POLICY RESEARCH WORKING PAPER   7873

Social Capital, Finance, and Consumption

Evidence from a Representative Sample of Chinese Households

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Abstract

Using a new, nationally representative sample of Chinese households, this paper studies how social capital affects access to credit and its implications for consumption levels. The paper focuses on two specific forms of social capital: private social networks and membership in the Communist Party. Although party affiliation is linked to higher consumption in rural areas, those benefits are direct and thus do not work through credit markets. The main finding is a strong link between private social networks, use of informal credit, and household consumption. Instrumental variable regressions indicate that the link is causal. However, the study finds no evidence that social capital has facilitated formal credit market development in China, as it has in countries with higher levels of private sector development.

Social Capital, Finance, and Consumption: Evidence from a

Representative Sample of Chinese Households[1]

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JEL codes: G14, G15, O16, O17.

Keywords: social capital, finance, informal finance, consumption

1. Introduction

Social relationships often underlie access to and usage of financial services. Guiso et al. (2004) argue that financial contracts are the "ultimate trust-intensive contracts" and thus social relationships that build such trust are crucial for financial development. The accumulated level of trust within a society, often referred to as social capital, is linked to greater financial development (Guiso et al., 2004), higher rates of growth (Knack and Keefer, 1997; Knack and Zack, 2001), a more resilient financial system (Lin, Levine, and Xie, 2016), and the presence of large organizations (La Porta et al., 1997).[2]

Social capital has typically been measured using proxies for trust, trustworthiness, or association intensity, but a key dimension of various types of social capital measures is their radius (Fukuyama, 2000). The scope of social capital within a group, and the implicit trust and trustworthiness within that group, have either a narrow or a wide radius. Those with a narrow radius, such as families, grant benefits to members of the group, but often to the exclusion of other members of the society. In contrast, social groups with a wide radius benefit a larger number of members of the society, and thus confer benefits more widely. Since different types of social groups have differing levels of trust and scope of influence, it is important to examine how those types of social capital differentially affect access to resources and welfare.

We contribute to the literature on social capital by examining how belonging to two social groups within China, the family and the ruling party, affects access to finance, and how that participation affects private welfare as measured by household consumption.[3] We emphasize at the outset that our measures of consumption are net of within-family transfers, so coefficients on financial variables are not picking up the

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[2] See Keefer and Knack (2005) for an excellent summary of this literature.

[3] Our work is therefore related to that of Besley and Levenson (1996), who find evidence that participation in informal lending networks led to greater consumption of durable goods in Taiwan, China, from 1977 to 1991. Using historical loan contract data from low-income rural villages in China in the 1930s, Brandt and Hosios (2010) also show that informal loans were predominantly used for consumption purposes. They document that a large share of these loans carried no interest rate and argue that these arrangements should be interpreted as "long-term reciprocal insurance or patronage relationships between households."

consumption effects of those transfers.[4] We exploit variation within a single country in part because, as Guiso et al. (2004) note, the use and availability of financial contracts are affected by many institutional factors that are difficult to control for in cross-country regressions. We also follow those authors in relying on participation in specific social groups as our measures of social capital rather than aggregate levels of trust and cooperation that are likely to be affected by other factors such as the quality of law enforcement. However, our context differs from theirs in that they study Italy, a country with a much higher level of private sector development than that of China. Their focus is therefore on the effect of social capital on arm's length contracting and private financial development.

In principle, our two measures of social capital could influence usage of either formal or informal credit. For example, a larger family network could provide more sources for collateral to help secure formal credit, but it almost certainly implies greater scope for informal borrowing and lending. In that sense, the narrower radius of the family network may be better suited to facilitating informal financial arrangements. In contrast, its wider radius could imply that membership in the Communist Party is more likely to improve access to formal credit, in part because the dominant share of banking sector assets remains in state-owned banks. At the same time, frequent interactions with other Communist Party members might also facilitate informal lending.

More generally, understanding how financial arrangements have supported China's remarkable rates of economic growth has generated substantial research interest in recent years. A number of papers focus on the formal financial sector and emphasize misallocation of credit toward inefficient firms. In the Chinese context, government intervention has long biased credit allocation toward state-owned enterprises (Brandt and Li 2003; Huang, 2003; Bai et al. 2006a; Li et al. 2008; Cull, Xu and Zhu 2009; Gordon and Li 2003, 2011). But even among private Chinese firms, political connections are associated with better access to credit (Choi and Zhou, 2001; Cull et al., 2015) and to equity markets (Francis et al., 2009), and a growing literature indicates that government connections play a key role in explaining firm investment behavior

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[4] Consumption has been shown to be a more reliable indicator of household well-being than income, especially in measuring poverty (in the Chinese context, e.g., see Jalan and Ravallion, 1998).

(Chow and Fung 1998, Héricourt and Poncet 2009, Poncet, Steingress, and Vandenbussche 2010, Guariglia, Liu, and Song 2011, Cull et al., 2015) and profitability (Choi and Zhou, 2001).

Those findings provide a puzzle when one juxtaposes the impressive record of growth with an underdeveloped, inefficient formal financial sector. Some authors have suggested that a large share of growth is undergirded by informal financial arrangements (Allen, Qian, and Qian, 2005),[5] though there is yet only emerging micro-level evidence to support that conjecture.[6] Our study therefore examines the effects of social capital on the use of both formal and informal credit.

Our findings contribute to two additional strands of literature. The first is the general literature on the effects of informal finance on household behavior. Existing studies focus on documenting access to informal finance, its implicit costs (Schindler, 2010), its determinants such as trust (Turvey and Kong, 2010), and the role of informal finance in helping people in developing countries to cope with risks and various economic shocks (Schindler, 2010; Grimard, 1997; Fafchamps and Lund, 2003) and to accumulate durables (Besley and Levenson, 1996). Despite this voluminous literature, less is known about how access to informal finance affects consumption, which is our focus. An exception is Li and Li (2004) who provide evidence that private lending arrangements between Chinese farmers are associated with higher levels of production and consumption, though they do not address the endogeneity of those lending arrangements, nor do they examine the heterogeneous effects of informal financing across income groups, levels of local economic development, or the contrast between rural and urban regions.

A final literature related to our work is recent studies of financial usage among Chinese microenterprises. Beck, Lu, and Yang (2014) find that informal finance,

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[5] Lin, Levine and Xie (2016) provide evidence that trust facilitates the provision of trade credit in times of financial crisis, especially in high-trust countries.

[6] Moreover, other papers have shown that formal credit is more closely associated with firm growth than informal (Ayyagari, Demirguc-Kunt, and Maksimovic, 2010) and that financial constraints bind more tightly for private sector firms (Chow and Fung 1998, 2000; Chen, 2008; Héricourt and Poncet 2009, Poncet, Steingress, and Vandenbussche 2010, Guariglia, Liu, and Song 2011), especially larger ones that could best support innovation and growth in coming years (Cull, Li, Sun, and Xu, 2015). The patterns suggest that internal funding and other informal sources of finance are insufficient to support the expansion of some of China's most vibrant firms.

especially that provided by friends and relatives, is positively associated with the sales growth of rural microenterprises that have at least one employee.[7] Similarly, Zhang (2008) finds that proxies for reputation and relationships play important roles in explaining usage of formal finance by small firms in Chengdu (one of China's largest inland cities), even though those factors tend to be more pivotal for access to informal finance. While those studies have focused on the firm as their unit of observation, we examine reliance on informal sources of finance by Chinese households.

To investigate how social capital affects financial usage and whether it matters for consumption, and how specific components of consumption are affected differently by financial usage, we rely on a comprehensive new national data set, the Chinese Household Finance Survey (CHFS) collected in 2013 by the Chinese Household Finance Research Center of Southwestern University of Finance and Economics. It is representative of Chinese households and contains detailed information on household consumption, structure, income, and access to various types of finance.

For access to finance, we rely on variables describing access to and amounts of formal and informal loans. Another advantage over other studies of finance in China afforded by our data is that we can directly compare the effects of informal finance in rural versus urban settings. And because we have information on household income and wealth, we can directly compare the consumption effects of financial usage in poor versus non-poor households. As noted above, a further advantage is that we are able to use information on household structure and social networks to construct variables to instrument for our informal finance variable, thus enabling us to better identify the causal effects of informal financial arrangements on consumption. A final advantage is that we are able to examine the effect of access to two distinct types of social capital—access to the traditional family-based social network and access to the modern, party-based political network—and contrast how they affect access to finance and the private welfare of households, and how those benefits differ across segments of the society.

Our main finding is robust evidence that access to informal loans significantly

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[7] Those authors rely on the 2009 Rural Finance Survey conducted by the National School of Development at Peking University, which covers 1,950 households in 81 rural villages in three provinces (Heilongjiang, Hunan, and Yunnan).

increases average consumption per household member. The effects are pronounced when we instrument for informal finance using the number of siblings of the household head (and his/her spouse) as an indicator of the extent of the household's social network (i.e., our measure of narrow-radius social capital). The positive influence of social capital on use of informal finance is also especially helpful for boosting the consumption of the poor. However, while informal finance significantly increases consumption for households with few assets, it has no significant effect on the consumption of middle- and high-asset households.[8] These effects also differ across types of consumption. For example, both the daily and long-term consumption of rural households are positively associated with informal finance, though the effects are larger and more precisely estimated for long-term consumption.

In contrast, urban households seem to trade off daily consumption for long-term consumption when they receive informal loans. One interpretation is that urban households combine reduced current consumption with informal credit to pursue productive opportunities that result in higher consumption in the long term. Similar patterns have been observed in some contexts for households that receive microfinance loans (see, for example, Banerjee et al. (2015) for a review of recent evidence from field experiments). We find no significant relationships between having an extensive family network and use of formal credit.

We also find that affiliation with the Communist Party does not influence use of informal finance, though it is positively associated with use of formal credit in rural areas. That affiliation does appear to boost household consumption both in rural and urban areas, but the effects are direct rather than through credit markets. There is also evidence that the positive direct effect of party affiliation on consumption is observed primarily in lagging regions, and especially in lagging rural regions. In rural areas, those effects are reflected in daily rather than long-term consumption; in contrast, in urban regions, the party effects are reflected mainly in long-term consumption. Thus, if one

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[8] Relatedly, Yuan and Lu (2015) find that poorer households are less able to access informal credit markets, in part because their social networks are typically more limited than those of richer households. However, they do not examine the effect of informal finance on consumption, nor do they distinguish the differential effect of family and the party as distinct forms of social capital. They also do not allow the effect of informal finance to differ across groups in terms of income, rural or urban areas, or advanced versus lagging areas.

views the family network and the party network as two distinct types of social capital, the positive effects of both types tend to operate in lagging regions and in rural areas. They differ in one crucial aspect, however, in that the positive effect of the family network tends to benefit poor households, while the positive effect of the more organized and modern party network tends to benefit non-poor households.

The rest of the paper is organized as follows. Section 2 describes our data set in more detail and the variables that we construct from it, in particular those that we use to measure social capital. Section 3 provides summary statistics describing rural-urban consumption patterns and how usage of formal and informal finance varies with household characteristics. Section 4 lays out our approach to estimation and hypotheses for the explanatory variables used in our regressions. In section 5 we discuss our empirical results, while section 6 offers conclusions.

2. Data and Variables

a. Data Set

We rely on data from the Chinese Household Finance Survey (CHFS) of 2013, which was collected by Chinese Household Finance Research Center of Southwestern University of Finance and Economics. The data are representative of Chinese households due to their stratified random sampling design in three stages: first, random sampling of counties; then communities within a county; then random sampling from a community.[9] When choosing counties, all of the counties in China were first ranked according to GDP and classified into groups. Within each group a random sample of counties was then selected. In the end, a total of 262 counties, roughly 10% of all Chinese counties, were selected to be part of the sample. Within each county, four communities were chosen. Then within a community, 25-50 households were chosen for urban areas, and 20 households for rural areas. The final CHFS sample consists of 28,100 households and 98,000 individuals in 1,029 communities, 262 counties, and 29 provinces.

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[9] A community is either a village in rural areas or a neighborhood committee (Ju wei hui in Chinese) in urban areas.

The CHFS provides detailed information on demographic characteristics, household assets and liabilities, household insurance and social protection, and household income and expenditure. More importantly, the CHFS has detailed and comprehensive information on household liabilities, such as debts incurred for agricultural production, for use in own businesses, for car and housing purchases, and to make school tuition payments. Furthermore, the survey covers not only borrowing from banks but also debts owed to informal sources such as relatives, friends, and informal financial organizations. We also have information on whether the maturity of specific debts exceeds one year.[10]

Equally importantly, the CHFS also has detailed information on household expenditures, including those made for food, clothing, housing, transportation, medical services, entertainment, and education. Based on these details, we construct a measure of total consumption per capita, which is the summation of all household consumption expenditures divided by the number of household members. We construct a measure of current or daily consumption per capita, which includes expenditures for food, clothing, daily necessities, housekeeping, transportation, rent, and communications, and another for long-term consumption per capita, which includes expenditures on health care and education. Current and long-term consumption are intended to capture the maintenance of daily life and long-term investment, respectively. See Table 1 for a list of our variables and their definitions.

We rely on two indicators of informal credit usage. First, *Informal Loan* is an indicator that a household had at least one loan from an informal source at the time of the survey. Second, we construct a variable capturing the nominal amounts in RMB of *Informal Loans*. We construct two indicators of usage of formal credit in analogous fashion.

We have several groups of variables that characterize a household's basic characteristics, including wealth, education, depth of social networks, and extent of political access. For basic household characteristics, we rely on the age of the household

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[10] The survey asks about many different loans. For some loans, the maturity is directly inquired about. For others, we can make inferences based on the time a debt was incurred, and whether it has a remaining outstanding balance. If the loan has an outstanding balance and was incurred at least a year earlier, we classify it as a long-term debt.

head, whether he/she works, the number of children in the household (i.e., 16 years old or younger), and the number of adults of working age (i.e., between the ages of 17 and 65).

We rely on several proxies for household wealth: (1) whether the household has farmable land (*Farmable Land*),[11] (2) whether the housing unit in which the household is dwelling was inherited from parents or purchased at a subsidized price from a current or former employer (*Inherited Housing*),[12] and (3) whether the household head is a manager in his/her place of work (*Manager)*. The education level of the household is summarized by dummy variables indicating whether the household head graduated from high school (*High School)* or from a college (*College*).

b. Measuring Social Capital

Perhaps there are not two more distinct social groups than the family and the ruling party in China, a country that is generally considered to possess a low level of social capital (p. 708, Fukuyama, 1995). The family has been the foundation of social interactions in China for thousands of years, and a larger family has been considered a key blessing because of the benefits it confers on its members (Cheung, 1972; Landa and Salaff, 2015; Huang, Jin and Xu, 2012). In contrast, the modern party system in China, characterized by a large network driven by a political monopoly has had a much shorter history of less than 100 years, and thus we know less about the benefits of membership in it. However, recent literature suggests that being a member of the Communist Party in China confers important benefits to entrepreneurs in terms of access to formal finance (Bai, Lu and Tao, 2006; Li et al., 2008).

By examining how these two very distinct social groups contribute to access to finance and affect consumption, we thus add to the literature on how various types of social capital affect microeconomic outcomes at the household level. We thus differ from the literature in examining and comparing the effects of formal and informal social capital, in allowing those effects to differ in modern cities versus traditional rural areas,

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[11] This variable is available for both urban and rural households. Due to the blurred nature of the urban/rural classification, sometimes urban residents also have farmable land.

[12] Starting in the second half of the 1990s, the state sector in China began to pursue housing reforms in urban areas in which employers sold (formerly free) apartments to employees at substantially subsidized prices (Wang, 2011).

and in comparing outcomes in (more modern) high-income and (more traditional) low-income areas.

To describe the social network of a household, we rely on the number of siblings that the household head and, if applicable, his/her spouse have (*Number of Siblings*). For informal financing, it is natural to first borrow from siblings, who possess intimate knowledge about one's creditworthiness. Stronger within-family altruistic instincts also compel siblings to lend at relatively low rates and when negative shocks occur. Parents can also act as enforcement agents when default or conflicts arise in a credit relationship between siblings (Cheung, 1972). Moreover, within-family lending often acts as an informal insurance mechanism (Townsend, 1995; Gan et al. 2012), especially where formal insurance markets are not well developed and where financial constraints are severe.

For political access, we rely on a variable that indicates whether any household members are affiliated with the ruling Communist Party. While we know of no research on how political connections facilitate household access to informal finance in China, an emerging literature has shown that Chinese firms with strong political connections tend to have better access to bank finance (Bai et al., 2006; Brandt and Li, 2003; Cull, Li, Sun, and Xu., 2015; Li et al., 2008).[13]

3. **Access to Finance, Household Characteristics and Rural-Urban Differences in Consumption**

Table 2 offers summary statistics for our key variables. The share of households with any informal loan is 40.9 percent. The amount of informal loans is also substantial.[14] On average, households have 24.1 thousand RMB (or 3.8 thousand U.S. dollars) in informal loans. The average income of our sample households is 56,000 RMB (or about 8,900 U.S. dollars), and average total consumption per household

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[13] An established literature has also shown that firms with strong political connections tend to have better access to bank finance in other developing countries (Shleifer and Vishny, 1994; Sapienza, 2004; Johnson and Mitton, 2003; Dinc, 2005; Khwaja and Mian, 2005; Claessens, et al., 2008).

[14] Our variables that are expressed in monetary terms tend to have some extreme values. To reduce the influence of outliers on our results, we winsorize in the following ways: total income, daily consumption, and long-term consumption are winsorized at the 1 and 99 percent levels. Informal loans and long-term informal loans are winsorized at 99%. The bottom 1 percent is not winsorized for those variables since many households have no informal loans and thus a substantial share of their distributions are massed at zero.

member is 9,100 RMB (or 1,400 U.S. dollars).

Table 3 explains the determinants of access to informal financing using regressions. We report two sets of results. In the first, we examine the determinants of the dummy variable for access to any informal loan for urban households, rural households, and the full sample (which pools rural and urban households). We report results from a linear-probability model for ease in interpreting coefficients, though the qualitative results are very similar to those from probit or logit models.[15] In the second set of results, we examine the correlates of the log of informal loan amounts. Overall, since qualitative findings are very similar across the two sets of results, and the informal loan amount captures a more nuanced picture of informal finance, we focus our discussion here on the second set.[16]

On average rural households tend to borrow 53 log points more informal loans than urban households (model 4). Rural residents are likely to borrow from informal sources partly because they face more agricultural production risks and have lower average incomes. In urban areas, higher income levels and better education are associated with lower informal loan amounts (and a lower likelihood of receiving any informal loan), suggesting that informal loans tend to serve the disadvantaged in those environments. In contrast, in rural areas higher income is associated with higher informal loan amounts, and education is not systematically related to informal loan amounts. Rural residents, even those who are relatively well-off, thus still rely heavily on informal finance.

Households whose heads are younger borrow significantly more from informal sources, which is not surprising since younger people likely face greater information asymmetry in dealing with formal financial institutions due to their short credit histories, relatively low incomes, and greater needs for investment in human capital. The combination results in high demand for credit but more difficulty in obtaining it from formal providers. Informal finance thus provides the most viable alternative for meeting

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[15] This is not surprising since all approaches are consistent when estimating the average effect of explanatory variables (Angrist, 2001).

[16] There are some minor differences, however. In particular, economic/financial literacy variables tend to have less significant effects on informal loan amounts. We also note that we have examined in exploratory regressions the determinants of long-term informal finance (i.e., informal finance with maturity exceeding one year), and the results are qualitatively almost identical.

the credit needs of young households.

Since the demand for productive inputs is likely higher for households that have more working members, it is not surprising that we find a positive relationship between that variable and usage of informal finance in Table 3. The pattern is especially pronounced for informal loan amounts in rural areas. Moreover, households with farmable land tend to borrow more in urban settings. This could be because land can be more readily used as collateral in urban settings, even in the context of informal lending arrangements.[17]

Importantly for this paper, the usage of informal finance is strongly influenced by the extent of a household's social network. The number of siblings of the household head and his/her spouse is significantly and robustly related to the amount of informal loans, whether in urban or rural settings. Moreover, the magnitude is very similar in both urban and rural areas, with an elasticity of about 0.46. In contrast, a household's political network, as measured by affiliation with the Communist Party, is not significantly associated with access to informal finance in Table 3. Thus, informal social capital (i.e., the extent of the family network) has strong predictive power for access to informal finance, but formal social capital (i.e., affiliation with the ruling party) does not.

It is striking that almost none of the variables that are significant predictors of informal loan usage in rural areas in Table 3 are also significant predictors of formal loan usage in those areas in Table 4. The one exception is the number of working age members in a household, which remains positive and significant. A key difference in the determinants of formal and informal credit usage in rural areas is the strong positive relationship between party affiliation and formal credit. This could arise because party affiliation is rarer in rural areas than in urban areas, and thus it may convey more benefits in comparison with the vast majority of rural households that lack such an affiliation. In what follows, we examine whether the wide-radius social capital stemming from party affiliation that apparently facilitates access to formal credit thus

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[17] While the state officially held urban land in China, a market has been emerging, in which leases to those lands can be bought and sold (Bardhan and Edelstein, 2008).

bolsters consumption.

In urban areas, some of the correlates of formal credit use are similar to those for informal credit use. For example, younger households and those with a larger number of working age members are significantly more likely to rely on both formal and informal sources of credit. However, income and education levels, and whether the household head is a manager are positively related to formal credit use, whereas they were not positively linked to informal credit use. Importantly, neither of our proxies of social capital (the size of household social networks or affiliation with the Communist Party) is significantly related to formal credit use in urban areas. This is our first piece of evidence indicating that the allocation of formal credit is not tied to social capital in urban China as it was for Italy in Guiso et al. (2004).

4. Empirical Specification and Issues for Estimating the Effect of Informal Finance

To understand the effects of access to finance, we estimate the following equation:

$$Y_{ic} = CHAR_{ic}\beta_1 + WEALTH_{ic}\beta_2 + PARTY_{ic}\beta_3 + FIN_{ic}\beta_4 + \epsilon_{ic}$$

Here, subscripts *i* and *c* refer to household *i* and community *c*. *Y* is a variable measuring household consumption. As noted above, we use total consumption per capita, daily consumption per capita, and long-term consumption per capita as dependent variables in our regressions. Daily consumption, including expenditures on clothing, food, housing, transportation, and communications, captures current welfare. Long-term consumption, including expenditures on medical care, education, and training, captures longer-term welfare.

CHAR represents basic household characteristics including the age of the head, whether he/she works, and the number of children (i.e., 16 years old or younger) and adults of working age (i.e., between the ages of 17 and 65) that reside in the household. WEALTH includes whether the household has farmable land ("*Farmable Land*"), whether its current dwelling was inherited from parents or purchased at a subsidized price from a (current or former) employer ("*Inherited Housing*"), and whether its head

is a manager in his/her place of work ("*Manager"*). The education level of the household is summarized by two dummy variables that indicate whether the household head graduated from high school ("*High School")* or a college ("*College"*). PARTY is a dummy variable that indicates whether any of the household members are affiliated with the Communist Party. *FIN* represents the amount of either informal credit or formal credit (in logarithm). Because the outcome variable is continuous and the log of both forms of credit summarizes much richer variation than the dummy variables for access to credit, in the rest of this paper we rely on the continuous measures of credit use as our key explanatory variables.

If finance were randomly assigned across households, estimation based on ordinary least squares would be consistent. However, the amount of finance a household receives is systematically related to its characteristics, as shown in Tables 3 and 4. For example, economically disadvantaged households tend to rely more heavily on informal finance than others. In particular, use of informal finance is more prevalent among households that are poorer, younger, have less education, and have more children. We must therefore address the potential endogeneity of informal credit in our regressions. It is also important to note that the OLS estimate of the effect of informal finance on consumption serves as a lower bound for the causal effect. Since informal credit use is negatively correlated with other determinants of consumption (i.e., the error term), the OLS estimate of the effect of informal finance should be biased downward.

To obtain a consistent estimate of the effect of informal finance on consumption, we therefore employ instrumental variables (IV) estimation. We provided evidence earlier that the number of siblings of the household head and his/her spouse (our narrow radius measure of social capital) was a strong and significant predictor of informal credit use. Since this variable is largely pre-determined, it is unlikely to be influenced by current access to informal finance. Moreover, since we control for detailed household characteristics in our consumption regressions, the likelihood is small that SIBLINGS is correlated with the error term. As tables using the 2SLS specification in section 5 will make clear, SIBLINGS is a strong instrument in general. The F-statistics for SIBLINGS in the IV regressions are greater than or close to 10, which indicates that we do not have a weak instrument problem (Angrist and Pischke, 2009). Hausman tests

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at the bottom of our regression tables (see, e.g., Table 6) indicate that our informal lending variables are endogenous in our consumption regressions, especially for the pooled and the rural samples. The instrumental variables estimates of the effects of informal credit should therefore be more credible than the OLS estimates.

Table 4 showed that formal credit use is also systematically related to household characteristics, and thus the endogeneity of that variable is a valid concern for our consumption regressions. While party affiliation (our wide radius measure of social capital) is strongly linked to formal credit use, it would not be a good candidate for use as an instrument. It would be implausible to argue that party affiliation affects household consumption only through its effects on access to formal credit, and thus party affiliation does not satisfy the exclusion restriction. Rather than use party affiliation as an instrument for formal credit use in the consumption regressions that follow, we therefore use it as an additional control. To the extent that the coefficient for formal credit use is positive and significant, and its inclusion substantially reduces the explanatory power associated with the party affiliation variable, it would suggest that a large share of the consumption benefits of party affiliation work through formal credit access. In this way, we could provide some evidence suggesting that the wide-radius social capital derived from party affiliation has some positive effects on access to formal credit (and the consumption levels of affiliated households).

5. Empirical Results

5a. Effects of Informal Finance on Consumption

Table 5 reports our base OLS results on how access to credit affects consumption per household member.[18] Columns 1-3 report the OLS results for the pooled, urban, and rural samples, respectively. Usage of informal loans is positively and significantly associated with consumption per capita in all three samples, though the coefficient is substantially smaller in the urban sub-sample. Informal credit, therefore, plays a more prominent role in rural areas than in urban areas. This is consistent with the notion that informal credit is more effective in regions in which close relationships between people

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[18] We have also explored how access to *long-term* finance affects consumption. The results are almost identical to what are in Tables 5 and 6, and thus we do not report them.

within low-radius social groups are more important. In those areas the need for informal financial arrangements can be acute because incomes tend to be lower, their variability higher, and formal finance is less developed. As discussed earlier, the OLS estimates represent a lower bound on the causal effect because of the negative correlation between informal credit and the error term. Those estimates indicate that the elasticity of informal finance is at 0.01 for the pooled sample (model 1), and 0.014 for rural households (model 3).

Perhaps as interesting, holding household structure, income, and age constant, households that have an affiliation with the Communist Party tend to have significantly higher consumption levels in both rural and urban regions, but the effect is stronger in rural regions. As noted, the higher premium associated with party membership in rural regions could stem from stronger connections to local political elites in more sparsely populated areas, and a more limited number of Party members. In models 4-6, we introduce the (log of) formal credit use variable to the OLS regressions. The formal credit coefficient is positive and significant, but the results for all other variables are very similar to those in models 1-3. In particular, the coefficients for Communist Party affiliation remain highly significant and almost identical in magnitude. The pattern suggests that access to a powerful wide-radius social group does yield private benefits at the household level throughout China, especially in rural areas, though its influence does not work through credit markets. Because formal credit is potentially endogenous and because its inclusion does not alter our main results regarding party affiliation, informal credit use, and household consumption, we do not include it in the robustness checks that follow. But we have attempted in all sensitivity checks to also include log formal loan amount, and the qualitative results tend to be similar (results not reported).

To address the potential endogeneity of informal credit, we instrument for (log of) the amount of informal loans using SIBLINGS. Table 6 reports the two-stage-least-square results. Columns (1) to (3), our base specification, do not control for the log of amount of formal loans due to concern about its endogeneity and the lack of a proper instrument for it. However, columns (4) to (6) add this variable as a robustness check to ensure that our 2SLS results are robust. Since inclusion of the log of formal loan amounts results in little change in key results, our discussion focuses on the first three

columns.

The amount of informal credit maintains a positive and significant relationship with consumption per capita in the pooled and rural samples in the 2SLS regressions, but not in the urban sample. In addition, the magnitudes of the informal finance coefficient are much larger than in the OLS regressions. Again, this suggests that usage of informal loans is negatively associated with unobservable factors that explain consumption, which makes sense since poorer households with low and variable incomes tend to resort to informal networks for support. According to the 2SLS estimates, increasing the amount of informal loans by 10 percent allows a *rural* household to increase its average consumption by 1.7 percent (Table 6, model 3).

How other variables affect average consumption is also informative. Not surprisingly, higher incomes are associated with higher consumption levels. Even holding income constant, rural households consume 35 percentage points less than urban households. A key reason for lower rural consumption is lower expenditures on housing by rural households than by urban ones (Cull et al. 2015). Households with more children and more working members tend to have lower consumption. This could be partly tied to economies of scale in consumption due to the sharing of fixed costs. Perhaps surprisingly, households with farmable land tend to have lower consumption levels. In urban regions this could be because those households tend to be comprised of rural residents (i.e., without an urban hukou) that are living in cities.[19]

Interestingly, households whose heads work for the government tend to have lower consumption levels in urban areas but higher levels in rural areas. Urban residents working for the government in cities tend to enjoy more housing and other in-kind subsidies, however, which could reduce their reported monetary consumption values. Rural residents working for the government tend to hold lower-level government jobs, and in general, receive little or nothing in terms of housing subsidies.

Young households tend to consume more, perhaps due to a high level of initial

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[19] Why households in rural areas with farmable land have lower consumption levels than others is harder to understand, though the coefficient is smaller (in absolute value) than that for households in urban areas. One interpretation could be that such households are more tied to agricultural activities than to jobs in manufacturing and services.

needs (e.g., to buy a first suit, conspicuous consumption to attract mates, spending on dates, human capital investment). Relative to households whose heads have lower levels of education, those with high school educated (college educated) heads have consumption levels 11-12 (21-24) percentage points higher in urban areas; education matters much less for consumption in rural areas.

5b. The Effect of Informal Finance on Consumption: By Asset Group

The poor are more likely to face financial constraints and, as shown earlier, they rely more heavily on informal financing. The same access to informal finance may therefore have stronger effects on poor households' consumption levels. To test this, we classify households by their levels of net assets, which is defined to be total household assets minus total household liabilities. We use that variable to divide our sample into thirds corresponding to low, middle, and high levels of net assets. In general, poorer households rely more heavily on informal finance: the shares of households with informal loans are 41, 46, and 33 percent for the low-, middle-, and high-asset groups.[20] To investigate whether the poor benefit more from access to informal finance, we present both OLS and 2SLS consumption regressions for each asset group in Table 7.

Only the poor appear to benefit significantly from access to informal finance in terms of consumption. The coefficients for the informal loan variable are never significant at the 5 percent level for either the middle or the top asset group in Table 7, while that for the low asset group is positive and highly significant. After instrumenting, the positive effect of informal finance is much larger for households with fewer assets (model 4). Increasing the amount of informal loans by 10 percent would increase the consumption level of a poor household by 2 percent. The results thus lend support to the conjecture that the poor are much more financially constrained, and that access to informal finance substantially improves their welfare (as measured by consumption).

Interestingly, the 2SLS models indicate that only the households in the middle-asset category benefit from party affiliation. That coefficient is marginally significant in model 5 and indicates that party affiliation boosts a household's consumption by around 6 log points. This suggests that access to the formal party network is insufficient

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[20] The pattern is very similar when we consider access to long-term informal loans.

to improve the consumption of poor households, and that reaching a certain threshold of resources may be necessary for such access to be effective. The insignificance of the party affiliation variable for high-asset households is less surprising: they likely have sufficient resources and other connections so that access to party connections does not add much in terms of consumption.[21]

5c. The Effect of Informal Finance on Consumption: By Level of Development

A growing literature emphasizes that the effectiveness of market-supporting institutions depends critically on a country's level of development (McMillan and Woodruff, 2002; Allen, Qian and Qian, 2005; Cull and Xu, 2005). Access to formal finance and its effects on households, for instance, depends critically on the supporting institutions of the legal system, which are crucial in providing incentives for debtors not to default. Similarly, the effect of access to informal finance depends on how constrained the residents are in having access to formal finance, which again depends critically on the level of development (Ayyagari, Demirguc-Kunt and Maksimovic, 2010). It is thus natural to see how the effects of informal financing on consumption differ by the level of development, which varies greatly across Chinese regions (Cull and Xu, 2005). To this end, we split our sample based on the level of provincial GDP per capita. Households in provinces with an average income above the median province are sorted in the 'high GDP' group. The others comprise the low GDP sample.

Access to informal loans is strongly linked to per capita consumption, but only in low-income regions, both for the pooled and for the rural samples (see 2SLS models in Table 8). The effects are especially pronounced in rural areas of the poor provinces, where the elasticity of consumption with respect to informal loans is 0.21. An interpretation is that financial transactions in lagging regions depend more on personal relationships rather than on market-based arm's length contracting, and as a result, the effects of personal social networks are more powerful than in other locations.

Equally intriguingly, the effect of party affiliation on household consumption is

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[21] We have also examined the robustness of the results when we further control for the log of formal loan amounts. The qualitative results tend to be similar. A slight change is that informal loans have a marginally significant effect on consumption for the middle-asset group (at the five percent level), though the magnitude remains similar (0.065 versus 0.045 in Table 7, model 5).

much more pronounced in the lagging regions: for the pooled sample, the party effect in lagging regions is almost twice that in rich regions. Moreover, when we estimate that effect separately for urban and rural regions, the positive coefficient is robustly significant only in lagging economic areas, and more so in poor rural areas. Thus, access to the ruling party network appears to have especially strong payoffs in lagging rural areas.

5d. Effects of Informal Finance on Components of Consumption

The richness of the CHFS data allows us to decompose consumption into two components: daily consumption (expenditures on food, clothing, necessities, rent, housekeeping, transportation, and communications), and long-term consumption (expenditures on health care and education). Distinguishing between them is important because, while daily consumption is more or less 'pure' consumption, long-term consumption has a much stronger connection to investment, which can improve future consumption. Tables 9 and 10 report regression results that use daily consumption and long-term consumption, respectively, as the dependent variable.

In general, informal loans do not appear to affect *daily* consumption in rural areas (see 2SLS results in Table 9). However, informal loan amounts are associated with significantly *reduced* daily consumption levels in urban regions. Increasing informal loans by 20 percent leads to a reduction in daily consumption by 1 percent. Interestingly, party affiliation is robustly associated with higher daily consumption levels, but only in rural regions.

In sharp contrast, informal finance significantly facilitates *long-term* consumption (see Table 10). Increasing the amount of informal loans used by a household by 10 log points (i.e., 0.1) would increase long-term consumption by 4 log points in both urban and rural areas in the 2SLS models. In contrast to the patterns for daily consumption, party affiliation is associated with significantly higher long-term consumption levels only for urban residents. Thus, rural residents must resort to informal loans for long-term welfare, while urban residents are able to rely on both the party affiliation network and informal loans based on social relationships to support their long-term

consumption.[22]

6. Conclusions

Using a new, large, and representative household finance data set for China, we examine how access to informal finance affects household consumption. We pay particular attention to how participation in two distinct social groups, the family and the Communist Party, affects access to finance and consumption. We first document that use of informal credit is more prevalent among economically disadvantaged households in general, but especially among households with more extensive private social networks. Use of credit from formal sources is not strongly linked to the extent of private social networks, though it is positively linked to affiliation with the Communist Party for rural households.

We then present evidence that access to informal finance significantly increases households' consumption, especially their long-term consumption. For rural households, only long-term consumption increases with access to informal finance; for urban households, daily consumption drops while long-term consumption increases with access to informal finance. We address the potential endogeneity of informal finance using the number of siblings of the household head (and his/her spouse) as an instrument. We confirm that having a more extensive family network enables greater access to informal credit. Consistent with our priors, the instrumental variable estimates of the effect of informal finance on consumption are positive, significant and substantially larger than the OLS estimates.

We also find that affiliation with the Communist Party is positively associated with consumption, though the result is more pronounced for daily consumption in rural areas and long-term consumption in urban areas. The effects of party affiliation on consumption appear to work independently of its effects on access to formal credit, however. In that sense, the social capital associated with party affiliation does not seem to influence formal credit markets to promote household welfare. Our results also indicate that a more extensive family network boosts access to informal finance and

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[22] In the models in both Tables 9 and 10, controlling for the log of formal loan amounts produces results qualitatively very similar to those presented.

thus consumption in lagging, low-income areas. Access to the Communist Party network, in contrast, tends to have more uniform effects throughout Chinese society, though the effects are somewhat stronger in rural areas.

Absent well developed formal financial institutions such as in lagging and rural areas, our results indicate that informal finance plays a critical role in improving the welfare of relatively disadvantaged households and in facilitating their long-term investment. At the same time, our results indicate that the social capital that represents trust within a society and has facilitated arm's length finance in other country contexts is not yet evident in China. To this point, the narrow-radius social capital associated with family social networks remains the most effective means of improving and smoothing household consumption.

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Table 1: definition of key variables

variable	definition
Consumption PC	log(consumption per capita)
Daily consumption PC	log((food+ clothing+ necessary+ rental+ housekeeping + transportation + communication expense)/household size)
Long term consumption PC	Log((health care + educational expense)/household size)
Log income PC	log(household income per capita)
Informal loan	Informal loan dummy(=1 if have informal loan)
Log informal loan amount	Log(1+informal loan amount)
rural	rural dummy(=1 if locates in rural area)
log(1+children)	log(1+# of children)
log(1+labor)	log(1+# of labor force)
farmable land	farmable land(=1 if household have farmable land)
Net household assets	Total household asset subtracting total household liabilities.
Head work	=1 if house head have work
Gov't work	=1 if house head is working in government
Manager	=1 if house head is a leader in work unit
log(age)	log(house head age)
high school	=1 if have high school(or similar) degree
college	=1 if have college(or above) degree
party	=1 if any of house member is communist party member
Sibling	# of siblings of respondent
Fin Class	=1 if respondent attended financial related class before
Fin Literacy	=1 if respondent have financial literacy.
Econ Literacy	=1 if respondent have economy knowledge.
Risk for Return	=1 if respondent prefer higher risk and higher return.

Note: household consumption=living expense + health care expense + educational expense

Table 2: summary statistics of key variables

variables	Obs.	Mean	S.D	Min	Max
Consumption PC	28130	9.146	0.956	5.277	12.684
Daily consumption PC	28130	8.790	1.007	4.341	12.138
Long term consumption PC	28130	7.012	2.242	0	11.817
Log income PC	27786	9.025	1.501	3.349	13.028
Total income (in 1,000 RMB)	27788	56.116	71.619	0.412	455.1
Total Consumption (in 1,000 RMB)	28132	43.613	42.781	1.440	322.390
Daily consumption (in 1,000 RMB)	28132	31.680	31.500	1.440	186.890
Long term consumption (in 1,000 RMB)	28132	11.933	19.614	0	135.500
Informal loan	28132	0.409	0.492	0	1
Log informal loan amount	28132	2.689	4.713	0	13.304
Informal loan amount (in 1,000 RMB)	28132	24.06	70.357	0	600
rural	28132	0.441	0.496	0	1
log(1+children)	28132	0.336	0.435	0	2.303
log(1+labor)	28132	1.171	0.469	0	2.89
farmable land	28132	0.543	0.498	0	1
Head work	28132	0.840	0.366	0	1
Gov't work	28132	0.071	0.257	0	1
Manager	28132	0.050	0.218	0	1
log(age)	28085	3.894	0.296	2.944	4.727
high school	28118	0.249	0.432	0	1
college	28118	0.068	0.252	0	1
party	28132	0.142	0.349	0	1
Log(1+Sibling)	28132	1.751	0.623	0	3.091
Sibling	28132	5.750	3.326	0	21

Note: total income, daily consumption, long term consumption are winsorized at top and bottom 1%, (long term) informal loan amount winsorized at top 1%

Table 3. Determinants of access to Informal loans

	Informal loan dummy			log Informal loan amount		
	pooled	*urban*	*rural*	*Pooled*	*Urban*	*rural*
rural	0.074***			0.526***		
	(0.012)			(0.115)		
Log income PC	-0.015***	-0.009**	-0.021***	-0.104***	-0.110***	0.097*
	(0.003)	(0.004)	(0.005)	(0.031)	(0.038)	(0.055)
log(1+children)	0.022**	0.030**	0.005	0.178	0.068	0.159
	(0.010)	(0.014)	(0.016)	(0.112)	(0.159)	(0.165)
log(1+labor)	0.156***	0.131***	0.177***	1.210***	0.945***	1.329***
	(0.010)	(0.012)	(0.016)	(0.109)	(0.122)	(0.193)
Farmable Land	0.045***	0.058***	0.008	0.233**	0.409***	-0.215
	(0.011)	(0.013)	(0.024)	(0.101)	(0.107)	(0.226)
log(1+sibling)	0.050***	0.050***	0.043***	0.498***	0.467***	0.459***
	(0.008)	(0.009)	(0.014)	(0.068)	(0.076)	(0.141)
head work	-0.014	-0.005	-0.004	-0.229**	0.024	-0.414
	(0.013)	(0.015)	(0.025)	(0.111)	(0.132)	(0.261)
Gov't work	-0.016	-0.005	-0.096*	-0.259*	-0.169	-1.025*
	(0.016)	(0.016)	(0.049)	(0.139)	(0.137)	(0.531)
Manager	0.025	0.016	0.119**	0.211	0.107	1.416**
	(0.018)	(0.018)	(0.056)	(0.188)	(0.190)	(0.676)
log(age)	-0.102***	-0.073***	-0.149***	-0.825***	-0.392**	-1.520***
	(0.017)	(0.019)	(0.031)	(0.175)	(0.186)	(0.344)
high school	-0.039***	-0.042***	-0.021	-0.210*	-0.344***	0.262
	(0.011)	(0.012)	(0.021)	(0.116)	(0.115)	(0.260)
college	-0.046***	-0.040***	-0.086	-0.318**	-0.301*	1.208
	(0.017)	(0.018)	(0.108)	(0.158)	(0.162)	(1.176)
party	-0.004	-0.021	0.018	-0.070	-0.157	-0.020
	(0.013)	(0.016)	(0.023)	(0.118)	(0.135)	(0.233)
Intercept	0.593***	0.418***	1.112***	4.157***	2.530***	9.041***
	(0.082)	(0.091)	(0.142)	(0.838)	(0.869)	(1.642)
Observation	27739	18561	9178	27739	18561	9178
R square	0.138	0.117	0.116	0.102	0.092	0.103

Note. Standard errors in parentheses; $^*\, p < 0.1$, $^{**}\, p < 0.05$, $^{***}\, p < 0.01$;

Table 4. Determinants of access to formal loans

	formal loan dummy			log formal loan amount		
	pooled	*urban*	*rural*	*pooled*	*urban*	*rural*
rural	0.008			-0.057		
	(0.010)			(0.107)		
Log income PC	0.015***	0.020***	0.006	0.198***	0.268***	0.088
	(0.003)	(0.003)	(0.005)	(0.029)	(0.035)	(0.054)
log(1+children)	0.031***	0.058***	0.012	0.397***	0.721***	0.176
	(0.009)	(0.011)	(0.014)	(0.099)	(0.134)	(0.151)
log(1+labor)	0.070***	0.047***	0.104***	0.737***	0.512***	1.125***
	(0.008)	(0.009)	(0.013)	(0.089)	(0.110)	(0.129)
Farmable Land	-0.001	-0.011	-0.007	-0.104	-0.212*	-0.161
	(0.009)	(0.010)	(0.015)	(0.098)	(0.123)	(0.152)
log(1+sibling)	0.002	0.004	0.006	0.008	0.043	0.060
	(0.005)	(0.006)	(0.010)	(0.059)	(0.072)	(0.100)
head work	0.034***	0.037***	0.005	0.407***	0.461***	-0.016
	(0.008)	(0.012)	(0.012)	(0.094)	(0.133)	(0.125)
Gov't work	-0.002	0.003	0.022	0.005	0.039	0.262
	(0.013)	(0.014)	(0.034)	(0.160)	(0.171)	(0.361)
Manager	0.051***	0.060***	-0.040	0.598***	0.683***	-0.401
	(0.017)	(0.018)	(0.036)	(0.211)	(0.229)	(0.386)
log(age)	-0.088***	-0.113***	-0.022	-1.142***	-1.476***	-0.314
	(0.014)	(0.017)	(0.023)	(0.161)	(0.205)	(0.244)
high school	0.035***	0.041***	-0.001	0.440***	0.494***	0.027
	(0.009)	(0.009)	(0.018)	(0.095)	(0.109)	(0.189)
college	0.140***	0.137***	-0.045	1.756***	1.694***	-0.506
	(0.015)	(0.016)	(0.069)	(0.192)	(0.199)	(0.791)
party	0.033***	0.003	0.102***	0.357***	0.043	1.123***
	(0.011)	(0.010)	(0.027)	(0.126)	(0.126)	(0.268)
Intercept	0.155***	0.219***	-0.063	2.148***	2.920***	-0.531
	(0.064)	(0.072)	(0.120)	(0.738)	(0.888)	(1.262)
Observation	27739	18561	9178	27739	18561	9178
R square	0.114	0.124	0.150	0.117	0.127	0.151

Note. Standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$;

Table 5: The effect of access to finance on household consumption per capita.

Dependent variable = log(consumption per capita)

	OLS			OLS		
	pool	Urban	rural	Pool	Urban	rural
Log(1+informal loan amount)	0.010***	0.005**	0.014***	0.009***	0.005***	0.013***
	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.003)
Log(1+bank loan amount)				0.019***	0.016***	0.026***
				(0.002)	(0.002)	(0.004)
log income PC	0.176***	0.179***	0.155***	0.165***	0.168***	0.141***
	(0.006)	(0.007)	(0.010)	(0.006)	(0.007)	(0.011)
rural	-0.314***			-0.309***		
	(0.020)			(0.020)		
log(1+children)	-0.254***	-0.270***	-0.264***	-0.244***	-0.258***	-0.259***
	(0.016)	(0.019)	(0.027)	(0.017)	(0.019)	(0.027)
log(1+labor)	-0.177***	-0.276***	-0.104***	-0.147***	-0.249***	-0.082***
	(0.017)	(0.019)	(0.028)	(0.017)	(0.019)	(0.029)
farmable land	-0.136***	-0.123***	-0.083**	-0.131***	-0.117***	-0.074*
	(0.018)	(0.019)	(0.041)	(0.018)	(0.019)	(0.041)
Head work	-0.131***	-0.065***	-0.133***	-0.136***	-0.061**	-0.136***
	(0.022)	(0.024)	(0.050)	(0.022)	(0.024)	(0.050)
Gov't work	-0.032	-0.063***	0.144**	-0.026	-0.054**	0.136*
	(0.021)	(0.021)	(0.068)	(0.022)	(0.022)	(0.072)
Manager	0.115***	0.126***	0.037	0.111***	0.127***	0.030
	(0.023)	(0.023)	(0.079)	(0.023)	(0.023)	(0.083)
log(age)	-0.717***	-0.635***	-0.817***	-0.704***	-0.602***	-0.855***
	(0.026)	(0.027)	(0.054)	(0.027)	(0.027)	(0.056)
high school	0.122***	0.120***	0.097**	0.116***	0.114***	0.102**
	(0.017)	(0.016)	(0.043)	(0.018)	(0.016)	(0.044)
college	0.229***	0.239***	0.022	0.192***	0.211***	0.034
	(0.025)	(0.025)	(0.209)	(0.026)	(0.025)	(0.209)
Party	0.094***	0.046**	0.154***	0.096***	0.048***	0.143***
	(0.018)	(0.018)	(0.041)	(0.019)	(0.019)	(0.043)
Intercept	11.173***	10.900***	11.404***	11.221***	10.857***	11.678***
	(0.129)	(0.131)	(0.286)	(0.130)	(0.132)	(0.289)
N	27739	18561	9178	27739	18561	9178
R squared	0.452	0.412	0.239	0.433	0.394	0.233

Standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 6: The effect of access to informal finance (amount) on household consumption per capita,
Dependent variable = log(consumption per capita)

	2SLS			2SLS		
	pool	Urban	rural	Pool	Urban	rural
Log(1+informal loan	0.090***	0.038	0.168**	0.090***	0.036	0.168**
Amount)	(0.026)	(0.027)	(0.072)	(0.026)	(0.027)	(0.073)
Log(formal loan amount)				0.011***	0.014***	0.001
				(0.003)	(0.002)	(0.013)
log income PC	0.176***	0.175***	0.158***	0.174***	0.172***	0.157***
	(0.007)	(0.007)	(0.015)	(0.007)	(0.008)	(0.016)
rural	-0.354***			-0.353***		
	(0.027)			(0.026)		
log(1+children)	-0.253***	-0.251***	-0.279***	-0.257***	-0.260***	-0.279***
	(0.019)	(0.020)	(0.040)	(0.019)	(0.019)	(0.040)
log(1+labor)	-0.241***	-0.276***	-0.274**	-0.249***	-0.282***	-0.275***
	(0.041)	(0.035)	(0.109)	(0.039)	(0.035)	(0.098)
farmable land	-0.155***	-0.135***	-0.048	-0.154***	-0.132***	-0.048
	(0.022)	(0.025)	(0.059)	(0.022)	(0.024)	(0.059)
Head work	-0.107***	-0.053**	-0.078	-0.112***	-0.059**	-0.078
	(0.025)	(0.024)	(0.072)	(0.025)	(0.024)	(0.072)
Gov't work	-0.007	-0.049**	0.303**	-0.007	-0.049**	0.303**
	(0.027)	(0.023)	(0.134)	(0.027)	(0.023)	(0.136)
Manager	0.106***	0.134***	-0.202	0.100***	0.125***	-0.202
	(0.029)	(0.025)	(0.171)	(0.028)	(0.024)	(0.175)
log(age)	-0.685***	-0.624***	-0.645***	-0.672***	-0.604***	-0.645***
	(0.031)	(0.027)	(0.130)	(0.030)	(0.027)	(0.129)
high school	0.142***	0.134***	0.058	0.137***	0.126***	0.058
	(0.021)	(0.019)	(0.067)	(0.022)	(0.019)	(0.067)
college	0.263***	0.251***	-0.152	0.243***	0.228***	-0.151
	(0.031)	(0.028)	(0.353)	(0.033)	(0.030)	(0.354)
Party	0.103***	0.052***	0.169***	0.099***	0.051***	0.168***
	(0.022)	(0.019)	(0.063)	(0.022)	(0.019)	(0.064)
Intercept	10.977***	10.847***	10.239***	10.954***	10.811***	10.240***
	(0.169)	(0.140)	(0.785)	(0.166)	(0.138)	(0.803)
N	27739	18561	9178	27739	18561	9178
R squared	0.292	0.363	-0.431	0.295	0.370	-0.430
Weak ident. (F stat)	56.10	42.19	11.20	55.81	41.72	10.73
Hausman test	25.24	3.16	18.47	26.196	3.105	18.421
-p-value	0.000	0.075	0.000	0.000	0.078	0.000

Standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
The instrument for informal loan is the number of siblings of the household couple.

Table 7: The effect of informal finance on household consumption per capita, By asset group

Dependent variable=log(consumption per capita)

| Group by asset: | Dependent Variable =log(1+consumption per capita) | | | | | |
| | Pool sample, OLS | | | Pool sample, 2SLS | | |
	Low Asset	Middle Asset	High Asset	Low asset	Middle Asset	High asset
Log informal	0.017***	0.005*	0.004	0.195**	0.045	-0.124
loan amount	(0.004)	(0.002)	(0.003)	(0.072)	(0.029)	(0.124)
Party	0.106**	0.058*	0.053**	0.087	0.063*	0.040
	(0.046)	(0.031)	(0.022)	(0.069)	(0.032)	(0.031)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
N	8155	8903	10169	8155	8903	10169
R squared	0.403	0.349	0.369			
Weak ident.(F stat)				12.16	34.37	3.023
Hausman test				28.187	4.610	3.245
-p-value				0.000	0.032	0.072

Standard errors in parentheses; $^*\,p < 0.1$, $^{**}\,p < 0.05$, $^{***}\,p < 0.01$;
The instrument for informal loan is the number of siblings of the household couple.

Table 8: The effect of access to informal finance (amount) on household consumption PC:
By provincial GDP PC

	Pool sample		Urban sample		Rural sample	
	Dependent Variable=log(1+consumption per capita), OLS					
	Low GDP	High GDP	Low GDP	High GDP	Low GDP	High GDP
Log informal loan	0.015***	0.006**	0.007***	0.004	0.021***	0.007*
amount	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.004)
Party	0.130***	0.071***	0.057**	0.041*	0.211***	0.101
	(0.024)	(0.026)	(0.027)	(0.024)	(0.045)	(0.067)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
N	12444	15295	7316	11245	5128	4050
R squared	0.442	0.432	0.423	0.388	0.241	0.217
	Dependent Variable=log(1+consumption per capita), 2SLS					
Log informal loan	0.116***	0.014	0.020	0.007	0.208***	-0.022
amount	(0.029)	(0.041)	(0.040)	(0.035)	(0.052)	(0.192)
Party	0.113***	0.072***	0.055**	0.042	0.199***	0.101
	(0.030)	(0.027)	(0.027)	(0.026)	(0.068)	(0.066)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
N	12444	15295	7316	11245	5128	4050
R squared	0.201	0.431	0.418	0.388	-0.759	0.191
Weak Ident. (F.stat)	46.82	18.39	15.67	25.43	23.79	**0.808**
Hausman test	28.477	0.101	0.196	0.016	2.352	0.058
-p-value	0.000	0.750	0.658	0.899	0.000	0.810

Note. Standard errors in parentheses; $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$;

Table 9: The effect of informal finance amount on *daily* household consumption per capita,
Dependent Variable =log(*daily* consumption per capita)

	Dependent Variable =log(1+daily consumption per capita)					
	OLS			2SLS		
	pool	Urban	Rural	Pool	Urban	rural
Log informal	0.006***	0.001	0.010***	-0.006	-0.050*	0.033
loan amount	(0.002)	(0.002)	(0.003)	(0.023)	(0.028)	(0.053)
Party	0.080***	0.031*	0.136***	0.080***	0.026	0.136***
	(0.018)	(0.018)	(0.039)	(0.018)	(0.019)	(0.039)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
N	27739	18561	9178	27739	18561	9178
R squared	0.488	0.432	0.264			
Weak ident.(F stat)				56.10	42.19	11.20
Hausman test				0.586	8.344	0.412
-p-value				0.444	0.004	0.521

Standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$;
The instrument for informal loan amount is the number of siblings of the household couple.

Table 10: The effect of informal finance amount on *long-term* household consumption per capita,
Dependent Variable =log(long term consumption per capita)

	Dependent Variable =log(1+long term consumption per capita)					
	OLS			2SLS		
	pool	Urban	rural	Pool	Urban	rural
Log informal	0.025***	0.024***	0.027***	0.383***	0.424***	0.417**
loan amount	(0.004)	(0.005)	(0.007)	(0.083)	(0.105)	(0.179)
Party	0.223***	0.215***	0.226*	0.227***	0.256***	0.218
	(0.055)	(0.057)	(0.121)	(0.071)	(0.074)	(0.165)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
N	27739	18561	9178	27739	18561	9178
R squared	0.093	0.100	0.068			
Weak ident.(F stat)				56.10	42.19	11.20
Hausman test				60.017	47.917	16.687
-p-value				0.000	0.000	0.000

Standard errors in parentheses; $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$;
The instrument for informal loan amount is the number of siblings of the household couple.