The Impact of Social Capital on Economic Attitudes and Outcomes: A Literature Review and Chinese Evidence

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Abstract

This article surveys the extant literature on the impact of social capital on economic attitudes and outcomes. Special attention is paid to clarify conceptual ambiguities, measurement techniques, channels of influence, and identification strategies. Insights derived from the literature are then used to analyze the marketplace lending industry in China, where the size of the peer-to-peer (P2P) lending market is larger than that of the rest of the world combined. Ironically, approximately two-thirds of the online P2P lending platforms have failed in China. Empirical evidence from the monthly operating data of 735 lending platforms and transaction level data from one prominent platform (Renrendai) shows that platforms in provinces with high social capital have low risk of failure, and borrowers in provinces with high social capital can borrow at low interest rate and are less likely to default. We also provide observations to guide future economic research on social capital.

Key words: Social Capital, Peer-to-Peer Lending, Trust, China

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Section 1 Introduction

In recent decades, the concept of social capital has emerged as one of the most prominent topics in modern social sciences. Many studies in sociology, political science, and economics have argued that social capital matters for the effectiveness of political and legal institutions, for the production of human capital and public goods, and for desirable macro- and micro-economic outcomes (Putnam, 1993; Knack and Keefer, 1995; Woolcock, 1998, Durlauf and Fafchamps, 2005).

Given its ubiquity, creating a single measure or even a definition of social capital is difficult. Various studies extract different elements under the multi-dimensional concept of social capital and use various measures to suit their needs. Moreover, the multitude of interactions between social capital and many other social, economic, and political factors makes the identification of the determinants and causal effects of social capital difficult (Guriev and Melnikov, 2016). In view of this state of affairs, the motivation of this article is threefold.

First, we trace the origins of the social capital concept by reviewing the key insights of principal authors. We also observe how this concept is used in the economics and finance literature, aiming to clarify the link between social capital and economic attitudes and outcomes.

Second, we review the extant empirical evidence on the impact of social capital at individual, corporate, and societal levels. Special attention is paid to measurement issues, identification strategies, and arguments. We also identify research gaps and suggest future agendas.

Third, we bring forward novel empirical evidence from China by employing the insights derived from literature survey. Our emphasis is on the heterogeneities in social capital stock across Chinese regions and its impact on the fintech innovation of online marketplace lending (OML). OML applies data and technology to allow peer-to-peer (P2P) lending in an online marketplace without financial intermediaries. Among the major P2P lending markets, the size of China's P2P industry is larger than that of the rest of the world combined, with outstanding loans of 1.49 trillion yuan (US$218 billion) in 2018. The industry was completely unregulated before 2015. At its peak in 2015, approximately 3,500 P2P businesses existed in the country.[1] Ironically, as of 2019, two-thirds of OML platforms have failed, causing trillions of investor losses and social unrests. Given the position of poor legal institutions in China to protect investors, we determine to what extent social capital plays a role in the Chinese P2P lending industry.

Specifically, we employ two sets of unique data: one comprises platform-month level operating data on 735 P2P businesses, and the other consists of all transactions of a leading Chinese P2P platform between 2011 and 2015. We use these data to investigate how regional social capital explains its home platforms' failures and its home borrowers' debt terms and default rates.

The rest of the article is organized as follows: Section 2 reviews the origin and evolution of the social capital concept. Different dimensions of social capital are illustrated, especially those that are relevant to economics and finance. Section 3 investigates the measurements of social capital

[1] https://www.pymnts.com/news/international/2018/china-protestors-p2p-lending-regulation-fraud-debt/

at individual, corporate, and societal levels. Section 4 surveys the extant empirical work of social capital on economic attitudes and outcomes through four channels of influence and discusses the identification strategies employed in the literature. Section 5 peeks into the Chinese social capital and P2P lending industry and shows how social capital explains the success/failure of this market at platform and micro-transaction levels. Section 6 concludes.

Section 2 Evolution of the Social Capital Concept

2.1 Principal Authors on Social Capital

Social capital (SC) is the ability of actors to secure benefits by virtue of membership in social networks or other social structures. As argued by Portes (1998), the novelty and heuristic power of social capital come from two sources. First, the concept focuses on the positive consequences of *sociability* while putting aside its less attractive features. Second, the concept places the positive consequences in the framework of a broad discussion of *capital* and calls attention to determine how such non-monetary forms can be important sources of power and influence, such as the size of one's stock holdings or bank account.[2]

The concept of social capital can be traced to Bourdieu (1985), who defines SC as "the aggregate of the actual or potential resources, which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition" (pp. 248). In sociology, SC is broadly defined as the advantages and opportunities accrue to people through membership in certain communities. Such benefits can be created by virtue of participation in groups and on the deliberate construction of sociability for the purpose of creating this resource.

Coleman (1988) provides a refined analysis of the SC formation process in his seminal work "*Social Capital in the Creation of Human Capital*." Coleman (1988) also claims that three forms of social capital can be taken as resources for action: (1) obligations and expectations, (2) information channels, and (3) social norms. An important insight from Coleman's work is the importance of "network closure." Coleman (1988) argues that dense social networks make the enforcement of group cooperative behavior effective.

Putnam (1995) advances the SC concept by injecting its "civicness" aspect. In his influential article "*Bowling Alone: America's Declining Social Capital*," Putnam (1995) presents a strong case that the US social capital stock declines, as evidenced by declining voting and membership in organizations such as PTA, the Elks Club, the League of Women Voters, and the Red Cross.[3] Social capital refers to "social organization features, such as networks, norms, and social trust, which facilitate coordination and cooperation" (Putnam 1995, 67). Such networks are typically associated with norms that promote coordination, cooperation, and reciprocity for the mutual

[2] Ostrom (1999) points out that social capital need not depreciate the way physical capital does. In important instances, making use of social capital increases the social capital stock available for future use (Sobel, 2002).

[3] Putnam (1996) identifies the immediate determinants of this phenomenon to the passage from the scene of the civic generation active during the 1920s and 1930s and the succession of an uncivic generation—the baby boomers born and raised after the World War II.

benefit of network members. These norms, coupled with the appropriate use of sanctions in case of noncompliance, enable these groups to overcome collective action problems and deal effectively with multiple social and economic issues (Bloch, Genicot, and Ray, 2007).

Fukuyama (1997) emphasizes on "network-based reciprocal moral obligation" in the Japanese society.[4] Yamagishi (1988) describes social capital as a system of mutual monitoring. Granovetter (1985) emphasizes the "embeddedness" of social ties in generating trust, establishing expectations, and creating enforcing norms. Moreover, Woolcock (1998) proposes a broad concept of social capital that includes the information, trust, and norms of reciprocity inherent in a social network.

2.2 Four Dimensions of Social Capital

An OECD paper (Scrivens and Smith, 2013) decomposes social capital into four dimensions, with the intent to clarify the conceptual ambiguity. They include (i) personal relationships, (ii) social network support, (iii) civic engagement, and (iv) trust and cooperative norms. These four dimensions of SC have different focuses, and they intertwine with each other. For example, personal relationships are a direct source of network support, whereas civic engagement and cooperative norms involve a trust element. Lins, Servaes, and Tamayo (2017) argue that the first two dimensions are often used in sociology and present social capital as a resource for individuals built through networks. The last two dimensions are often employed in politics and economics and emphasize social capital as a resource for facilitating cooperation at the group, community, or societal level.

Table 1 Four Dimensions of Social Capital (extracted from Scriven and Smith, 2013)

	NETWORK STRUCTURE AND ACTIVITIES	PRODUCTIVE RESOURCES
INDIVIDUAL	*Personal Relationships*	*Social Network Support*
COLLECTIVE	*Civic Engagement*	*Trust and Cooperative Norms*

Personal relationships

The first dimension of SC refers to people's networks (i.e., the people they know) and social behaviors that contribute to establishing and maintaining those networks. Van der Gaag and Snijders (2003) argue that people's networks vary in terms of volume/extensity, diversity, resource content, and the presence of specific resources. People's relationships are a direct source of social network support, and the focus here is the *quantity* and *quality* of their social contacts. For example,

[4] Fukuyama (1997) notes that "social capital can be defined simply as the existence of a certain set of informal values or norms shared among members of a group that permits cooperation among them."

Granovetter (1985) find that widely scattered weak links are ideal for obtaining information, which helps agents find jobs. Burt (1992) emphasizes the importance of "structural holes" for individuals in networks. Agents who connect two otherwise disconnected networks span a structural hole and can earn additional rents from their position in the network. Understanding what types of networks are best for generating social capital requires agents to be specific about how SC is going to be used (Chwe, 1999).

Social network support

The second dimension of social capital refers to the resources (emotional, material, practical, financial, intellectual, material or professional) that are available to each individual through their personal social networks (Van der Gaag and Snijders, 2003). The emphasis here is the *support* that individuals can access through their network, especially when they have few resources. Kalnins and Chung (2006) investigate the Gujarati immigrant entrepreneurs in the US lodging industry. They find that the likelihood of survival of an immigrant entrepreneur's hotel increases when surrounded by high counts of branded hotels (representing high-resource establishments) owned by individuals from their ethnic group but is unaffected by unbranded motels (representing low-resource establishments) owned by members of their ethnic group or by branded hotels owned by individuals from other ethnic groups.

Civic engagements

Civic social capital is the economic benefits that accrue from participatory behavior in a community and social interaction. Examples of civic engagement include activities through which agents positively contribute to the community and social life, such as volunteering, voter turnout, blood donations, and so on (Guiso, Sapienza, and Zingales, 2011). Collier and Gunning (1999) argue that the economic benefits of strong civicness can arise from the building of trust that lessens transaction costs, from the knowledge externalities of social networks and from an enhanced capacity for collective action. Furthermore, civic engagement is considered desirable in its own right, regardless of any specific social or economic benefit that it intends to produce.

Trust and cooperative norms

The fourth dimension of SC is most widely used in economics and finance. The term "social capital" and "trust" are often used interchangeably in many economic literature. Economists have long recognized that a key component of social capital, that is, the level of trust, is essential to economic success in society. At the macro level, social capital enhances the performance of local and national governments and facilitates economic growth (Putnam, 1993; La Porta et al., 1997; Knack and Keefer, 1997). At micro level, every commercial transaction encompasses an element of trust (Arrow, 1972). Dense social networks help communicate and enforce the attendant code of conduct associated with cooperative norms (e.g., Coleman, 1988; Fukuyama, 1995; Uzzi, 1996;

Woolcock, 1998), which reduce transaction costs from the perspective of incomplete contract theory (Grossman and Hart, 1986) and potentially an efficient allocation of resources (Lins, Servaes, and Tamayo, 2017) .

Section 3 Measuring Social Capital

Social capital, as a resource for action, can accrue at individual, institutional, and societal levels. To facilitate empirical investigations, this section reviews social capital metrics at different levels and their data sources. We also study the identification strategies employed in the empirical literature.

3.1 Measuring Individual Social Capital

From an individual's view, social capital is a personal asset embedded in a social network that benefits a single person. Empirical measures of individual social capital are designed on the basis of Burt's structural theories (Burt, 1992) and Freeman's network centrality conceptualizations (Freeman, 1979). The more people one is connected to, the greater the resultant social capital because having many connections increases the chance of obtaining needed resources. Burt (2000) states that one can measure a businessman's social capital by the size of his Rolodex. Wellman and Frank (2001) explain how the size of a person's network affects the kinds of social support he/she receives.

Several studies have measured managerial social capital by counting the number of social ties and using data from the BoardEx databases, which contain relational links among executives based on prior overlap in employment, education, and memberships in non-profit organizations (Engelberg et al., 2012; Ferris, Javakhadze, and Rajkovic, 2017).

3.2 Measuring Firm Social Capital

Similar to individual social capital, firm social capital is sometimes captured using the social network of firm management, such as CEO and CFO. For example, Ferris, Javakhadze, and Rajkovic (2017) find that firms with high social capital CEOs demonstrate aggregate risk-taking techniques. Fogel, Jandik, and McCumber (2018) reveal that firms with high social capital CFOs issue new loans with low spreads and few covenant restrictions.

Another way to observe firm social capital is to measure corporate social responsibility (CSR) activities. Lins, Servaes, and Tamayo (2017) argue that "CSR, which generally involves aspects of civic engagement, shared beliefs, and disposition toward cooperation between a firm and its stakeholders, tend to map directly into the theoretical foundations of social capital." The authors use CSR data available on the MSCI ESG Stats database (formerly known as KLD) and find that during the 2008–2009 financial crisis, high CSR firms had significantly better stock returns, higher profitability, growth, and sales per employee than low CSR firms.

3.3 Measuring Societal Social Capital

Societal social capital can be an important source of action for society members. From the group perspective, social capital is a public good and refers to participatory potential, civic orientation, generalized trust, or emotional attachment to a group or community. In environments with high social capital, strong ties among individuals facilitate cooperative norms and civic-mindedness (Guiso, Sapienza, and Zingales, 2004). Such environments intensify internal sanctions, such as social ostracism (Uhlaner, 1989) and stigmatization (Posner, 2000), and heighten negative moral sentiments associated with opportunistic behaviors (Elster, 1989). Therefore, members of societies with high social capital likely anticipate cooperation as opposed to opportunistic behavior from the counterparty; these members also likely keep their promises and have low moral hazards.

In the spirit of Putnam, Anderson, Mellor, and Milyo (2004) categorize societal social capital measures into (1) *attitudinal* measures, where subjects are asked if they agree that "most people can be trusted," "most people try to be fair," "most people try to be helpful," "you cannot trust strangers anymore," and "I am trustworthy;" (2) *behavioral* measures of "trust" suggested by Glaeser et al. (2000), including whether subjects leave their doors purposely unlocked, loan money to friends or strangers, have been a crime victim, or lie to different categories of persons; and (3) "*civicness*" measures, including hours spent volunteering, membership in voluntary groups, attendance at religious services, political volunteering, and voting.

At the country level, many international studies derive the (attitudinal, behavioral, and civicness) measures of social capital from the World Value Survey (hereafter WVS). The WVS consists of nationally representative surveys conducted in almost 100 countries by using a common questionnaire. WVS contains longitudinal data every five years from 1981 to 2014.

At the state level, one highly cited social capital measure is the Putnam (2000) index. This index, drawn mostly on surveys, is a comprehensive, state-level social capital metrics in the US. These indicators include club meetings attended, community projects worked on, times entertained at home, times volunteered, time spent visiting friends, agreeing that most people are honest, serving on committees for local organizations, servicing as an officer of clubs or organizations, attending meetings in town or school affairs, organizations per capita, mean number of group memberships, agreeing that most people can be trusted, civic and social organizations per 1,000 population, and voter turnout. The data can be obtained from Putnam's (2000) official website. Another influential source is the General Social Survey (hereafter GSS) by NORC at the University of Chicago. GSS tracks attitudinal, behavioral, and demographic trends in the US since 1972.

County-level social capital in the US is introduced by the Department of Agricultural Economics, Sociology, and Education of the Pennsylvania State University for the years 1990, 1997, 2005, 2009, and 2014, pursuant to the paper by Rupasingha, Goetz, and Freshwater (2006, RGF hereafter). RGF conducts a principal component analysis to construct a social capital index for each US county on the basis of the number of social and civic associations, the voter turnout in the presidential election, the census response rate, and the number of non-government organizations (NGO) at the county level. Huang and Shang (2019) find that the RGF and Putnam indexes are positively but imperfectly correlated with each other.

One important question is how frequent does societal social capital change. Algan and Cuhuc (2014) make the distinction between their coined terms "Putnam I" and "Putnam II." The former takes the view that societal social capital is highly persistent (Putnam, Leonardi, and Nanetti, 1994). The latter presents evidence that social capital can change. Ananyev and Guriev (2015) argue that Putnam I and Putnam II are not mutually exclusive and present evidence that short-term changes in trust during the Great Recession may have persistent effects. Therefore, the high-frequency measurement of social capital in the cross-section and over-time is called for.

Guriev and Melnikov (2016) argue that social capital can change quickly. They also develop a methodology for tracking social capital in real time. Specifically, they proxy social capital in a given locality in a week by the relative popularity of Internet searches for key words for prosocial behavior, such as "blood donations," "adopt a child," and "charity." They argue three advantages for search-based data. First, searches are based on revealed preferences, rather than self-reported. Second, these data are carried out in real life, rather than in an artificial lab environment. Third, these data can be collected at high frequency.

Section 4 Impact of Social Capital on Economic Attitudes and Outcomes: Empirical Evidence

This section surveys the extant literature on the impact of social capital on economic attitudes and outcomes. Empirical evidence is also grouped into four channels of influence: (1) information through networks; (2) network-induced risk preference; (3) social capital as a governance institution; and (4) social capital-facilitated generalized trust. Channels (1) and (2) are most commonly employed in studying individual and corporate social capital, whereas channels (3) and (4) mostly apply to the economic benefit of societal social capital that accrues to individuals, regions, and nations.

4.1 Information through (Social) Networks

Information channel implies that social capital can be understood as an economically meaningful shared information that resides in social networks. Imperfect information in markets leads to high search cost and contract failure. Social networks can ameliorate potential inefficiencies in markets caused by information asymmetry and can provide means for efficient information exchange, leading to improved economic outcomes (Javakhadze, Ferris, and French, 2016).

Several studies apply this idea of social capital by investigating value-relevant information in specific networks. Fafchamps and Minten (1999) show that agricultural traders perceive personal networks as the most important factor for success. Networks serve various purposes, such as the circulation of information about prices and market conditions, the provision of trade credit, the prevention and handling of contractual difficulties, and the mitigation of risk. Hong, Kubik, and Stein (2005) provide evidence that investors spread information and ideas about stocks to one another directly through word-of-mouth communication. Cohen, Frazzini, and Malloy (2008) focus on "school ties" between mutual fund managers and corporate board members and find that portfolio managers place large bets on firms they are connected to through their networks. The

authors also discover that returns are concentrated around corporate news announcements, consistent with mutual fund managers who gain an information advantage through education networks. Granovetter (1995) shows how social ties can be an important information source in finding jobs. Hochbert, Ljungqvist, and Lu (2007) demonstrate how being central in a venture capital network improves investment performance.

At firm level, Javakhadze, Ferris, and French (2016) show how managerial social capital (network centrality) helps firms secure external finance, reduce financial constraints, and positively affect their investment-to-Q sensitivity. Fogel, Jandik, and McCumber (2018) reveal how firms with high social capital CFOs issue new loans with low spreads and few covenant restrictions. Ferris, Javakhadze, and Rajkovic (2017) provide international evidence on the inverse relationship between managerial social capital and firms' cost of equity. Cheung (2016) show how high CSR firms have low cash holdings by using CSR activities to measure firm social capital.

4.2 (Social) Network-induced Risk Preferences

An interesting yet under-exploited impact of social capital is its effect on connected individuals' preference on risk. This argument is based on the growing literature studying informal insurance within a social network (e.g., Genicot and Ray, 2005; Bramoullé and Kranton, 2007; Bloch, Genicot, and Ray, 2008). Social capital can alter the risk tolerance of socially connected individuals because it offers a way to pool individual risks. For instance, Bloch, Genicot, and Ray (2008) suggest that social capital offers a mechanism of informal insurance, which can increase risk-taking. Social capital also reinforces individuals' sense of power, leading to riskier preferences. Rowley (1997) contends that with increased ties and access, individuals' power within a social network is strengthened. Keltner et al.'s (2003) approach-inhibition theory states that power experience drives people to take additional risks.

Following this conjecture, Ferris, Javakhadze, and Rajkovic (2017) find a positive association between CEO social capital and aggregate corporate risk taking, which leads to great volatilities in stock returns and earnings. El-Khatib, Fogel, and Jandik (2015) present an evidence that M&A deals initiated by high-centrality CEOs, in addition to being more frequent, carry greater value losses to the acquirer and the combined entity than deals initiated by low-centrality CEOs. Hasan, He, and Lu (2017) find that a society's social capital stock has a similar effect on its members' risk preferences. They indicate that P2P lending investors from regions with high social capital take higher risks and incur more defaults in their portfolio investments than investors from regions with low social capital.

4.3 Social Capital as a Governance Institution

Societal social capital can serve as an important system that "reward" honest dealings and "punish" opportunistic behaviors. The governance role of social capital is similar to that played by the formal institution of law. Coleman (1988) argue that dense social networks make the enforcement of group cooperative behavior effective. Social capital can improve economic

efficiency and encourages building a reputation for honest dealings in transactions through the disciplinary mechanism of reputation loss (Kandori, 1992). By aggravating the cost of expropriation and breach, social capital provides a mechanism for contract enforcement. In addition, social capital makes alternative mechanism available for dispute resolution through voluntary cooperation within a social network; such cooperation diminishes the expected breadth and cost of legal interventions (Javakhadze, Ferris, and French, 2016).

The monitoring aspect of social capital helps enhance its agent's trustworthiness, diminish the cost of financial contracting, and facilitates access to external financing. For example, Hasan et al. (2017b) find that firms headquartered in counties with high social capital have low spreads in bank loans and low at-issue spreads in public debt issues. Gupta, Raman, and Shang (2018) show that firms' cost of equity is negatively related to the social capital environment surrounding their headquarters.

High social capital also affects corporate behaviors. Hasan et al. (2017c) argue that social capital, as a governance institution, helps constrain self-serving corporate practices that can benefit shareholders at the expense of other stakeholders. They find that firms headquartered in counties with high social capital pay high corporate taxes. Huang and Shang (2019) present evidence that firm leverage and short-term debt ratios are negatively associated with social capital. They interpret this result as high social capital alleviating agency conflicts between managers and shareholders, thereby allowing firms to reduce the amount of debt in their capital structure and the usage of short-term debt in their debt structure. Hoi, Wu, and Zhang (2019) find that social capital environment surrounding corporate headquarters is negatively associated with CEO compensation, consistent with social capital that mitigates agency problems by restraining managerial rent extraction in CEO compensation.

4.4 Social Capital-facilitated Generalized Trust

Trust is defined as the willingness of a *trustor* to voluntarily place resources at the disposal of a *trustee*, with an expectation of a fair payoff. Trust is a function of the objective characteristics of the trustee (*personalized trust*) and subjective characteristics of the trustor (*generalized trust*). Section 4.3 illustrates how societal social capital helps enhance personalized trust on members. On the contrary, this section focuses on the role of social capital on *generalized* trust, that is, how social capital affects trustors' propensity to rely on others.

People's propensity to trust others can be affected by many factors, including education, religious belief, and their environments, such as legal and social capital institutions. In environments with high social capital, dense social networks facilitate cooperative norms and civic-mindedness. Subsequently, at the individual level, trustors from regions with high social capital likely anticipate cooperation as opposed to opportunistic behavior from the counterparty. At the region and country levels, social capital is an important determinant of the level of trust; thus, social capital also affects the level of financial development (Guiso, Sapienza, and Zingales, 2004).

Empirical evidence supporting this view include Hong et al. (2004, 2005), who argue that social interactions in local geographical areas promote stock market participation and affect trades of money managers residing in the areas. Guiso, Sapienza, and Zingales (2004) exploit social capital differences within Italy. In areas with high social capital, households more likely use checks and invest less in cash and more in stock. Moreover, the effect of social capital is stronger where legal enforcement is weak and among less educated people. ElAttar and Poschke (2011) find that less-trusting Spanish households invest more in housing and less in financial assets, particularly the risky ones.

4.5 Identification Strategies

This section reviews several empirical strategies employed in the literature to tackle the endogeneity between social capital and economic outcomes. Sobel (2002) argue that many authors, including Coleman and Putnam, at times, equate the existence of social capital with outcomes obtained using social capital. This equation leads to this circular argument: A successful group succeeds because it has social capital, but the evidence that the group has social capital is its success (Portes, 1998; Durlauf, 1999).

Apart from reverse causality, certain common (but omitted) variables can simultaneously affect social capital and outcome variables of interest, causing the observed correlation to be spurious. To make causal inferences, the idea is to identify exogenous changes in social capital that are unrelated with the outcome variables but should affect the outcome variables only through the channel of social capital (exclusion restriction). As commented by Guriev and Melnikov (2016), the few contributions that develop convincing identification strategies rely on the persistent effects of exogenous variation that took place many decades or centuries ago (e.g., Algan and Cahuc, 2010 and Nunn and Wantchekon, 2011).

4.5.1 Death of (Social) Networks

At the individual and firm levels, the death of network ties causes an ideal shock to the network that is less likely to be anticipated and likely to affect an agent's social network directly, but should not directly affect the outcome variables of interest. Considerable research use the numbers of deceased directors and executives in a manager's network in the previous fiscal year as instrumental variables for firm social capital (Fracassi and Tate, 2012; Javakhadze, Ferris and French, 2016). Similarly, Fang, Francis, and Hasan (2018) use director retirement. They argue that although the retied ties may be anticipated, they are less likely replaced immediately. Hence, the director retirements can also be considered an exogenous shock, which directly changes network ties but not the outcome variables.

4.5.2 Geography-based Determinant of (Societal) Social Capital

Putnam (2001) argue that the best single predictor of societal social capital in the US is their "distance from Canada." Being closer to the Canadian border means more social capital. According to Putnam (2001), "it is not an accident that the low social capital is very clearly associated with the depth of slavery in the nineteenth century because slavery, as a system, and the post-slavery reconstruction period were institutionally designed to destroy social capital." Empirical literature employing this instrument include Hasan et al. (2017b) for their study on corporate social capital and debt contracting and Gupta, Raman, and Shang (2019) for their investigation on social capital and corporate innovation.

Another geography-based determinant of social capital traces regions' agricultural legacy. Talhelm et al. (2014) find that regions with a history of farming rice have a more interdependent culture than regions that grow wheat, which continues to affect people in the modern world. The reason is that paddy rice requires irrigation and high labor demand, thereby causing farmers in rice-growing regions to form cooperative labor exchanges. In comparison, wheat is easy to grow and does not need to be irrigated. Wheat farmers can also rely on rainfall, which does not require coordination with their neighbors. In economic terms, farming rice makes cooperation highly valuable, encouraging rice farmers to form tight relationships on the basis of reciprocity and avoid behaviors that create conflict. Hasan, He, and Lu (2017) employ this instrument in their study on regional social capital in P2P lending.

4.5.3 Racial Heterogeneity

One important determinant of societal social capital is racial/ethnic diversity. Alesina and La Ferrara (2000) model people's participation in social activities as a function of the degree of heterogeneity in society. The authors predict that many homogeneous communities can experience high levels of social interactions and have high social capital. Large empirical evidence shows that ethnic diversity is associated with increases in social conflict (Easterly and Levin, 1997) and reduces regions' trust environment (Guiso, Sapienza, and Zingales, 2009), which is inversely related to social capital. In their cross-country study, Knack and Keefer (1997) reveal positive relationship between the degree of ethnic homogeneity and the level of mutual trust among people. Huang and Shang (2019) use the historical degree of racial segmentation in a given state as an instrument for social capital in their study on debt structure.

4.5.4 Corporate Headquarter Relocation

Social-capital-changing relocations are corporate headquarters relocation events that change the level of social capital facing firms. Headquarter relocation provides an empirical setting to identify the causal effect of societal social capital because relocation decisions are made for business reasons, and they are clearly too small to affect societal social capital where it operates. Hasan et al. (2017b) employ this identification strategy in support of their findings that firms headquartered in US counties with high social capital incur low bank loan spreads. Gupta, Eaman, and Shang

(2018) find that firms' cost of equity declines when they move their headquarters from a state with low social capital to a state with high social capital.

4.5.5 Inherited Culture Preference from Forebears

Guiso et al. (2006) and Algan and Cahuc (2010) adopt an epidemiological approach to construct instruments for social capital on the basis of inherited cultural preferences from ancestral origins. A substantial evidence of cultural persistence exists, that is, parents' cultural beliefs or values are good predictors of those of their descendants (Fernández et al., 2004; Fernández and Fogli, 2009; Algan and Cahuc, 2010). Hasan, He, and Lu (2017) use the WVS data on the regional trust level in 1990 (representing forebears' cultural preferences) as an instrument of social capital in Chinese provinces in the 2010s.

A commonly used culture preference measure is Hofstede (2003)'s score of national culture. Hoi, Wu, and Zhang (2019) argue that two components of Hofstede's culture metrics are particularly relevant to social capital. *Power distance* should be negatively associated with social capital because it reflects an attitude toward great tolerance for inequality among people. *Masculinity–femininity* measures the relative strength of masculine social values against feminine social values and should also be negatively associated with social capital. Masculine values emphasize the importance of material success, whereas feminine values emphasize the importance of building relationships with people and others.

Section 5 Social Capital and P2P Lending in China

Drawn on the above insights, this section critically evaluates the role of social capital on the outcome of financial innovation in China, namely, OML or P2P lending. OML enables borrowers to receive small contributions from individual lenders toward loan requests in an online platform, without the need for financial intermediaries, such as banks.

China's OML market presents a particularly interesting case for study for three reasons. First, on the economic magnitude, the market size of China is larger than that of the rest of the world combined, with outstanding loans of 1.49 trillion yuan (US$218 billion) in 2018. At its peak in 2015, over 3,500 OML platforms were operating. Ironically, as of 2019, approximately two-thirds of OML platforms have failed due to frauds or defaults, leaving trillions of investor losses and social unrests. As a result, the Chinese government is stepping in to demand the termination of numerous small platforms. Little is known, however, on the role of social capital environment in explaining this market.

Second, China presents important emerging market settings for research. In this market, laws and courts are ineffective in protecting investors (Allen, Qian, and Qian, 2005), necessitating the reliance on alternative institutions, such as social capital. In the meantime, heterogeneities in the social capital stock are substantial across Chinese regions. For instance, using data from the WVS on seven major social and cultural characteristics, Ang, Cheng, and Wu (2015) show that social

capital differences among 31 Chinese provinces are often greater than those among European countries.

Third, P2P lending provides an ideal laboratory to investigate the role of societal social capital on the economic activity of credit.[5] In OML, investors bid for uncollateralized loan listings from anonymous borrowers. On the basis of a myriad of objective information, lenders decide on whether and how much to bid for a loan listing. A loan is realized when the requested amount is fully subscribed; otherwise, the loan is deemed unsuccessful. Hasan, He, and Lu (2017) argue that this setting allows the observation of (1) whether borrowers from regions with high social capital are "trustworthy," as inferred from their funding success, loan properties, and default probabilities; (2) whether lenders from regions with high social capital are "trusting" toward the same borrowers, as inferred from lenders' bid size and fraction; and (3) the manner in which heterogeneities in social capital affect regional capital flows.

5.1 Heterogeneities in Social Capital across Chinese Provinces

Following the social capital literature, we employ four measures of societal social capital across Chinese provinces. They include (1) voluntary blood donation (*Blood*), which is proxied as the liters of voluntary blood donation per thousand population in a province; (2) NGO participation (*NGO*), which is measured by the number of people registered in NGOs per thousand population in a province; (3) trustworthiness (*Enterprise*), which is drawn from a national survey on respondents' answers to the item "*the top five provinces where its enterprises are most trustworthy*;" and (4) trust propensity (*Citizen*), which is drawn on another national survey conducted to answer the question "*Do you trust strangers*?," aggregated at the provincial level. The first two measures fall under the civicness measures of social capital in the spirit of Putnam. The last two measures are attitudinal, but their focuses are different. The "trustworthiness" measure focuses on the *personalized trust*, namely, the economic benefits that accrue to the trustee pursuant to their regional social capital. By contrast, the "trust propensity" measure focuses on the *generalized trust* of the trustor pursuant to their regional social capital. Finally, we construct a composite social capital index (SC_index) by applying loadings (coefficients) to the four proxies of social capital. Following Hasan, He, and Lu (2017), we report the results in Table 1, and the details on how these variables are constructed are presented in Appendix I. According to the index, Shanghai, Beijing, and Guangdong are the top three social capital stock provinces, whereas Gansu, Guizhou, and Yunnan rank in the bottom.

[Insert Table 1 Here]

5.2 Role of Provincial Social Capital in Predicting Platform Failure

[5] We do not focus on individual social networks because they are unobservable. In the US setting, Lin Prabhala, and Viswanathan (2013) discover that online friendships increase the probability of successful listings, low interest rates, and low default rates. Such data are unavailable in the Chinese setting because most P2P platforms in China do not allow the formation of online friendships.

Ironically, the massive growth of China's OML industry is accompanied by massive platform failures; each failed platform affects several loan investors and becomes a source of social instability. Many of these platform failures involve opportunistic behaviors of operators or outright frauds. For example, the collapse of P2P lending platform EZubo in 2015 was described by the Wall Street Journal as a "US$7.6 billion Ponzi Scheme" that defrauded over 900,000 loan investors.[6] In 2016, Shanghai-based P2P platform Zhongjin closed down with missing funds of US$4.6 billion, affecting over 130,000 investors. Since December 2015, regulatory authorities in Beijing, Shanghai, and Guangzhou have suspended the registration of any new OML firms and started cracking down fraudulent operators.

In the absence of any legal regulation on OML before 2015, we hypothesize that regional social capital can play a role in constraining platform operators' opportunistic behaviors. Consistent with the argument that social capital serves as an alternative governance (or "reward and punishment") institution, we expect that the proportion of failed platforms is lower in provinces with high social capital than in provinces with low social capital.

Our sample comprises 735 unique platforms and 9,751 platform-month observations with complete variables data from 2011 to 2015. Of the 735 platforms, 476 failed at different stages during the sample period. Table 2 presents the sample distribution. A simple eye-balling on statistics reveals that the top three provinces with the highest social capital: Beijing, Shanghai, and Guangdong, which together account for almost half of the total platform-month observations, having the *lowest* platform failure rates: Beijing (1.59%), Shanghai (2.69%), and Guangdong (2.92%). By contrast, provinces with the highest platform-failure rates include Hainan (15%), Jilin (14.29%), Shandong (14.29%), Tianjin (10.81%), and Hunan (9.62%). These provinces are in the lower-end on our social capital indexes in Table 1.

5.3 Role of Provincial Social Capital in Predicting Individual Debt Terms

To investigate how provincial social capital affects home borrowers' access to credit, we obtain a proprietary data set from one leading P2P platform, Renrendai (RRD hereafter). Since its official launch in September 2010, RRD has gained over 2.5 million members and has facilitated 13 billion yuan (USD 2 billion) in funded loans as of December 31, 2015.

Our empirical strategy compares the debt terms and the ex post default probability of observationally identical borrowers from provinces of different social capital stocks. To do this, we first obtain information on the funding success or failure of each loan listing (*success*). For each successful loan, we obtain the loan size (*amount*), maturity (*in months*), spread (*interest rate relative to benchmarked lending rate of the central bank*), number of lenders (*number of bidders*), stated loan purpose (*in categories*), number of words used to describe a loan (*words*), default status

[6] The company was accused for illegal solicitation, misuse of funds, and outright embezzlement. See C. W. Yap, "China Calls Lending Platform Ezubo a $7.6 Billion Ponzi Scheme," *Wall Street Journal*, Feb 2, 2016, available at <http://www.wsj.com/articles/china-calls-lending-platform-ezubo-a-7-6-billion-ponzi-scheme-1454313780>

(*default*), and bid time (*in minutes*). For each unsuccessful loan, we obtain the proportion of campaign proceeds out of the total amount (fraction).

For each borrower, we obtain their unique ID, age, gender, resident province, marital status, income range, education, work experience, home ownership status, and borrowing history on RRD. We also obtain their credit rating assigned by RRD (in seven categories, i.e., AA, A, B, C, D, E, and HR).

For provincial institutional variables, other than the social capital measures described above, we first include GDP per capita to measure the economic environment. To capture the legal environment of a province, we include the number of law offices per 10,000 residents. The financial environment of a province is proxied as the ratio of total bank loans to provincial GDP (*loan*). In our regressions, institutional variables of a province in the year t-1 are matched with loans originating in year t.

Our sample comprises 60,970 unique fully-funded loans from 2011 to 2015. Table 3 contains the summary statistics of the main variables. Appendix I includes detailed definitions for each variable. These variables are categorized into (1) listing and loan characteristics, (2) borrower characteristics, and (3) provincial environment.

Panel A in Table 3 reveals that the mean of loan size significantly varies from 48,190 RMB (USD 7,400) to 3 million RMB (USD 460,829). On average, the loan rate is 2.13 times the benchmark lending rate, with a significant variation of 0.76–5.38 times the benchmark lending rate. Relative to the stability of China's benchmark lending rate, these large pricing differences reflect, at least in part, the differences in borrower risks. The mean (median) loan maturity is 18.79 (19) months. Approximately 80% of borrowers request a loan term with maturity over one year. Ownership also considerably varies across loans. The average loan has 35.5 lenders in the range of 1–1,370 lenders. The average bid time for each fully funded loan is 69 minutes. Finally, 5.4% of completed loans incur default.

Panel B in Table 3 reports the summary statistics of borrower characteristics. Most borrowers are young, male, married, undergraduates, and have low credit scores. The median income level of borrowers is less than 10,000 RMB (USD 1,538) per month, and only 43% of borrowers own a house.

Panel C in Table 3 reports the summary statistics of (borrower) provincial-level variables. A large variation is observed in the economic, legal, and financial development across Chinese provinces. Note that we do not include province- or borrower-level fixed effects in most regressions because our SC_index is time-invariant for all borrowers in the same province. However, to examine the impact of the interactions between borrowers' characteristics and the social capital index on loan terms, we also perform province-level fixed-effect regressions while dropping all provincial-level variables[7].

[Insert Table 3 Here]

[7] These results are not reported but are available upon request.

Table 4 reports the regression results of borrowers' characteristics and those of their home institutions on our variables of interest, namely, (1) loan size (amount); (2) loan pricing (interest rate spread), and (3) default probability.[8] Our sample comprises all fully funded loans.

Panel A in Table 4 reports the estimated effects of our social capital (composite) index on these variables. First, we find that a borrower's credit profile, income, and education produce expected results, that is, a well-rated, educated, and high-income borrower with a long work experience can borrow large amounts at low interest rates. The probability of default is low when borrowers are young, married, and have low credit scores. Many of these results are consistent with the findings of small business lending literature (e.g., Petersen and Rajan, 1994). As expected, long-term loans are also associated with large loan amounts, high interest rates, and high default rates.

Second, we observe a positive and statistically significant association between the SC index and loan amount in both specifications (Columns [1] and [2]). The economic effect of social capital is also large. A one-standard-deviation increase in social capital is associated with a 2,000 RMB increase in loan amount. Thus, impressions regarding borrowers' home social capital have a positive effect on loan size.

Results in Columns 3 and 4 show that social capital is negatively related to loan interest rates, and the coefficients are statistically and economically significant. A one-standard-deviation increase in borrowers' SC index leads to an approximately 0.7% decline in interest rate. Taking an extreme case, a loan to a borrower in Gansu (where the SC index is −1.887) can charge an interest rate of 3.1% higher than a loan to a borrower in Shanghai (where the SC index is 5.768). Thus, borrowers from regions with high social capital likely obtain credits at low interest rates. Table 4 also shows that borrowers pay low interest rates in provinces where their home legal environment is strong, consistent with the finding of Qian and Strahan (2007). Finally, great economic and financial development is associated with high interest rates (Column 4).

Finally, we find that social capital in borrowers' home province has a negative and statistically significant effect on default rate for a given loan (Columns 5 and 6), indicating that borrowers from regions with high social capital are indeed trustworthy. This result is consistent with regions with high social capital that provide environmental constraints against opportunistic behaviors. Therefore, borrowers from regions with high social capital default less than those from regions with low social capital. In sum, our deal-level evidence supports social capital as a governance institution. This evidence is consistent with the observation in Section 5.2 that P2P platforms established in provinces with high social capital have a low probability of failure.

Panel B in Table 4 repeats the tests in Panel A by using our four proxies of social capital and controlling for borrower characteristics, regional environment, and loan maturity. Panel B shows that most proxies of social trust are positively (and significantly) related to loan size, negatively (and significantly) related to interest rate spread, and negatively (and significantly) related to the default rates, thereby validating our baseline results.

[8] We implement OLS regression for loan size, interest rate spread, and logit models for default rates. The marginal effects of logit models are reported.

[Insert Table 4 here]

Section 6 Conclusion

The notion of social capital and its economic benefits has attracted great scholarly and practical interests. Despite its popularity, confusions often arise as to "which" social capital (personal/group/societal) is being referred to when answering specific research questions. This review article fills this gap. We first trace the essential thoughts of principal authors in social capital, and then analyze four dimensions of social capital to help clarify the conceptual ambiguity. A literature review is conducted to "map" the measurement issues and existing empirical evidence under each dimension. This exercise proves to be useful in identifying research gaps, clarifying the correct link between social capital and economic attitudes and outcomes.

We show that social capital, as a resource for action, facilitates positive economic outcomes through the channels of information, governance, and trust and cooperative norms. Meanwhile, social capital can alter the risk preference of members in a network. Although these mechanisms often co-exist in practice, empirical literature should be careful in applying the social capital concept in the right context.

We also provide novel evidence from China to support the positive role of provincial-level social capital in P2P lending. Consistent with the thesis that social capital facilitates trust and provides alternative governance institution against opportunistic behaviors, especially when the legal regulation is non-existent, we find that P2P lending platforms in provinces with high(low) social capital incur a low(high) probability of failure. Moreover, borrowers residing in provinces with high social capital can borrow large amounts at low interest rates, and they are less likely to default.

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Table 1: Social Capital across Chinese Provinces (extracted from Hasan, He and Lu 2017)

Province	SC_index	Blood	NGO	Enterprise	Citizen
Shanghai	5.768	3.433	4.380	22.7	2.402
Beijing	4.035	3.314	3.594	16.6	2.225
Guangdong	2.193	1.331	3.145	10.1	2.344
Zhejiang	1.530	1.259	3.361	3.5	2.321
Shandong	1.389	1.454	2.088	6.4	2.382
Jiangsu	1.135	1.179	2.846	5.7	2.239
Fujian	0.269	1.086	1.599	0.9	2.374
Tianjing	0.224	0.828	2.326	1.7	2.251
Jiangxi	−0.068	0.115	1.849	0.2	2.442
Hainan	−0.207	0.654	1.893	0.1	2.283
Hebei	−0.225	1.315	1.328	1.4	2.207
Shanxi	−0.308	1.428	1.642	0.6	2.125
Liaoning	−0.314	1.383	1.881	1.9	2.046
Hubei	−0.316	0.760	2.104	0.5	2.175
Chongqing	−0.365	0.554	2.380	0.5	2.150
Shaanxi	−0.373	0.807	1.935	0.7	2.173
Heilongjiang	−0.628	1.050	1.056	0.7	2.208
Hunan	−0.703	0.540	1.316	0.4	2.249
Henan	−0.810	1.174	1.151	0.6	2.111
Sichuan	−0.938	0.309	1.780	0.9	2.119
Guangxi	−1.014	0.272	1.182	0.6	2.225
Anhui	−1.015	0.489	1.501	0.4	2.127
Xinjiang	−1.044	0.494	1.068	1.1	2.175
Inner	−1.178	0.703	1.086	0.7	2.100
Jilin	−1.637	0.495	0.897	0.7	2.033
Yunnan	−1.649	0.017	1.056	1.4	2.075
Guizhou	−1.864	0.383	0.826	0.2	2.014
Gansu	−1.887	0.230	0.938	0.3	2.014
Ningxia	.	.	1.118	0.2	.
Qinghai	.	.	0.741	0.2	.
Tibet	.	.	0.034	.	.

Table 2 Distribution of Platform-Month Observations in China by Province

Provincial Distribution				
Province	Obs.	% of Total Obs.	Number of Failures	% of Obs.
Anhui	278	2.85%	22	7.91%
Beijing	1319	13.53%	21	1.59%
Chongqing	167	1.71%	9	5.39%
Fujian	252	2.58%	15	5.95%
Guangdong	2497	25.61%	73	2.92%
Guangxi	89	0.91%	7	7.87%
Guizhou	133	1.36%	5	3.76%
Hainan	20	0.21%	3	15.00%
Hebei	73	0.75%	5	6.85%
Heilongjiang	25	0.26%	1	4.00%
Henan	145	1.49%	10	6.90%
Hubei	355	3.64%	10	2.82%
Hunan	208	2.13%	20	9.62%
Inner Meng.	31	0.32%	2	6.45%
Jiangsu	494	5.07%	28	5.67%
Jiangxi	229	2.35%	7	3.06%
Jilin	14	0.14%	2	14.29%
Liaoning	44	0.45%	2	4.55%
Ningxia	20	0.21%	0	0.00%
Shandong	868	8.90%	124	14.29%
Shanghai	818	8.39%	22	2.69%
Shanx	52	0.53%	1	1.92%
Shanxi	40	0.41%	1	2.50%
Sichuan	457	4.69%	21	4.60%
Tianjin	37	0.38%	4	10.81%
Yunnan	48	0.49%	0	0.00%
Zhejiang	1038	10.65%	61	5.88%
Total	9751	100.00%	476	4.88%

Table 3 Summary Statistics of Transaction Level Data on Renrendai

Panel A reports the summary statistics of listing and loan characteristics. Panel B reports the summary statistics of demographic, income, and education information of borrowers. Panel C reports the summary statistics of social capital measures and those of the economic and financial variables. For variable definitions and details of their construction, see Appendix I.

Variable	mean	sd	min	p50	max	N
Panel A Listing and loan characteristics						
fund	0.249	0.433	0	0	1	247115
words	114.504	70.328	0	94	244	247115
amount	4.819	7.016	0.3	3.78	300	61577
maturity	18.791	10.156	1	18	48	61577
long term	0.798	0.401	0	1	1	61577
spread	2.132	0.303	0.762	2.146	5.379	61577
ownership	35.504	48.976	1	22	1370	61573
default	0.054	0.227	0	0	1	61577
bid_time	69.136	461.297	1	1	10051	61573
Panel B Borrowers' characteristics						
age	32.679	7.458	17	31	71	247113
gender	0.136	0.343	0	0	1	247115
grade	5.975	1.940	1	7	7	247115
edu	1.933	0.780	1	2	4	246751
marriage	0.557	0.497	0	1	1	247075
income	3.133	1.221	1	3	6	246361
house	0.428	0.495	0	0	1	247115
work_exp	2.352	1.019	1	2	4	246109
past_num	4.153	5.659	1	3	148	247115
Panel C Provincial variables						
SC_index	0.000	1.722	-1.887	-0.340	5.768	28
SC1: Blood	0.966	0.802	0.017	0.783	3.433	28
SC2: NGO	1.745	0.944	0.034	1.599	4.380	31
SC3: Enterprise trust	2.730	5.161	0.100	0.700	22.700	30
SC4: Citizen trust	2.200	0.120	2.014	2.191	2.442	28
pgdp	1.116	0.387	0.554	1.026	2.515	186
loan	0.567	1.098	0.095	0.288	7.790	186
law_office	0.163	0.143	0.060	0.123	0.894	186

Table 4 The Impact of Social Capital on Loan Size, Pricing, and Default

This table presents the OLS regression results of amount, interest rate spread, and logit regression results of default rates for a given loan onto measures of social capital as well as different set of control variables. Panel A reports the results for social capital (composite) index. Panel B reports the results for four proxies of social capital, respectively. Borrowers' personal characteristics and regional economic and financial variables are included. Robust standard errors are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. The definitions and data sources of variables are presented in Appendix I.

Panel A: Social Capital Index

	Amount		Spread		Default	
	(1)	(2)	(3)	(4)	(5)	(6)
SC_index	0.121***	0.122***	-0.004***	-0.004***	-0.002**	-0.002**
	(0.043)	(0.043)	(0.001)	(0.001)	(0.001)	(0.001)
age	0.054***	0.052***	-0.000**	-0.001***	0.001***	0.001***
	(0.004)	(0.004)	(0.000)	(0.000)	(0.000)	(0.000)
gender	0.704***	0.670***	-0.003*	-0.009***	0.002	-0.000
	(0.086)	(0.088)	(0.002)	(0.002)	(0.003)	(0.002)
grade	-0.644***	-0.593***	0.043***	0.051***	0.079***	0.070***
	(0.028)	(0.035)	(0.001)	(0.001)	(0.003)	(0.003)
edu	0.117**	0.135***	-0.014***	-0.011***	-0.015***	-0.014***
	(0.047)	(0.048)	(0.001)	(0.001)	(0.001)	(0.001)
marriage	0.158***	0.172***	-0.019***	-0.016***	-0.003*	-0.004**
	(0.045)	(0.045)	(0.002)	(0.002)	(0.002)	(0.002)
income	1.024***	1.032***	-0.013***	-0.011***	0.003***	0.004***
	(0.024)	(0.023)	(0.001)	(0.001)	(0.001)	(0.001)
house	1.278***	1.305***	0.058***	0.062***	-0.001	-0.001
	(0.091)	(0.087)	(0.003)	(0.003)	(0.002)	(0.002)
work_exp	0.032	0.072*	-0.004***	0.002	-0.002**	-0.002**
	(0.045)	(0.040)	(0.001)	(0.001)	(0.001)	(0.001)
words	0.007***	0.006***	-0.000***	-0.000***	0.000**	0.000**
	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
longterm		0.914***		0.150***		0.052***
		(0.152)		(0.005)		(0.001)
law_office	0.140	0.177	-0.154***	-0.148***	-0.006	-0.005
	(0.570)	(0.568)	(0.021)	(0.021)	(0.010)	(0.009)
loan	0.123	0.131	0.056***	0.057***	-0.008***	-0.006**
	(0.096)	(0.096)	(0.005)	(0.005)	(0.003)	(0.003)
pgdp	0.001	-0.005	0.005***	0.004***	-0.000	-0.000
	(0.021)	(0.021)	(0.001)	(0.001)	(0.001)	(0.001)
Constant	-2.746***	-3.210***	2.277***	2.201***		
	(0.228)	(0.226)	(0.021)	(0.021)		
Observations	60,970	60,970	60,970	60,970	60,970	60,970
R-squared	0.131	0.133	0.233	0.260		
Pseudo R2					0.482	0.528

Panel B Four Proxies of Social capital

	Amount				Spread				Default			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Blood	0.197**				-0.001				-0.004***			
	(0.101)				(0.002)				(0.002)			
Ngo		0.327***				-0.020***				-0.004***		
		(0.054)				(0.002)				(0.001)		
Enterprise			0.038***				-0.001***				-0.001***	
			(0.014)				(0.000)				(0.000)	
Citizen				0.622***				-0.030***				-0.019**
				(0.218)				(0.011)				(0.008)
Loan and borrower variables	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Regional variables	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Constant	1.080***	0.975***	1.220***	-0.186	2.079***	2.089***	2.075***	2.145***				
	(0.245)	(0.247)	(0.265)	(0.522)	(0.019)	(0.019)	(0.019)	(0.030)				
Observations	60,970	61,093	61,085	60,970	60,970	61,093	61,085	60,970	60,970	61,107	61,099	60,984
R-squared	0.096	0.097	0.096	0.096	0.243	0.244	0.243	0.243				
Pseudo R2									0.483	0.480	0.480	0.481

Appendix I: Variable Definition and Data Resource

	Definitions	Source
Borrowers' Characteristics		
grade	Credit score of the borrowers when the listing is created, ranging from 1 (high) to 7 (low)	RRD
age	Age of borrower	RRD
gender	A dummy variable that equals 1 if the borrower is female and equals 0 otherwise	RRD
edu	Equals 4 if the borrower's highest qualification is a master's degree or above, 3 if the borrower's highest qualification is a bachelor's degree, 2 if the borrower's highest qualification is post-tertiary, and 1 if the borrower's highest qualification is secondary or below.	RRD
work_exp	Employment length in years. Possible values are between 1 and 4, where 1 means less than one year, 2 means between one and three years, 3 means between three and five years, and 4 means more than five years.	RRD
income	Monthly income provided by the borrower during registration. Possible values are between 1 and 6, where 1 indicates less than 1,000 RMB, 2 means between 1,000 and 5,000 RMB, 3 means between 5,000 and 10,000 RMB, 4 means between 10,000 and 20,000 RMB, 5 means 20,000 RMB to 50,000 RMB, and 6 means more than 50,000 RMB.	RRD
marriage	A dummy variable that equals 1 if the borrower is married and equals 0 otherwise	RRD
house	A dummy variable that equals 1 if the borrower has housing and equals 0 otherwise	RRD
ownership	Number of bids placed on a listing when the listing is fully funded	RRD
past_num	Number of loans made in the past	RRD
Loan information		
spread	Interest rate that the borrower pays on the loan (rate is adjusted by the benchmark rate of PBOC)	RRD
amount	Requested loan amount in ten thousands RMB	RRD
bid amount	Amount that lenders bid on the loan in ten thousand RMB	RRD
maturity	Loan maturity in months	RRD
fund	An indicator that equals 1 if a listing is fully funded and equals zero otherwise	RRD
fraction	Proportion of campaign proceeds out of the total loan amount	RRD
ownership	Number of lenders in a given loan	
listing date	Date when the listing is created	RRD
bid time	Time (in seconds) between the time the listing is created and the time the listing is fully funded	RRD
content	State provided by the borrower in the loan application	RRD
words	Number of words used by the borrower in the listing text	RRD
default	An indicator that equals 1 if the loan status is "repayment by platform" or "overdue" and equals zero otherwise.	RRD

Social Capital variable		
SC_index	Constructed by applying loadings (coefficient) to the standardized four proxies of social capital	Authors' estimation
blood	Amount of blood, in milliliters, donated voluntarily in a province divided by its population in 2000	Chinese Society of Blood Transfusion in 2000
NGO	Participation of NGO is measured as the number of registered NGO members per thousand population in a province	China Statistical Yearbook, various years
enterprise	Enterprise Survey System (Trust 3: enterprise trust). In this survey, managers answer the following question: "*According to your experience, could you list the top five provinces where enterprises are most trustworthy?*"	Zhang and Ke (2003)
citizen	The response to the question: "*How trustworthy are the people in your city?*" The responses range from 1 ("highly untrustworthy") to 5 ("highly trustworthy"). We capture a region's level of trustworthiness by its cities' average score in a province.	China General Social Survey (CGSS)
Provincial variable		
pgdp	GDP in the province in ten thousand RMB divided by the population in the province	China Statistical Yearbook, various years
law_office	Number of law office units per ten thousand population in a province	Provincial reports of qualification examinations for attorneys and certified accountants, various years
loan	Ratio of total bank loans to GDP in a province	China Statistical Yearbook, various years