other Loans			Deposits			Fixed investment		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Xinfang	0.01***		0.01**	0.0015		0.0024*	0.00**		0.0027	0.02***		0.02***	0.0009		0.0006
	[2.82]		[2.57]	[1.22]		[1.87]	[2.05]		[1.40]	[4.85]		[4.39]	[0.89]		[0.53]
Law		0.02***	0.01*		0.01***	0.01**		0.00	0.00		0.01	0.01		0.01***	0.01***
		[2.16]	[1.66]		[2.80]	[2.09]		[0.60]	[0.33]		[0.82]	[0.51]		[4.02]	[3.22]
GovInt	-0.01	-0.00	-0.01	0.01**	0.01**	0.01**	-0.01***	-0.01***	-0.01***	-0.04***	-0.04***	-0.04***	-0.01***	-0.01***	-0.01***
	[-1.12]	[-0.28]	[-1.27]	[2.36]	[2.35]	[2.27]	[-3.16]	[-2.76]	[-3.23]	[-5.12]	[-4.74]	[-5.22]	[-2.86]	[-3.33]	[-3.11]
GovScale	-0.00	-0.01***	-0.00	-0.01***	-0.01***	-0.01***	0.01**	0.00	0.01**	-0.02***	-0.02***	-0.02**	-0.01***	-0.01***	-0.01***
	[-0.57]	[-2.98]	[-0.45]	[-4.07]	[-6.23]	[-4.06]	[2.31]	[0.91]	[2.41]	[-2.61]	[-3.28]	[-2.43]	[-5.00]	[-5.90]	[-4.95]
QuaLA	0.00	0.01	0.00	0.01***	0.01***	0.01***	-0.01	-0.01	-0.01	-0.02*	-0.02**	-0.02*	0.01***	0.01**	0.01**
	[0.32]	[0.08]	[0.14]	[3.23]	[3.84]	[3.00]	[-1.62]	[-1.02]	[-1.65]	[-1.68]	[-2.22]	[-1.75]	[2.65]	[2.32]	[2.33]
Literacy	0.17***	0.16***	0.17***	0.05***	0.05***	0.05***	0.08***	0.09***	0.08***	0.26***	0.28***	0.25***	0.00	-0.02**	0.00
	[7.18]	[7.07]	[7.01]	[4.75]	[4.83]	[4.50]	[4.86]	[5.78]	[4.85]	[7.19]	[9.04]	[7.09]	[0.29]	[-2.27]	[0.04]
ExImport	0.17***	0.13***	0.15***	0.03**	0.01	0.02	0.13***	0.08**	0.13***	0.63***	0.57***	0.62***	-0.10***	-0.07**	-0.11***
	[5.32]	[4.18]	[4.25]	[2.18]	[0.70]	[1.15]	[5.61]	[4.02]	[5.06]	[13.07]	[13.44]	[11.78]	[-7.42]	[-5.83]	[-8.11]
Constants	0.52***	0.65***	0.43***	0.33***	0.34***	0.25***	0.21***	0.27***	0.23***	0.53***	0.89***	0.53***	0.55***	0.50***	0.49***
	[7.00]	[11.36]	[4.57]	[9.36]	[12.56]	[5.56]	[3.96]	[6.99]	[3.29]	[4.90]	[11.07]	[3.72]	[18.62]	[21.83]	[12.84]
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.384	0.327	0.384	0.315	0.298	0.322	0.216	0.157	0.211	0.572	0.542	0.568	0.255	0.214	0.268
Obs.	518	651	518	518	651	518	518	651	518	518	651	518	518	651	518

Table 4

Instrumental Variable: Impact of Xinfang on Financial Development

Xinfang is instrumented by the unusual death toll of each province during Cultural Revolution. This table presents the results of estimating the following panel regression models:

$$Financial\ Development = \alpha + \beta1 Xinfang + \beta2 Law + \beta3\ X + \varepsilon,$$

where *Financial Development* in Panel A is either *Total Capitalization, Circulating Capitalization, Trading Volume, No. of Listed Firms* or *No. of IPOs*; *Financial Development* in Panel B is either *Total Loans, Other loans, Short Loans, Deposits* or *Fixed Investment*. *Total Capitalization* is the value of provincial equity market as a share of GDP. *Circulating Capitalization* is the value of floating shares in provincial equity market as a share of GDP. *Trading Volume* is the value of total trading volume of the provincial capital market as a share of GDP. *No. of Listed Firms* and *No. of IPOs* are the number of listed firms and IPOs per million population in each province. *Total Loans* is the value of total loans of banks as a share of GDP in each province. *Other loans* is the value of medium and long term loans of banks as a share of GDP in each province. *Short Loans* is the value of short-term loans of banks as a share of GDP in each province. *Deposits* is the value of total deposit in banks as a share of GDP in each province. *Fixed Investment* is the value of fixed investment as a share of GDP in each province. *Xinfang* is the value of xinfang index in each province. *Law* is the value of the law index in each province. *GovInt, GovScale,* and *QuaLA* are the value of government intervention, government scale and the quality of accounting and legal services indexes in each province (Fan, Wang, and Zhu, 2010). *Literacy* is the proportion of college graduates in each province each year. *ExImport* is the value of the sum of import and export as a share of GPD in each province. *Religion* equals one if the province has over nine Buddhism religious sites or over five Taoism religious sites, and zero otherwise. *Autonomous* equals one if the province is an autonomous region, and zero otherwise. *Municipality* equals one if the province is a municipality directly under the Central Government, and zero otherwise. *Eco. District* is a scale variable where Central area equals four, East area equals three, West area equals two and Northeast area equals one. The symbols *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 4 (continued)

Panel A. Impact of Xinfang on Stock Market Development (Instrumental Variable)

	Xinfang	Total cap.	Circulating cap.	Trading volume	No. of IPOs	No. of listed firms
	1st Stage	2nd Stage	2nd Stage	2nd Stage	2nd Stage	2nd Stage
Death_toll	-1.08***					
	[-4.60]					
Xinfang		1.220***	0.497***	1.277***	0.257***	2.896***
		[4.28]	[3.69]	[3.42]	[3.23]	[4.85]
Law	0.25**	-0.295	-0.050	-0.234	-0.095**	-0.659
	[2.43]	[-1.59]	[-0.60]	[-1.10]	[-1.97]	[-1.55]
GovInt	0.04	-0.419**	-0.227***	-0.511**	-0.100**	-0.324
	[0.39]	[-2.57]	[-2.80]	[-2.04]	[-2.46]	[-0.83]
GovScale	0.19*	-0.132	-0.089	-0.476***	0.014	0.348
	[1.92]	[-0.98]	[-1.61]	[-2.94]	[0.34]	[1.18]
QuaLA	0.58***	-0.947***	-0.237**	0.106	-0.132**	-0.752
	[5.12]	[-3.06]	[-2.23]	[0.34]	[-2.23]	[-1.56]
Literacy	0.20	2.102*	0.529	-1.002	-0.047	5.794***
	[0.47]	[1.66]	[1.28]	[-1.31]	[-0.17]	[3.48]
ExImport	-1.15*	8.425***	3.922***	7.501***	2.347***	17.753***
	[-1.88]	[5.88]	[4.48]	[5.50]	[5.64]	[6.41]
Autonomous	3.18***	0.432	-0.052	-0.016	-0.246	1.178
	[4.05]	[0.66]	[-0.21]	[-0.02]	[-1.41]	[0.70]
Municipality	0.94**	0.588	-0.380	-1.086	0.490	2.828
	[1.25]	[0.41]	[-0.62]	[-0.67]	[1.17]	[0.76]
Religion	-1.50**	2.550***	1.113***	2.520**	0.396*	4.500**
	[-2.94]	[2.70]	[2.63]	[2.28]	[1.80]	[2.34]
Eco.Districts	1.86***	-2.246***	-0.941***	-2.462***	-0.458**	-5.653***
	[8.21]	[-3.46]	[-3.09]	[-3.04]	[-2.51]	[-3.97]
Constants	16.92***	-21.773***	-8.801***	-16.183**	-3.936***	-59.073***
	[14.57]	[-3.90]	[-3.57]	[-2.51]	[-2.94]	[-5.93]
Adj.R2	0.32	-	-	-	-	-
Obs.	499	499	499	499	499	499

Table 4 (continued)

Panel B. Impact of Xinfang on Debt Market Development (Instrumental Variable)

	Xinfang	Total loans	Short loans	Other loans	Deposits	Fixed investment
	1st Stage	2nd Stage	2nd Stage	2nd Stage	2nd Stage	2nd Stage
Death_toll	-1.08***					
	[-4.60]					
Xinfang		0.069***	0.025***	0.026**	-0.005	0.006
		[4.48]	[2.94]	[2.54]	[-0.27]	[0.87]
Law	0.25**	-0.006	-0.024***	0.032***	0.033***	0.031***
	[2.43]	[-0.62]	[-4.35]	[5.10]	[3.36]	[8.24]
GovInt	0.04	-0.005	0.011**	-0.016**	-0.037***	-0.006*
	[0.39]	[-0.52]	[2.02]	[-2.22]	[-3.27]	[-1.74]
GovScale	0.19*	-0.022***	-0.014***	-0.004	-0.009	-0.004
	[1.92]	[-3.10]	[-3.40]	[-0.79]	[-0.96]	[-1.30]
QuaLA	0.58***	-0.062***	-0.058***	0.017**	0.020	0.042***
	[5.12]	[-5.13]	[-8.17]	[2.08]	[1.37]	[8.46]
Literacy	0.20	0.044	0.018	0.016	0.199***	0.000
	[0.47]	[1.02]	[0.74]	[0.65]	[3.44]	[0.03]
ExImport	-1.15*	0.366***	0.200***	0.091**	0.460***	-0.228***
	[-1.88]	[5.06]	[4.72]	[2.30]	[5.22]	[-10.03]
Autonomous	3.18***	-0.102**	-0.150***	0.101***	-0.075	0.058***
	[4.05]	[-2.46]	[-6.74]	[3.41]	[-1.49]	[2.67]
Municipality	0.94**	0.184***	0.094**	0.049	0.293***	-0.019
	[1.25]	[2.60]	[2.02]	[1.05]	[3.39]	[-0.73]
Religion	-1.50**	0.173***	0.061**	0.072**	0.144***	0.005
	[-2.94]	[3.11]	[2.46]	[2.41]	[2.91]	[0.25]
Eco.Districts	1.86***	-0.207***	-0.089***	-0.077***	-0.021	-0.012
	[8.21]	[-5.40]	[-4.28]	[-3.43]	[-0.54]	[-0.79]
Constants	16.92***	-0.094	0.378***	-0.337*	0.842***	0.105
	[14.57]	[-0.37]	[2.63]	[-1.91]	[2.60]	[0.90]
Adj.R2	0.32	-	-	-	-	-
Obs.	499	499	499	499	499	499

Table 5

Impact of Xinfang Sub_index on Stock Market Development

This table presents the results of estimating the following panel regression models:

$$Stock\ Market\ Development = \alpha + \beta 1 Xinfang\_Sub\_index + \beta 2\ X + \varepsilon,$$

where *Stock Market Development* is either *Total Capitalization, Circulating Capitalization, Trading Volume, No. of Listed Firms*, or *No. of IPOs. Total Capitalization* is the value of provincial equity market as a share of GDP. *Circulating Capitalization* is the value of floating shares in provincial equity market as a share of GDP. *Trading Volume* is the value of total trading volume of the provincial capital market as a share of GDP. *No. of Listed Firms* and *No. of IPOs* are the number of listed firms and IPOs per million population in each province. *Xinfang sub index* is either *Trans_index, Efficiency Index, Mechanism Index, Access Index,* and *Pu or Rew Index*. For detailed sub_index definitions, see Table1. Control includes *GovInt, GovScale, QuaLA, Literacy*, and *ExImport. GovInt, GovScale*, and *QuaLA* are the value of government intervention, government scale and the quality of accounting and legal services indexes in each province (Fan, Wang, and Zhu, 2010). *Literacy* is the proportion of college graduates in each province each year. *ExImport* is the value of the sum of import and export as a share of GPD in each province. Year and province fixed effects are included. The symbols *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 5 (continued)

	Total capitalization	Circulating cap.	Trading volume	No. of IPOs	No. of listed firms
Efficiency Index	0.82***	0.42***	0.52***	0.13***	1.95***
	[3.73]	[4.43]	[3.43]	[3.07]	[7.03]
Control	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes
Pro. Effects	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.273	0.258	0.391	0.332	0.656
Obs.	518	518	518	518	518
Mechanism Index	1.65***	0.79***	0.72***	0.18***	0.93**
	[5.99]	[6.66]	[3.71]	[3.15]	[2.51]
Control	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes
Pro. Effects	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.303	0.292	0.394	0.332	0.626
Obs.	518	518	518	518	518
Access Index	0.74***	0.34***	-0.04	0.13***	0.12
	[3.91]	[4.12]	[-0.31]	[3.40]	[0.48]
Control	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes
Pro. Effects	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.275	0.254	0.377	0.335	0.621
Obs.	518	518	518	518	518
Pun and Rew Index	0.87***	0.38***	0.36*	0.17***	0.91**
	[2.94]	[2.95]	[1.76]	[2.88]	[2.33]
Control	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes
Pro. Effects	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.265	0.241	0.381	0.330	0.625
Obs.	518	518	518	518	518

Table 6

Impact of Xinfang Sub_index on Debt Market Development

This table presents the results of estimating the following panel regression models:

$$Debt\ Market\ Development = \alpha + \beta 1 Xinfang\_Sub\_index + \beta 2X + \varepsilon,$$

where *Debt Market Development* is either *Total Loans, Other loans, Short Loans, Deposits* or *Fixed Investment*. *Total Loans* is the value of total loans of banks as a share of GDP in each province. *Other loans* is the value of medium and long term loans of banks as a share of GDP in each province. *Short Loans* is the value of short-term loans of banks as a share of GDP in each province. *Deposits* is the value of total deposit in banks as a share of GDP in each province. *Fixed Investment* is the value of fixed investment as a share of GDP in each province. *Xinfang sub index* is either *Trans_index, Efficiency Index, Mechanism Index, Access Index,* and *Pu or Rew Index*. For detailed sub_index definitions, see Table1. Control includes *GovInt, GovScale, QuaLA, Literacy*, and *ExImport. GovInt, GovScale*, and *QuaLA* are the value of government intervention, government scale and the quality of accounting and legal services indexes in each province (Fan, Wang, and Zhu, 2010). *Literacy* is the proportion of college graduates in each province each year. *ExImport* is the value of the sum of import and export as a share of GPD in each province. Year and province fixed effects are included. The symbols *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 6 (continued)

	Total loans	Short loans	Other loans	Deposits	Fixed investment
Efficiency Index	-0.01	-0.00	-0.01	0.03**	-0.00
	[-0.96]	[-0.75]	[-1.38]	[2.50]	[-1.58]
Control	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes
Pro. Effects	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.375	0.314	0.213	0.558	0.258
Obs.	518	518	518	518	518
Mechanism Index	0.03***	-0.01	0.03***	0.06***	0.01***
	[3.10]	[-1.48]	[4.21]	[3.94]	[3.48]
Control	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes
Pro. Effects	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.386	0.316	0.237	0.566	0.272
Obs.	518	518	518	518	518
Access Index	0.02***	0.01***	0.01	0.02**	-0.00
	[2.73]	[3.11]	[1.23]	[2.42]	[-1.20]
Control	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes
Pro. Effects	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.383	0.326	0.212	0.557	0.256
Obs.	518	518	518	518	518
Pun and Rew Index	0.04***	0.02***	0.01*	0.07***	0.01**
	[3.64]	[3.86]	[1.84]	[5.09]	[2.04]
Control	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes
Pro. Effects	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.390	0.333	0.215	0.574	0.260
Obs.	518	518	518	518	518

Table 7

Joint Impact of Xinfang and Law Systems, Xinfang and Government Intervention, Xinfang and Government Scale on Financial Market Development

This table presents the results of estimating the following panel regression models:

(1) Financial Development = α + β1Xinfang*Law + β2Xinfang + β3Law + β4 X + ε,

(2) Financial Development = α + β1Xinfang*GovInt + β2Xinfang + β3GovInt + β4 X + ε,

where *Financial Development* in Panel A is either *Total Capitalization, Circulating Capitalization, Trading Volume, No. of Listed Firms* or *No. of IPOs*; *Financial Development* in Panel B is either *Total Loans, Other Loans, Short Loans, Deposits* or *Fixed Investment*. *Total Capitalization* is the value of provincial equity market as a share of GDP. *Circulating Capitalization* is the value of floating shares in provincial equity market as a share of GDP. *Trading Volume* is the value of total trading volume of the provincial capital market as a share of GDP. *No. of Listed Firms* and *No. of IPOs* are the number of listed firms and IPOs per million population in each province. *Total Loans* is the value of total loans of banks as a share of GDP in each province. *Other Loans* is the value of medium and long term loans of banks as a share of GDP in each province. *Short Loans* is the value of short-term loans of banks as a share of GDP in each province. *Deposits* is the value of total deposit in banks as a share of GDP in each province. *Fixed Investment* is the value of fixed investment as a share of GDP in each province. *Xinfang* is the value of xinfang index in each province. *Law* is the value of the law index in each province. In Model (1), *control* is a set of control variables same as before. It includes *GovInt, GovScale, QuaLA, Literacy*, and *ExImport.* In Model (2), *control* is a set of control variables including *Law, GovScale, QuaLA, Literacy*, and *ExImport.* In model (3), *control* is a set of control variables including *Law, GovInt, QuaLA, Literacy*, and *ExImport.* *GovInt, GovScale,* and *QuaLA* are the value of government intervention, government scale and the quality of accounting and legal services indexes in each province (Fan, Wang, and Zhu, 2010). *Literacy* is the proportion of college graduates in each province each year. *ExImport* is the value of the sum of import and export as a share of GPD in each province. Year and province fixed effects are included. The symbols *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 7 (continued)

Panel A. Effects on Stock Market Development

	Total capitalization	Circulating cap.	Trading volume	No. of IPOs	No. of listed firms
*Xinfang*Law*	0.27***	0.12***	0.12***	0.02***	0.18***
	[9.90]	[10.86]	[5.98]	[4.17]	[4.59]
Xinfang	-1.94***	-0.90***	-0.92***	-0.15***	-1.17***
	[-7.65]	[-8.42]	[-4.88]	[-2.70]	[-3.23]
Law	-6.34***	-3.28***	-2.62***	-0.60***	-4.34***
	[-8.68]	[-10.62]	[-4.81]	[-3.74]	[-4.15]
Controls	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes
Pro. Effects	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.419	0.424	0.433	0.366	0.674
Obs.	518	518	518	518	518
*Xinfang*GovInt*	0.13***	0.06***	0.06***	0.01**	0.07*
	[4.67]	[4.91]	[3.08]	[2.57]	[1.96]
Xinfang	-0.24	-0.11	-0.18	-0.01	0.01
	[-1.44]	[-1.61]	[-1.49]	[-0.35]	[0.06]
GovInt	-3.54***	-1.67***	-2.05***	-0.49***	-2.88***
	[-4.82]	[-5.33]	[-3.88]	[-3.28]	[-2.97]
Controls	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes
Pro. Effects	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.328	0.321	0.397	0.357	0.654
Obs.	518	518	518	518	518

Table 7 (continued)

Panel B. Effects on Debt Market Development

	Total loans	Short loans	Other loans	Deposits	Fixed investment
*Xinfang*Law*	0.01***	0.002***	0.005***	0.01***	-0.001**
	[8.24]	[4.58]	[7.07]	[6.95]	[-2.15]
Xinfang	-0.06***	-0.02***	-0.04***	-0.07***	0.01**
	[-7.12]	[-3.85]	[-6.36]	[-5.35]	[2.21]
Law	-0.19***	-0.05***	-0.12***	-0.25***	-0.03**
	[-7.21]	[-3.63]	[-6.57]	[-6.39]	[3.09]
Controls	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes
Pro. Effects	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.458	0.349	0.283	0.606	0.274
Obs.	518	518	518	518	518
*Xinfang*GovInt*	0.00	0.001*	-0.00	-0.00	-0.00
	[0.28]	[1.82]	[-0.85]	[-0.31]	[-0.29]
Xinfang	0.00	-0.00	0.01	0.02**	0.00
	[0.75]	[-1.56]	[1.60]	[2.51]	[1.58]
GovInt	-0.02	-0.02*	0.00	-0.03	0.00
	[-0.78]	[-1.67]	[0.05]	[-0.81]	[0.34]
Controls	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes
Pro. Effects	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.397	0.370	0.216	0.571	0.394
Obs.	518	518	518	518	518

Table 8

Impact of Citizens' Tendency to Xinfang System on Financial Market Development

This table presents the results of estimating the following panel regression models:

$$Financial\ Development = \alpha + \beta 1 XinfangPro + \beta 2\ X + \varepsilon,$$

where *Financial Development* in Panel A is either *Total Capitalization, Circulating Capitalization, Trading Volume, No. of Listed Firms* or *No. of IPOs*; *Financial Development* in Panel B is either *Total Loans, Other Loans, Short Loans, Deposits* or *Fixed Investment*. *Total Capitalization* is the value of provincial equity market as a share of GDP. *Circulating Capitalization* is the value of floating shares in provincial equity market as a share of GDP. *Trading Volume* is the value of total trading volume of the provincial capital market as a share of GDP. *No. of Listed Firms* and *No. of IPOs* are the number of listed firms and IPOs per million population in each province. *Total Loans* is the value of total loans of banks as a share of GDP in each province. *Other Loans* is the value of medium and long term loans of banks as a share of GDP in each province. *Short Loans* is the value of short-term loans of banks as a share of GDP in each province. *Deposits* is the value of total deposit in banks as a share of GDP in each province. *Fixed Investment* is the value of fixed investment as a share of GDP in each province. *XinfangPro* is the ratio of the number of xinfang cases over the number of legal cases. *Control* is a set of control variables including *GovScale, GovInt, QuaLA, Literacy*, and *ExImport. GovInt*, *GovScale*, and *QuaLA* are the value of government intervention, government scale and the quality of accounting and legal services indexes in each province (Fan, Wang, and Zhu, 2010). *Literacy* is the proportion of college graduates in each province each year. *ExImport* is the value of the sum of import and export as a share of GPD in each province. Year and province fixed effects are included. The symbols *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Impact of Citizens' Propensity to Xinfang on Stock Market Development

	Total capitalization	Circulating cap.	Trading volume	No. of IPOs	No. of listed firms
XinfangPro	1.04***	0.43***	1.79***	-0.07	4.94***
	[5.03]	[4.76]	[4.98]	[-0.89]	[6.91]
Control	Yes	Yes	Yes	Yes	Yes
Pro. Effects	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.387	0.413	0.544	0.340	0.727
Obs.	307	307	307	307	307

Panel B. Impact of Citizens' Propensity to Xinfang on Debt Market Development

	Total loans	Short loans	Other Loans	Deposits	Fixed investment
XinfangPro	0.11***	0.03**	0.07***	0.18***	0.02**
	[5.19]	[2.11]	[5.63]	[7.83]	[2.48]
Control	Yes	Yes	Yes	Yes	Yes
Pro. Effects	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.295	0.195	0.153	0.538	0.408
Obs.	307	307	307	307	307

Appendix

Figure A

Timeline of Xinfang Developments
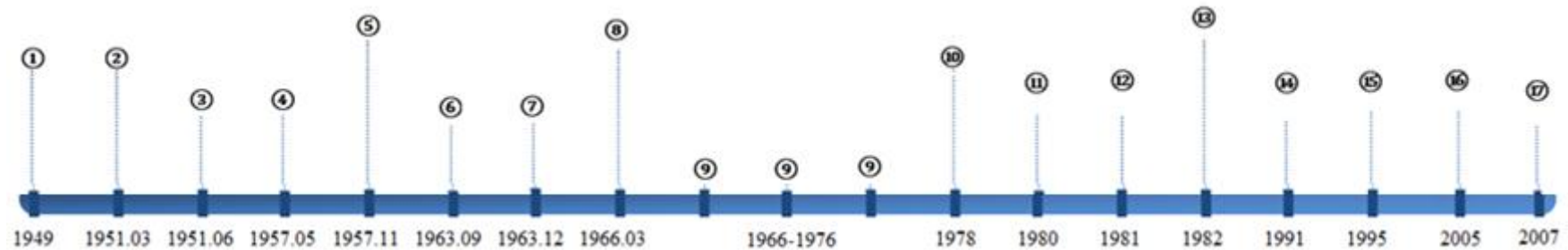
1. Establishment of the central political administration office for dealing with letters and calls (xinfang) addressed to the Party
2. Establishment of People's letter group for dealing with letters addressed to the government and the Party
3. Promulgation of "Dealing with people's letters and visits (xinfang)" by Government Administration Council
4. The first national conference on xinfang and promulgation of the "Measure of dealing with people's xinfang at Party organs of all levels (draft)"
5. Promulgation of "Instructions on strengthening xinfang work" by State Council
6. Promulgation of "Instructions on further strengthening xinfang work" by State Council and CPC Central Committee
7. Promulgation of "Measures of xinfang file classification" by State Council
8. Promulgation of "Measures of improving xinfang work—establishing rules of routinely meeting with the masses" by State Council
9. Cultural Revolution
10. The Second national conference on xinfang and promulgation of the "Interim provisions of distribution of xinfang work among Central organs"
11. Promulgation of "Interim provisions of distribution of xinfang work among central departments" by State Council, General Office of the NPC Standing Committee, and CPC Central Committee
12. Promulgation of "Several provisions on maintaining the order of xinfang work" by State Council
13. The third national conference on xinfang and promulgation of the "Interim regulations of xinfang among Party and government organs" by CPC Central Committee and State Council
14. Promulgation of "Measures distribution of xinfang work among Central organs" by CPC Central Committee
15. Promulgation of "National xinfang regulations" by State Council
16. Promulgation of "Amended National xinfang regulations" by State Council
17. Promulgation of "Opinions on further strengthening xinfang work" by CPC Central Committee and State Council

Figure B

Procedure of Filing and Resolving a Xinfang Case
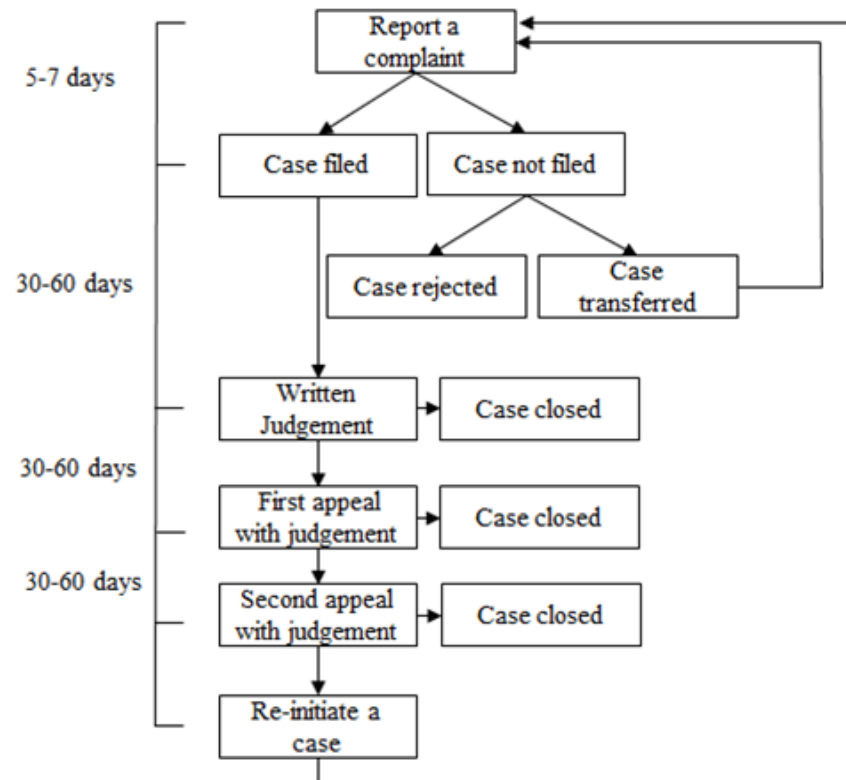
Source: Xinfang regulations of 31 provinces over 1992-2015

Figure C

Procedure of Filing and Resolving a Legal Case

7 days	Report a complaint → Case filed with litigation fees / Case rejected
5 days	Notice defendant
15 days	Defense preparation
25-35 days	Schedule hearing
120 days	First trial with judgement → Case closed
90 days	Second trial with judgement → Case closed
90 days	Appeal with appellate result → Case closed
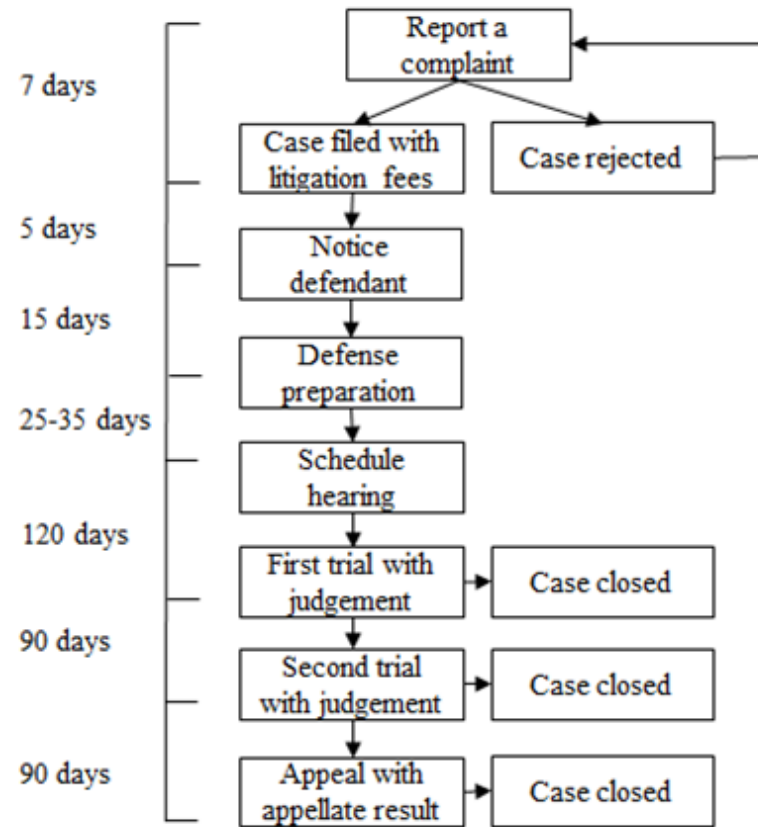
Source: The Civil Procedural Law of People's Republic of China

Figure D

Number of Full-time Lawyers over 2003-2012
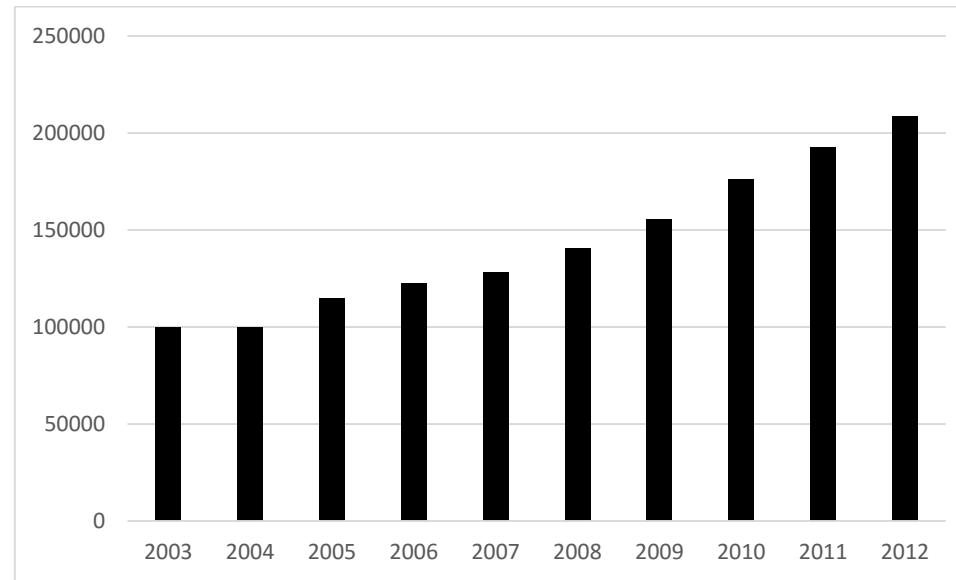
Source: China Law Yearbook 2004-2013

Table A

Definition of the variables

This table describes the definition of the variables. Unless otherwise specified, the source of the data is the provincial xinfang regulations of 31 provinces in Mainland China during 1993-2014.

Variables	Description
Efficiency of Processing Cases Index	
Limitation on time taken to file a case	This variable measures whether there is time limitation on filing a xinfang case. Equal to one if the provincial regulation imposes a time limitation, and zero otherwise
Fifteen-day limitation on filing a case	This variable measures if the regulation requires that a xinfang case must be filed within 15 days since disputants first reported. Equal one if the limitation is in place, and zero otherwise.
Limitation on time taken to resolve a xinfang case	This variable measures whether there is a time limitation on resolving xinfang case. Equal to one if the provincial regulation imposes such a limitation, and zero otherwise.
Limitation on time extension of xinfang resolution	This variable measures whether there is a limitation on time extension of xinfang resolution. Equal to one if the provincial xinfang regulation imposes such a limitation, and zero otherwise.
Five-day limitation on evaluating case transfer	This variable measures if the provincial xinfang regulation requires the case transfer must be decided within 5 days upon receiving the filing. Equal one if the limitation is in place, and zero otherwise.
Thirty-day limitation on case resolution after transfer	This variable measures if the provincial xinfang regulation requires a transfer case must be resolved within 30 days. Equal one if the limitation is in place, and zero otherwise.
Thirty-day limitation on extension of case resolution after transfer	This variable measures if the regulation requires the time extension of resolving a transferred case must be under 30 days. Equal to one if the provincial xinfang regulation imposes such a limitation, and zero otherwise.
Limitation on time taken to resolve first appeal	This variable measures whether there is a limitation on time taken to resolve the first appeal. Equal one if the provincial xinfang regulation imposes such a limitation, and zero otherwise.

Variables	Description
Thirty-day limitation of time taken for original xinfang agency to re-judge the case.	This variable measures whether there is a requirement from the provincial xinfang regulations that time taken for original xinfang agency to re-judge the case must be under 30 days. Equal to one if the regulation imposes such a requirement, and zero otherwise.
Limitation on time taken for original xinfang agency to re-judge the case	This This variable measures whether there is a limitation on time for the original xinfang agency to re-judge the xinfang case following the order from higher authorities. Equal to one if the provincial xinfang regulation imposes such a limitation, and zero otherwise.

Dispute Resolution Mechanisms Index

Variables	Description
Collaboration among various government organs	This variable measures whether provincial xinfang bureau has established collaboration mechanism among various government organs to resolve xinfang cases. Equal one if there is such a mechanism in the provincial xinfang regulation, and zero otherwise.
Hold xinfang bureau management team responsible	This variable measures whether provincial xinfang bureau has established a mechanism that requires the xinfang bureau management team to resolve a certain number and type of cases and they will be punished if they cannot achieve the target. Equal one if such a mechanism is in place, and zero otherwise.
First responsibility	This variable measures whether provincial xinfang regulations require that the first xinfang agency that received the case should be the primary agency to resolve it. Similarly, the first xinfang worker who helps file the case should also be the primary person to resolve it. Equal one if such a mechanism is in place, and zero otherwise.
Hearing committee	This variable measures if there is a mechanism of public hearing of xinfang case. Equal one if such a mechanism is in place, and zero otherwise.
Double-appealing	This variable measures whether the provincial xinfang regulations have established appealing system in which disputants can appeal twice. Equal to one if such a regulation is in place and zero otherwise.
Instructions of appealing	This variable measures whether there is clear instructions on how to appeal when the xinfang case firstly resolved. Equal to one if such instructions in place and zero otherwise.
Third appeal	This variable measures whether the provincial xinfang regulations allow disputants to appeal for the third time if they are not satisfied with the previous judgements. Equal to one if such a support is in place and zero otherwise.

Variables	Description
Confidentiality	This variable measures whether the provincial regulations require the xinfang bureaus and employees to keep the filed cases confidential. Equal to one if such a requirement is in place and zero otherwise.
Absolute obedience	This variable measures whether the provincial xinfang bureaus require disputants to absolutely obey the judgement. Equal to one if such a requirement is in place and zero otherwise.
Avoid conflict of interests	This variable measures whether the provincial regulations require xinfang agencies and employees to avoid resolving cases in which they are involved in. Equal to one if such a requirement is in place and zero otherwise.
Avoid conflict of interests in hearing committee	This variable measures whether the disputant has the right to ask xinfang-related employees to avoid engage in public hearing due to potential conflict of interests. Equal to one if such a requirement is in place and zero otherwise.

Access Supports and Restraints Index

Variables	Description
Disputant aid program	This variable measures whether provincial xinfang regulations require xinfang agencies to establish disputant aid program. Equal to one if such a mechanism is required by the regulations and zero otherwise.
Support for appeal	This variable measures if the provincial regulations support disputants to appeal even if they do follow the appealing procedures. Equal to one if such a mechanism is in place and zero otherwise.
Language support	This variable measures whether the provincial xinfang bureaus accept cases filed in minority language, i.e. Chinese languages other than Mandarin. Equal to one if minority languages are accepted, and zero otherwise.
Disabled facilities	This variable measures if the provincial xinfang bureaus have facilities to facilitate disabled citizens to file xinfang cases. Equal to one if such facilities are in place and zero otherwise.
Quality improvement mechanism	This variable measures whether the provincial xinfang agency has established a mechanism to collect advices from citizens regarding the quality of their service and other related issues. Equal one if such a mechanism is in place, and zero otherwise.
Formatted text for filing cases	This variable measures whether the provincial xinfang bureaus provide formatted text for the illiterate to file xinfang cases. Equal to one if such a support is in place, and zero otherwise.

Variables	Description
Financial funding	This variable measures whether the funding for xinfang agencies to conduct operations is guaranteed in the xinfang regulations. Equal to one if the funding is guaranteed and zero otherwise.
Clear jurisdiction	This variable measures whether there is a clear jurisdiction on cases originated from a government organ that has been abolished. Equal to one if such a clear jurisdiction is in place and zero otherwise.
Comprehensive acceptance of filing	This variable measures whether, in the province, there is a xinfang agency that accepts filings of all kinds of xinfang cases. Equal to one if there is such an agency and zero otherwise.
Dealing with cases with significant impact	This is a contrary indicator. It measures if the provincial regulations require immediate repression regarding cases with potentially significant impact on society. Equal to one if no such a requirement is in place and zero otherwise.
Monitoring	This variable measures whether the xinfang agencies have the responsibility to monitor the operation of agencies at the lower bureaucratic level. Equal to one if such a responsibility is place, and zero otherwise.
Regular investigation of past cases	This variable measures whether the xinfang agencies have regularly carried out investigations on past xinfang cases. Equal one if such a regulation is in place, and zero otherwise.
Acceptance for minors through legal guardians	This variable measures whether the provincial xinfang bureaus allow minors to filed xinfang cases through their legal guardians. Equal to one if such a support is in place and zero otherwise.
Criticism	This variable measures whether the provincial xinfang bureaus provide detailed explanation, not repression, to disputants when their cases cannot be resolved. Equal to one if such a support is in place and zero otherwise.
Disputant's freedom	This variable measures whether the provincial xinfang bureaus restrict the personal freedom of disputants who repeatedly appeal for favorable resolution. Equal to one if no such restrictions, and zero otherwise.
Multiple filings	This variable measures whether the provincial xinfang bureaus allow disputants to file a xinfang case at different xinfang bureaus simultaneously. Equal to one if such a support is in place and zero otherwise.

Variables	Description
Public hearing fees	This variable measures whether the provincial xinfang bureaus charge disputants a fee on public hearing. Equal to one if they do not charge such a fee, and zero otherwise.
Access to public hearing	This variable measures whether the provincial regulations provide the public hearing option to disputants. Equal to one if the regulations do provide this option, and zero otherwise.
Limitation on No. of Disputants	This variable measures, in a collective xinfang case, whether the maximum number of disputants the provincial xinfang bureaus allow as representatives is higher than four. Equal to one if the No. is higher than four and zero otherwise.
Discourage Disputants	This variable measures whether the provincial regulations allow the xinfang workers to discourage the disputants to file cases. Equal to one if no such discouragement is allowed and zero otherwise.
Prohibition on civil servants	This variable measures whether the provincial regulations prohibit civil servants from filing xinfang cases. Equal to one if no such prohibition is in place and zero otherwise.
Detention workers	This variable measures whether the provincial xinfang bureaus have workers specifically employed to detent disputants who intend to file xinfang cases. Equal to one if no workers for this purpose are employed, and zero otherwise.
Detention funding	This variable measures whether the provincial xinfang bureaus have findings specifically for detention of disputants who intend to file xinfang cases. Equal to one if there is no such funding, and zero otherwise.
Involvement of policeman	This variable measures whether the provincial xinfang bureaus have the authority to deploy policeman to hold disputants in custody. Equal one if the provincial xinfang bureaus do not have the authority, and zero otherwise.
Detention of the elderly, sick, disabled and injured	This variable measures whether the provincial regulations require the detention of the old, sick, disabled and injured disputants. Equal to one if no such requirement and zero otherwise.

Variables	Description
Exclusion of detention from performance assessment	This variable measures whether the provincial xinfang bureaus exclude the detention as an indicator in the performance assessment of the xinfang workers. Equal to one if such an exclusion is in place and zero otherwise.
Mandatory disclosure of hearing committee's identity	The variable measures whether the member of hearing committee would be mandatorily required to disclose his/her relationships with xinfang workers, xinfang agency or defendant to disputants in public hearing. Equal one when mandatory disclosure is in place, and zero otherwise.
Mandatory disclosure of how xinfang case is being processed	This variable measures whether xinfang workers is required by provincial xinfang regulation to reply disputant's inquiry regarding how their cases are being processed promptly and honestly. Equal one when this mandatory requirement is in place, and zero otherwise.
Mandatory disclosure of xinfang worker's identity	The variable measures whether a xinfang worker is mandatorily required to disclose his/her name or work number to disputants when processing cases. Equal one when mandatory disclosure is in place, and zero otherwise.
Green Xinfang Channel	This variable measures whether sending the letters from disputants to xinfang agency by post is free. Equal one for free posting, and zero otherwise.
Acceptance for suspected psychopaths	This variable measures whether the provincial xinfang bureaus accept cases filed by suspected psychopaths. Equal to one if they do accept, and zero otherwise.
Acceptance for suspected patients with infectious disease	This variable measures whether the provincial xinfang bureaus accept cases filed by suspected patients with infectious disease. Equal to one if they do accept, and zero otherwise.
Video chat with xinfang bureau head	This variable measures whether disputants have the option of filing xinfang cases through video chat with xinfang bureau leaders. Equal one if the provincial regulation gives disputant this options, and zero otherwise.

Punishment and Rewards Index

Variables	Description
Fail to file	This variable measures whether the provincial xinfang bureaus specify the punishment for failure to file a xinfang case. Equal to one if the regulations have such a punishment, and zero otherwise.

Variables	Description
Refuse to receive	This variable measures whether the provincial xinfang bureaus specify the punishment for xinfang workers who refuse to receive a xinfang case. Equal to one if the regulations have such a punishment, and zero otherwise.
Intentional delay	This variable measures whether the provincial xinfang bureaus specify the punishment for intentional delay to process a xinfang case. Equal to one if the regulations have such a punishment, and zero otherwise.
Bribes	This variable measures whether the provincial xinfang bureaus specify the punishment for taking and asking for bribes. Equal to one if the regulations have such a punishment, and zero otherwise.
Fail to monitor	This variable measures whether the provincial xinfang bureaus specify the punishment for failure of monitoring the operations of xinfang agencies at lower levels. Equal to one if the regulations have such a punishment, and zero otherwise.
Fail to give favorable judgement when should	This variable measures whether the provincial xinfang bureaus specify the punishment for failure of giving support to a xinfang case. Equal to one if the regulations have such a punishment, and zero otherwise.
Breach of confidential information	This variable measures whether the provincial xinfang bureaus specify the punishment for breach of confidential information of xinfang cases. Equal to one if the regulations have such a punishment, and zero otherwise.
Reward to disputants	This variable measures whether the provincial xinfang bureaus specify the reward for good disputants. Good disputant is defined as filing xinfang cases that have beneficial impacts on society, economy, and government operations. Equal to one if the regulations have such a punishment, and zero otherwise.
Performance Assessment	This variable measures whether the provincial xinfang regulations have performance assessment mechanism on xinfang workers. Equal one if such a mechanism is in place and zero otherwise.

Table B Correlation Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(2) Circulating	0.7441*									
(3) Volume	0.6934*	0.6585*								
(4) No. of Listed	0.5820*	0.6299*	0.5735*							
(5) No. of IPO	0.4166*	0.4242*	0.3129*	0.4768*						
(6) TotalLoan	0.4790*	0.4993*	0.3370*	0.5984*	0.3833*					
(7) OtherLoans	0.4842*	0.5877*	0.5263*	0.5675*	0.1621*	0.6735*				
(8) ShortLoan	0.1009*	0.0143	-0.1521*	0.1795*	0.2997*	0.5684*	-0.1495*			
(9) Deposits	0.6127*	0.6610*	0.5604*	0.7391*	0.3837*	0.7607*	0.7392*	0.2094*		
(10) FixedInv	-0.0048	0.0622	0.2695*	-0.0828	-0.1008*	0.0597	0.4705*	-0.4276*	0.2338*	
(11) Xinfang	0.3508*	0.4154*	0.3165*	0.3443*	0.2213*	0.2155*	0.3701*	-0.1318*	0.3633*	0.2695*
(12) Law	0.2789*	0.3099*	0.2411*	0.5185*	0.2103*	0.3956*	0.5407*	-0.0284	0.5223*	0.3491*
(13) GovInt	0.0947	0.092	-0.1170*	0.2408*	0.1308*	0.2078*	0.1354*	0.1296*	0.1049*	-0.1531*
(14) GovScale	-0.0656	-0.0922	-0.3255*	-0.0965	0.0371	-0.037	-0.1328*	0.0831	-0.1974*	-0.3834*
(15) QuaLA	0.1992*	0.2349*	0.1273*	0.4605*	0.1839*	0.2910*	0.4385*	-0.0672	0.3701*	0.2290*
(16) Literacy	0.4036*	0.4033*	0.2690*	0.6663*	0.3159*	0.5187*	0.5007*	0.1481*	0.6226*	0.1169*
(17) ExInport	0.4002*	0.4059*	0.2830*	0.6642*	0.4204*	0.4703*	0.3281*	0.2199*	0.6121*	-0.1264*
(18) Autonomous	-0.0035	-0.012	0.1065*	-0.0408	-0.0485	-0.0859	0.0273	-0.1113*	-0.0467	0.1869*
(19) Municipality	0.3549*	0.3130*	0.2065*	0.5706*	0.3746*	0.4784*	0.3279*	0.2431*	0.5031*	-0.0621
(20) Religion	-0.0824	-0.0703	-0.0903	-0.1628*	-0.1043*	-0.1381*	-0.0875	-0.0915	-0.0997	-0.035
(21) Eco.Districts	0.0385	0.0391	-0.0151	0.0638	0.0702	-0.1335*	-0.0999	-0.1125*	-0.0065	-0.1443*

(*) indicates significance at the 1% level

Table B (continued)

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
(12) Law	0.2768*									
(13) GovInt	0.1363*	0.3587*								
(14) GovScale	-0.0226	0.0125	0.5770*							
(15) QuaLA	0.3162*	0.5206*	0.6100*	0.1996*						
(16) Literacy	0.3156*	0.5862*	0.4081*	0.0216	0.6775*					
(17) ExInport	0.2334*	0.5224*	0.4420*	0.1364*	0.4808*	0.6322*				
(18) Autonomous	-0.0505	-0.1166*	-0.4244*	-0.5265*	-0.2723*	-0.2024*	-0.1962*			
(19) Municipality	0.2673*	0.3783*	0.2313*	0.1386*	0.3742*	0.6022*	0.5420*	-0.1688*		
(20) Religion	-0.0581	-0.1068*	-0.0176	0.1238*	-0.0172	-0.0991*	-0.1657*	-0.2148*	-0.1886*	
(21) Eco.Districts	0.3703*	0.0756*	0.1934*	0.2244*	0.1455*	0.0757	0.1488*	-0.2972*	0.0583	0.3009*

(*) indicates significance at the 1% level

Table C

Impact of Xinfang System on Financial Development after Controlling for GDP Per Capita

This table presents the results of estimating the following panel regression models:

$$Financial\ Development = \alpha + \beta 1 Xinfang + \beta 2\ Law + \beta 3 GDP + \beta 4\ X + \varepsilon,$$

where *Financial Development* in Panel A is either *Total Capitalization, Circulating Capitalization, Trading Volume, No. of Listed Firms* or *No. of IPOs*; *Financial Development* in Panel B is either *Total Loans, Other Loans, Short Loans, Deposits* or *Fixed Investment*. *Total Capitalization* is the value of provincial equity market as a share of GDP. *Circulating Capitalization* is the value of floating shares in provincial equity market as a share of GDP. *Trading Volume* is the value of total trading volume of the provincial capital market as a share of GDP. *No. of Listed Firms* and *No. of IPOs* are the number of listed firms and IPOs per million population in each province. *Total Loans* is the value of total loans of banks as a share of GDP in each province. *Other Loans* is the value of medium and long term loans of banks as a share of GDP in each province. *Short Loans* is the value of short-term loans of banks as a share of GDP in each province. *Deposits* is the value of total deposit in banks as a share of GDP in each province. *Fixed Investment* is the value of fixed investment as a share of GDP in each province. *GDP* is the value of GDP per capita in each province. *Xinfang* is the value of xinfang index in each province. *Control* is a set of control variables same as before. It includes *GovInt, GovScale, QuaLA, Literacy*, and *ExImport*. *Law* is the value of the law index in each province. *GovInt, GovScale*, and *QuaLA* are the value of government intervention, government scale and the quality of accounting and legal services indexes in each province (Fan, Wang, and Zhu, 2010). *Literacy* is the proportion of college graduates in each province each year. *ExImport* is the value of the sum of import and export as a share of GPD in each province. Year and province fixed effects are included. The symbols *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Stock Market

	Total capitalization	Circulating cap.	Trading volume	No. of IPOs	No. of listed firms
Xinfang	0.46***	0.21***	0.16***	0.07***	0.42***
	[5.91]	[6.32]	[2.87]	[4.49]	[4.17]
Law	0.55*	-0.07	0.48***	0.04	0.43
	[2.10]	[-0.63]	[2.60]	[0.67]	[1.27]
GDP	0.98**	0.69**	0.43	0.06	3.93***
	[1.95]	[3.20]	[1.21]	[0.60]	[6.05]
Control	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes
Pro. Effects	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.308	0.299	0.393	0.344	0.658
Obs.	518	518	518	518	518

Panel B. Debt Market

	Total loans	Short loans	Other Loans	Deposits	Fixed investment
Xinfang	0.01**	0.0024*	0.0028	0.02***	0.0006
	[2.58]	[1.87]	[1.4]	[4.50]	[0.59]
Law	0.01	0.01**	0.0013	-0.0002	0.01**
	[1.51]	[2.00]	[0.20]	[-0.02]	[2.54]
GDP	-0.02	-0.01	-0.01	-0.12***	-0.05***
	[-1.23]	[-0.63]	[-1.12]	[-4.67]	[-7.04]
Control	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes
FixedEffects	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.385	0.321	0.212	0.586	0.334
Obs.	518	518	518	518	518

Table D

Impact of Xinfang System on Financial Development with Lagged Variables

This table presents the results of estimating the following panel regression models:

$$Financial\ Development = α + β1Xinfang + β2\ Law + β3X + ε,$$

where *Financial Development* in Panel A is either *Total Capitalization, Circulating Capitalization, Trading Volume, No. of Listed Firms* or *No. of IPOs*; *Financial Development* in Panel B is either *Total Loans, Other Loans, Short Loans, Deposits* or *Fixed Investment*. All independent variables are lagged *two* years. *Total Capitalization* is the value of provincial equity market as a share of GDP. *Circulating Capitalization* is the value of floating shares in provincial equity market as a share of GDP. *Trading Volume* is the value of total trading volume of the provincial capital market as a share of GDP. *No. of Listed Firms* and *No. of IPOs* are the number of listed firms and IPOs per million population in each province. *Total Loans* is the value of total loans of banks as a share of GDP in each province. *Other loans* is the value of medium and long term loans of banks as a share of GDP in each province. *Short Loans* is the value of short-term loans of banks as a share of GDP in each province. *Deposits* is the value of total deposit in banks as a share of GDP in each province. *Fixed Investment* is the value of fixed investment as a share of GDP in each province. *GDP* is the value of GDP per capita in each province. *Xinfang* is the value of xinfang index in each province. *Control* is a set of control variables same as before. It includes *GovInt, GovScale, QuaLA, Literacy,* and *ExImport*. *Law* is the value of the law index in each province. *GovInt, GovScale,* and *QuaLA* are the value of government intervention, government scale and the quality of accounting and legal services indexes in each province (Fan, Wang, and Zhu, 2010). *Literacy* is the proportion of college graduates in each province each year. *ExImport* is the value of the sum of import and export as a share of GPD in each province. Year and province fixed effects are included. The symbols *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Stock Market

	Total capitalization	*Circulating cap.*	*Trading volume*	*No. of IPOs*	*No. of listed firms*
Xinfang	0.19**	0.21***	0.06	0.06***	0.45***
	[2.56]	[6.10]	[1.04]	[4.86]	[4.68]
Law	0.40	-0.01	0.58***	0.08*	0.45
	[1.48]	[-0.10]	[2.92]	[1.79]	[1.27]
Control	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes
Pro. Effects	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.350	0.351	0.396	0.429	0.669
Obs.	487	487	487	487	487

Panel B. Debt Market

	Total loans	Short loans	Other Loans	Deposits	Fixed investment
Xinfang	0.00	0.00*	-0.00	0.01***	0.00
	[1.10]	[1.68]	[-0.36]	[2.60]	[0.60]
Law	0.02*	0.01*	0.00	0.01	0.01**
	[1.86]	[1.94]	[0.55]	[0.78]	[2.53]
Control	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes
Pro. Effects	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.386	0.318	0.225	0.522	0.361
Obs.	458	458	458	458	487

Table E

Impact of Xinfang and Law Systems on Stock Market Development

This table presents the results of estimating the following panel regression models:

(1) *Stock Market Development = α + β1Xinfang + β2 X + ε;*

(2) *Stock Market Development = α + β1Law + β2 X + ε;*

(3) *Stock market Development = α + β1Xinfang + β2Law + β3 X + ε,*

where *Stock Market Development* is either *Total Capitalization, Circulating Capitalization, Trading Volume, No. of Listed Firms, No. of IPOs. Total Capitalization* is the value of provincial equity market as a share of GDP. *Circulating Capitalization* is the value of floating shares in provincial equity market as a share of GDP. *Trading Volume* is the value of total trading volume of the provincial capital market as a share of GDP. *No. of Listed Firms and No. of IPOs* are the number of listed firms and IPOs per ten million population in each province. *Xinfang* is the value of xinfang index in each province. *Law* is the value of the law index in each province. *GovInt, GovScale*, and *QuaLA* are the value of government intervention, government scale and the quality of accounting and legal services indexes in each province (Fan, Wang, and Zhu, 2010). *Literacy* is the proportion of college graduates in each province each year.

	Total capitalization			Circulating cap.			Trading volume			No. of IPOs			No. of listed firms		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Xinfang	0.38***		0.38***	0.17***		0.17***	0.15***		0.15***	0.07***		0.07***	0.22**		0.22**
	[5.39]		[5.37]	[5.66]		[5.69]	[2.85]		[2.82]	[3.51]		[3.49]	[2.16]		[2.15]
Law		0.37*	0.35*		-0.10	-0.11		0.34**	0.34**		0.09	0.09		0.21	0.20
		[1.71]	[1.66]		[1.09]	[-1.21]		[2.19]	[2.16]		[1.65]	[1.60]		[0.69]	[0.66]
GovInt	-0.01	-0.14	-0.03	-0.04	-0.08	-0.03*	-0.27**	-0.33***	-0.29***	-0.08**	-0.10***	-0.08**	-0.40*	-0.47**	-0.41*
	[-0.07]	[-0.96]	[-0.18]	[-0.60]	[-1.34]	[-0.52]	[-2.55]	[-3.13]	[-2.70]	[-1.99]	[-2.61]	[-2.09]	[-1.92]	[-2.29]	[-1.95]
GovScale	-0.02	0.03	-0.01	-0.01	-0.00	-0.02	-0.30***	-0.27***	-0.29***	-0.02	-0.01	-0.02	-0.60***	-0.57***	-0.59***
	[-0.20]	[0.24]	[-0.12]	[-0.33]	[-0.00]	[-0.39]	[-3.76]	[-3.46]	[-3.66]	[-0.74]	[-0.42]	[-0.66]	[-3.87]	[-3.68]	[-3.83]
QuaLA	-1.10***	-1.02***	-1.14***	-0.38***	-0.31***	-0.37***	-1.24***	-1.23***	-1.28***	0.11**	0.12**	0.10*	0.24	0.29	0.22
	[-5.44]	[-4.91]	[-5.59]	[-4.32]	[-3.64]	[-4.17]	[-8.23]	[-8.13]	[-8.44]	[2.07]	[2.28]	[1.89]	[0.80]	[0.98]	[0.73]
Literacy	4.25***	4.54***	4.14***	1.24***	1.45***	1.27***	2.44***	2.49***	2.34***	0.44***	0.48***	0.41***	6.92***	7.09***	6.86***
	[7.36]	[7.71]	[7.14]	[4.96]	[5.70]	[5.07]	[5.70]	[5.81]	[5.44]	[2.83]	[3.07]	[2.63]	[8.32]	[8.51]	[8.19]
ExImport	4.11***	3.97***	3.60***	2.20***	2.53***	2.36***	5.15***	4.80***	4.66***	1.34***	1.27***	1.20***	14.03***	13.96***	13.74***
	[5.58]	[4.88]	[4.50]	[6.90]	[7.18]	[6.83]	[9.41]	[8.09]	[7.86]	[6.79]	[5.91]	[5.64]	[13.19]	[12.09]	[11.89]
Constants	-13.35***	-4.63***	-15.40***	-5.28***	0.28	-4.64***	1.76	3.97***	-0.22	-2.11***	-0.77	-2.64***	-7.10***	-2.04	-8.27***
	[-6.11]	[-3.02]	[-6.15]	[-5.60]	[0.43]	[-4.28]	[1.08]	[3.54]	[-0.12]	[-3.62]	[-1.90]	[-3.94]	[-2.26]	[-0.94]	[-2.29]
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.263	0.232	0.265	0.239	0.201	0.239	0.339	0.335	0.343	0.242	0.230	0.244	0.555	0.588	0.555
Obs.	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651

Table F

Impact of Xinfang and Law Systems on Debt Market Development

This table presents the results of estimating the following panel regression models:

(1) *Debt Market Development = α + β1Xinfang + β2 X + ε;*

(2) *Debt Market Development = α + β1Law + β2 X + ε;*

(3) *Debt Market Development = α + β1Xinfang + β2Law + β3 X + ε,*

where *Debt Market Development* is either *Total Loans, Other Loans, Short Loans, Deposits or Fixed Investment*. *Total Loans* is the value of total loans of banks as a share of GDP in each province. *Other loans* is the value of medium and long term loans of banks as a share of GDP in each province. *Short Loans* is the value of short-term loans of banks as a share of GDP in each province. *Deposits* is the value of total deposit in banks as a share of GDP in each province. *Fixed Investment* is the value of fixed investment as a share of GDP in each province. *Xinfang* is the value of xinfang index in each province. *Law* is the value of the law index in each province. *GovInt, GovScale*, and *QuaLA* are the value of government intervention, government scale and the quality of accounting and legal services indexes in each province (Fan, Wang, and Zhu, 2010). *Literacy* is the proportion of college graduates in each province each year. *ExImport* is the value of the sum of import and export as a share of GPD in each province. Year and province fixed effects are included. The symbols *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table F (continued)

	Total loans			Short loans			Other Loans			Deposits			Fixed investment		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Xinfang	0.0005		0.0004	0.0003		0.0003	-0.0001		-0.0001	0.0115***		0.0114***	-0.0011		-0.0012
	[0.17]		[0.13]	[0.27]		[0.23]	[-0.06]		[-0.07]	[3.06]		[3.05]	[-1.05]		[-1.13]
Law		0.02***	0.02**		0.01***	0.01***		0.00	0.00		0.01	0.01		0.01***	0.01***
		[2.16]	[2.16]		[2.80]	[2.79]		[0.60]	[0.60]		[0.82]	[0.78]		[4.02]	[4.04]
GovInt	-0.00	-0.00	-0.00	0.01**	0.01**	0.01**	-0.01***	-0.01***	-0.01***	-0.03***	-0.04***	-0.03***	-0.01***	-0.01***	-0.01***
	[-0.12]	[-0.28]	[-0.26]	[2.53]	[2.35]	[2.35]	[-2.70]	[-2.76]	[-2.73]	[-4.23]	[-4.74]	[-4.27]	[-3.16]	[-3.33]	[-3.46]
GovScale	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***	0.00	0.00	0.00	-0.02***	-0.02***	-0.02**	-0.01***	-0.01***	-0.01***
	[-3.09]	[-2.98]	[-2.98]	[-6.35]	[-6.23]	[-6.23]	[0.88]	[0.91]	[0.91]	[-3.55]	[-3.28]	[-3.50]	[-5.96]	[-5.90]	[-5.82]
QuaLA	0.01	0.01	0.01	0.02***	0.01***	0.01***	-0.01	-0.01	-0.01	-0.03*	-0.02**	-0.03**	0.01***	0.01**	0.01**
	[1.02]	[0.08]	[0.78]	[4.08]	[3.84]	[3.79]	[-0.95]	[-1.02]	[-1.01]	[-2.50]	[-2.22]	[-3.50]	[2.85]	[2.32]	[2.44]
Literacy	0.16***	0.16***	0.16***	0.05***	0.05***	0.05***	0.09***	0.09***	0.09***	0.27***	0.28***	0.27***	-0.01*	-0.02**	-0.02**
	[7.26]	[7.07]	[6.99]	[5.07]	[4.83]	[4.76]	[5.85]	[5.78]	[5.74]	[8.79]	[9.04]	[8.64]	[-1.65]	[-2.27]	[-2.11]
ExImport	0.15***	0.13***	0.13***	0.03*	0.01	0.01	0.09***	0.08**	0.08***	0.57***	0.57***	0.56***	-0.05***	-0.07**	-0.07***
	[5.40]	[4.18]	[4.15]	[1.91]	[0.70]	[0.68]	[4.60]	[4.02]	[4.00]	[14.67]	[13.44]	[13.21]	[-4.44]	[-5.83]	[-5.71]
Constants	0.74***	0.65***	0.64***	0.40***	0.34***	0.33***	0.30***	0.27***	0.28***	0.62***	0.89***	0.57***	0.60***	0.50***	0.53***
	[8.90]	[11.36]	[6.71]	[9.97]	[12.56]	[7.35]	[5.22]	[6.99]	[4.25]	[5.32]	[11.07]	[4.25]	[18.16]	[21.83]	[14.01]
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj.R2	0.322	0.327	0.326	0.289	0.298	0.297	0.157	0.157	0.156	0.548	0.542	0.548	0.195	0.214	0.214
Obs.	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651