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Finance and Growth for Microenterprises:

Evidence from Rural China

Abstract

Using a survey dataset of Chinese rural households, we find that access to external finance is positively associated with the decision to become entrepreneur and the initial investment for microenterprises. Also, we find that the use of informal finance, especially financing from friends and family, is positively associated with sales growth of microenterprises with employees, but not of self-employed. We do not find any significant relationship between the use of formal finance and firm growth. Our findings underline the importance of finance for entrepreneurship and microenterprise growth, and the role of informal finance in the absence of efficient formal financial institutions.

Key Words: Finance, Entrepreneurship, Growth, China

JEL Code: L26, G21

1. INTRODUCTION

Firms face multiple growth constraints in developing countries, including the lack of access to markets, decrepit energy and transportation infrastructure, and lack of security. A large and still growing literature, however, has documented the importance of financing constraints for small firms, especially in less developed countries (Ayyagari et al., 2008; Beck et al., 2005). A recent controversy has focused on the relative importance of formal versus informal financial providers for alleviating firms' financing constraints in developing countries. Allen et al. (2005) posit that alternative financing channels, such as internal financing and trade credit as well as informal coalitions of firms, investors, and local governments are more important than formal bank credit in fostering the growth of private Chinese enterprises, while Ayyagari et al. (2010) show that it is bank rather than informal financing that fosters firm growth in China. Even less is known, however, about micro- or household-based enterprises,¹ especially in rural China.

This paper gauges the importance of informal and formal financing sources for microenterprises in rural China. Using a unique household survey conducted in 2009, we relate the decision to start a microenterprise and its success to different gauges of access to and use of informal and formal financing. In doing so, this paper complements recent studies that focus on small- and medium-sized enterprises (SMEs), mostly in urban areas of China.

Access to finance, whether from informal or formal sources, may alleviate credit constraints for both the initial investment of microenterprises and their subsequent expansion. There are important differences, however, between informal and formal finance, related to

¹ Micro-enterprises are typically firms that are smaller than the small- and medium-sized enterprises (SMEs), with few employees and often without formal status. For a formal definition in the Chinese context, see footnote 9.

screening and enforcement mechanisms (Jain, 1999). Banks rely on hard information such as financial reporting, often require collateral which is scarce in rural areas, and rely on government and courts for enforcement, while informal lenders rely on soft information, which is often proprietary, and on personal networks, and enforce loan contracts through reputation, social sanction, and coercion (Besley and Levenson, 1996).

Given the lack of formal financial statements, microenterprises face severe information asymmetries in developing countries, which hinder the credit availability from formal financial institutions, such as banks and credit cooperatives. Informal finance may therefore be essential for microenterprises in China under its special economic and legal institutions (Allen et al., 2005) and especially in rural areas that have experienced a withdrawal of formal financial institutions since the mid-1990s. On the other hand, formal finance might be more effective in alleviating financing constraints, as informal finance carries high interest rates, is of limited scale, and has pro-cyclical trends.² It is therefore a-priori not clear whether micro- and household-based enterprises can benefit more from informal or formal financing sources in rural China, which leaves the question for empirical research.

The evidence on the effect of informal versus formal finance on firm growth is mixed in the literature. On the one hand, Allen et al. (2005) show that alternative financing channels and governance mechanisms support a high growth of the private sector in China. Degryse et al. (2013) show that co-funding of informal and formal finance is an optimal financing choice for firm growth in China as the informal finance has an information advantage while the formal finance has a cost advantage. On the other hand, Ayyagari et al. (2010) use a survey of

² Hernández-Trillo et al. (2005) show that microenterprises using bank loans, moneylenders, and trade credit for startup, are more efficient than those relying on family, friends, and self-owned fund.

private firms in China, and find that bank finance is associated with faster growth while informal finance is not.³ Cheng and Degryse (2010) show that the development of banks has a positive impact on provincial economic growth in China, while non-bank financial institutions do not.

We use data from a survey undertaken in 2009 of almost 2,000 households across nine counties in three provinces, 27 percent of which run microenterprises. This allows us to explore both the covariates of the decision to start a microenterprise and the role that the use of informal and formal financial service plays in the growth process of microenterprises.

Our results suggest that, controlling for characteristics of the family head and village characteristics, wealthier households with larger families and located closer to financial institutions are more likely to start microenterprises, and also have higher initial investment. In addition, we find that higher use of informal finance, especially funding from friends and family, is associated with higher sales growth for microenterprises with employees, while it has no effect for the self-employed. The use of formal finance, on the other hand, is not associated with higher sales growth, which is consistent with the inefficiency of bank loans in China (Bailey, Huang and Yang, 2011). These findings confirm the importance of finance for entrepreneurship and firm growth, but also underline the important role that informal financial service providers play in the absence of efficient formal financial institutions.

Our paper contributes to the literature by using firm- and household-level survey data to explore the relationship between access to and use of financial services and the behavior of microenterprises. Beck et al. (2005) show that the small firms' growth rates are most constrained by financial, legal, and corruption obstacles, while financial and institutional

³ Robb and Robinson (2012) find that entrepreneurs rely heavily on bank financing, and less extensively on funding from family members and friends in their firms' initial year of operation in the US.

development weakens these constraining effects, from which the small firms benefit the most. Beck et al. (2014) show that banking systems with more effective credit information sharing and higher branch penetration can help reduce the informality of enterprises. In addition, access to financial services can help new entrepreneurs survive beyond the first year, as evidence from Bosnia and Herzegovina shows (Demirgüç-Kunt et al., 2009), and can help enterprises innovate at a faster rate (Ayyagari et al., 2011). Furthermore, using subnational data for Italy, Guiso et al. (2004) show that local financial development enhances the probability that an individual starts a business, favors the entry of new firms, and promotes growth, and these effects are weaker for larger firms. We contribute to this literature by adding empirical evidence on the microenterprises in rural China.

While our paper's inference is based on household survey data, our paper is also related to a series of recent randomized control trials that explore the effect of interventions alleviating micro-entrepreneurs' financing constraints.⁴ De Mel et al. (2008) use shocks to capital stock through randomized grants in Sri Lanka, and find that the average real return to capital is much higher than the market interest rate, while a similar exercise in Philippines that expanded credit to micro-entrepreneurs did not show any positive effect on borrowers' business (Karlan and Zinman, 2011). More recent evidence has shown differential effects of credit on individuals and households with different characteristics, linked with different uses of credit. Specifically, Banerjee et al. (2013) and Crepon et al. (2011) use randomized controlled trials in India and Morocco, respectively, and show that only some clients use microcredit loans to start up enterprises. New clients that did not start businesses consumed more non-durable goods, with existing businesses reducing consumption and increasing savings.

⁴ See Karlan and Morduch (2010) for a literature survey on the randomized controlled experiments on microenterprises.

Our paper relies on household survey data and thus faces the constraints of not being able to infer causality from cross-sectional data. On the other hand, we capture a larger array of financial service providers across a broader geographic area than randomized controlled trials can capture. While randomized controlled trials can often provide a cleaner identification on the effect of finance, they are also restricted in external validity as the experiments are often conducted in a specific location with limited participant groups. Being aware of the caveats with respect to survey data, we try to provide some first evidence on the role of finance plays for the rural microenterprises in China. As we do not have a clear instrument for the access to or use of finance, we describe our findings as correlations and associations rather than implying causality. Given the limited availability of data for rural China, however, we think that our findings still provide useful insights.

The paper proceeds as follows. Section 2 provides an introduction to the Chinese rural financial market. Section 3 introduces data and summary statistics, and develops the hypotheses and methodology. Section 4 presents the results, and section 5 concludes.

2. RURAL FINANCIAL MARKETS IN CHINA

Although China has had an annual GDP growth rate of around ten percent during the past three decades, rural areas have lagged behind urban areas, and the gap has been widening over the past decade. During the 1980s and 1990s, the rural areas were the engine of China's high economic growth, especially the town and village enterprises which were collectively owned by community governments (Jin and Qian, 1998). However, rural enterprises have

witnessed a sharp decline since the mid-1990s due to a wave of bankruptcies and privatization. In contrast, the privatization of state-owned firms in the urban areas since the late 1990s has shifted the urban economy to a higher growth track. Non-farming activities in the rural areas are often undertaken by private microenterprises, and a large labor force has migrated to the urban areas for jobs since the mid-1990s. The outflow of labor force, most often young and talented, contributed to a further contraction of the rural economy in China.

The expression “microenterprise” is often interchangeably used with *Getihu* in the Chinese context. However, the Chinese law (i.e. *Provisions on the individual industrial and commercial households*, enacted in 1987 and revised in 2011) stipulates an official definition of microenterprises according to the total assets, sales revenue and number of employees by industries (see footnote 9 for details). In contrast, *Getihu* is a registration type for firms with certain characteristics, e.g. with less than eight employees. According to the *State Administration for Industry and Commerce of China*, there were only 140,000 *Getihu* in 1978, while the number rocketed to more than 40 million with more than 80 million employees in 2013. These firms have substantial obstacles in obtain bank finance, while they rely heavily on the alternative financing channels such as family members and friends.

Generally speaking, there are three types of financial institutions serving the rural credit market: the *Agriculture Bank of China* (ABC) which is a commercial bank, *Rural Credit Cooperatives* (RCCs), and the *Agriculture Development Bank of China* (ADBC) which is a policy bank. However, financial institutions, including the state-owned ABC and ADBC, have witnessed a contraction of branches and business in the rural area since the mid-1990s, which resulted in RCCs as the only provider of formal finance in most rural areas.⁵ RCCs, however, are often plagued by an unclear ownership structure and poor risk

⁵ See Xie (2003) for an overview of the reform of RCCs in China.

management, which often results in substantial non-performing loans⁶ and even bankruptcies. Furthermore, RCCs usually focus on agricultural production loans, while loans to microenterprises only constitute a small proportion in its portfolio.⁷ Although *China Post Saving Bank* (CPSB) has expanded its branches in the rural area since its inception in 2007, they were quite focused on attracting deposits instead of extending loans up until 2009. The CPSB got the approval for corporate businesses in 2008, and it initiated micro-credit and individual business loans in 2009. The CPSB has developed dramatically in recent years, e.g. with more than four million micro-credit customers in 2012. However, the loan business of the CPSB was still quite pre-mature in 2008 (the year of our survey), which made it less of a concern for our survey data. Appendix 3 provides an overview of the laws and regulations on the rural financial system over the past two decades as well as major policy initiatives. In a nutshell, in spite of numerous changes and reforms in rural finance microenterprises face substantial obstacles in the access to formal finance in rural China.

A major obstacle in obtaining formal finance for rural households is the lack of collateralizable assets in the rural area. All the rural land is owned by the collectives (i.e. village governments), while farmers do not have full property rights on their houses. Generally speaking, houses can only be traded among farmers within the same village, which prevents their use as collateral for bank loans. On the other hand, financial institutions usually do not accept movable property, such as tractors, as collateral in the rural area due to the cumbersome registration and enforcement problems. Consequently, financial institutions mainly serve as depositary tool, which leads to a substantial surplus between the deposit and

⁶ The non-performing loan ratio of RCCs at the end of Sep 2004 was 23.50 percent, while it decreased to 7.70 percent at the end of Mar 2010. Source: China Banking Regulatory Commission and the People's Bank of China.

⁷ The proportion of agriculture related loans was 65.38 percent at the end of 2010. Source: the People's Bank of China.

loans outstanding for RCCs. An outflow of credit from the rural area to the urban area widens the urban-rural gap.

Due to a lack of formal finance, farmers resort to informal sources, i.e. family members, friends, informal financial institutions, suppliers, and other sources, etc. Informal financial institutions (e.g. underground banks, loan sharks, moneylenders, and ROSCAs) have been prohibited during 1949-1978 due to their usury characteristics. Informal financial institutions have revived after the country's transition to the market economy after 1978. ROSCAs are widely used by entrepreneurs in the rural area of South China, e.g. *hui* in Zhejiang, Fujian and Guangdong (Tsai, 2002), although they are not sanctioned by the financial authorities in the country. ROSCAs have various formats in different regions, such as *Biaohui* (tender for fund use), *Lunhui* (predetermined order for fund use) or *Yaohui* (random draw for fund use) (Ayyagari, Demirgüç-Kunt and Maksimovic, 2010). The members of ROSCAs are often women living within the same village (Tsai, 2002).

Recently, microfinance (or micro-credit) programs have witnessed a dramatic development in China. The first microfinance programs were piloted in early 1990s, while the government adopted a series of enhancing policies subsequently. The People's Bank of China initiated the pilot microfinance programs in the rural area in four provinces in 2005, and the first law for micro-credit companies was enacted in 2008 (Appendix 3). According to the *People's Bank of China*, there were 7,398 micro-credit companies with 760 billion RMB loans outstanding in Sep 2013; besides, 800 village banks, 337 rural commercial banks, and more than 100 rural cooperative banks, were often engaged in microfinance. The total assets of the above financial institutions have reached two trillion RMB in China in Sep 2013. However, Tsai (2004) shows that the intended clients of microfinance continue to use informal finance in rural China, whose persistence may be due to the limited supply of formal

credit and the institutional weaknesses of many microfinance programs. Micro-credit usually does not have collateral and the interest rate is often quite high, which makes it resemble the loans from informal financial institutions. Unfortunately, the survey questionnaire did not ask about microfinance separately, and it was believed to be recorded as loans from informal financial institution.

The Chinese government tightened monetary policy in 2007 by raising the reserve deposit rate and basis interest rate, which lasted up until Sep 2008. It made manufacturing firms face substantial obstacles in obtaining bank finance while the interest rate hike worsened the situation. Many firms were forced to access alternative financing channels, e.g. family members and friends, informal financial institutions, trade credits, etc. The interest rate of informal financial institutions rocketed to a historical high level, e.g. in the city of *Wenzhou*, the interest rate of informal finance increased from 10 percent to about 20 percent during 2007-2008 (Zhang et al., 2013). Although we do not have sufficient data on the interest rate from the survey, we will distinguish the informal finance from family members and friends versus informal financial institutions.

3. DATA, HYPOTHESES AND METHODOLOGY

This section describes the survey data, discusses the different hypotheses and econometric methodology we will use to test them, and presents descriptive statistics.

We use a unique survey dataset for Chinese rural households (the “*Rural Finance Survey*”), conducted in 2009 by *National School of Development at Peking University* and funded by the *Citibank*. The survey was conducted by a research group led by Prof. Xinqiao

Ping at *Peking University*, and the third author of this paper led the surveyors in *Hunan* province. The data has been used in Ma and Yang (2011), and we obtain the rights to use the data due to the author's participation in the survey. The survey covered three provinces in China, *Heilongjiang* (Northeast), *Hunan* (Central), and *Yunnan* (Southwest).⁸ Three counties were selected from each province, and three villages were selected from each county. This resulted in a final sample of 1,951 households across three provinces, nine counties and 81 villages. Provinces and counties were chosen based on representativeness, and villages and households are sampled randomly from the name lists. The sample distribution of households by region is shown in Panel A of Appendix 1. The questionnaire recorded detailed information on formal finance (loans from banks and rural credit cooperatives) and informal finance (loans from family, friends, and informal financial institutions, trade credit, and other sources), both at the startup year and the end of 2008 for microenterprises.⁹ In addition, demographic, income, and wealth profiles of households are also recorded in the survey questionnaire. All variables definitions are listed in Table 1.

[Table 1 here]

⁸ These provinces are less developed than other provinces in the southeast part of China, and also ranks lower in terms of business environment. Accordingly to the indicators in “Doing Business in China 2008” by the World Bank, the northeast/central/southwest part of China ranks lower than the southeast part in the easiness of doing business, e.g. starting a business, registering property, getting credit, and enforcing contracts.

⁹ According to the “SMEs Promotion Law of China”, the threshold of sales revenue (or number of employees) for microenterprises is listed as follows by industry: under 500,000 RMB for agriculture, forestry, husbandry, and fishery industry; under three million RMB for manufacturing industry (or less than 20 employees); under three million RMB for construction industry; under ten million RMB for wholesale industry (or less than five employees); under one million RMB for retail, catering, information technology, leasing, and business service industry (or less than ten employees); under two million RMB for transportation, storage and post industry (or less than 20 employees); under five million RMB for property management industry (or less than 100 employees); under one million RMB for real estate industry. All other industries are categorized by the number of employees with a threshold of ten. Among all sample firms that report sales revenue in 2008, all but one of them are microenterprises according to the thresholds of either the sales revenue or the number of employees, i.e. the enterprise has 300 employees and belongs to “other” industry. We also cross check the definition by the National Bureau of Statistics of China, i.e. “Categorization method for large, medium, small enterprises, and microenterprises” released in 2011, and identify the same enterprise. We exclude this enterprise in our sample.

Table 2 shows some summary statistics of the dataset. Among the 1,951 households surveyed 533 (27 percent) have a microenterprise. The sample distribution by industry is presented in Panel B of Appendix 1. Among the microenterprises, 70 percent have only the entrepreneur himself / herself, i.e. are self-employed. Among the 144 enterprises with employees, the mean (median) value of the number of employees is 8.37 (2), while the largest enterprise has 300 employees. The sample mean (median) value of the initial investment is 50,967 (10,000) RMB, which is about 7,473 (1,466) USD. The sample mean (median) value of the household income is 20,857 (11,000) RMB in 2007. Compared with the annual household income, initial investments are thus substantially large which indicates the need for external financing. Average growth of microenterprises between 2007 and 2008 was six percent, with a standard deviation of 37 percent, and ranging from -217 to 249 percent.

[Table 2 here]

The survey provides us with several gauges of access to and use of informal and formal financial services. The use of informal and formal external finance is measured by dummy variables indicating whether a microenterprise has loans outstanding from informal financial institutions or family members and friends (informal finance), and banks or rural credit cooperatives (formal finance). At the startup year of microenterprises, 39 percent used informal finance and 16 percent used formal finance, while 52 percent did not use any external financing sources. In contrast, at the end of 2008, 19 percent used informal finance, while 12 percent of microenterprises used formal finance. Appendix 2 shows the loan sources by region and industry both for the startup year and 2008 year end.

We also have several proxies for the access to financial services. First, we use the wealth of households, as measured by the value of durable goods¹⁰ as a gauge of internal funds and proxy for possible collateral. Household wealth varies from zero to 684,182 RMB (about 100,000 USD), and the average value is 10,916 RMB (about 1,600 USD).¹¹ Second, we use the distance from the nearest financial institution to measure the access to finance. This might not only proxy for the geographic proximity to the formal financial institution, but also for proximity to the informal financial institutions. Informal and formal financial service providers cluster geographically in order to facilitate the banks' collection of soft information (Agarwal and Hauswald, 2010), and it can lead to a higher accessibility of bank loans for informal lenders which may be further intermediated to the final borrowers (Bose, 1998; Hoff and Stiglitz, 1997). As a result, it will lead to a positive association between the distance to informal and formal financial institutions. On average, households are 4.50 kilometers from the nearest formal financial institution. Third, we use several gauges of the access to funds from family members and friends, including the amount of gifts the household has received and given, the family size, and the number of family members and friends that are potential lenders. The amount of gifts received and given ranges from zero to 200,500 RMB with an average of 3,689 RMB. Table 2 shows that the family size, or rather, the number of family

¹⁰ In the survey questionnaire, the following items are included as durable goods: vehicle; tractor; motor or electro tricycle; other transportation tool; pump; other agriculture machine; motorcycle; electro bicycle; color TV; refrigerator; wash machine; computer; mobile phone; air conditioning; microwave oven; induction cooker; water heater; video recorder; audio system. Following the literature on depreciation rate of physical capital (0.106 by Bischoff and Kokkelenberg (1987); 0.126 by Epstein and Denny (1980); 0.100 by Ping et al. (2012)), we use an annual depreciation rate of ten percent calculated in a compound style from the initial purchase year to year 2008. We assume that all durable goods at the end of 2008 were purchased in the initial purchase year. As durable goods may be purchased after the initial purchase year and the purchase price is often increasing over the years, we are estimating a lower bound for the wealth of households at the end of 2008 in the above. In contrast, we can calculate an upper bound value of household wealth by treating all durable goods at the end of 2008 with the purchasing price at 2009 (current price) without any depreciation. Similarly, we can also estimate household wealth at the startup year of the microenterprises.

¹¹ The exchange rate on Dec 31st 2008 was 6.82 RMB / USD. Source: *Industrial and Commercial Bank of China* <http://www.icbc.com.cn>

members, ranges from one to eleven with an average of 4.12. The number of family members and friends that are potential lenders ranges from zero to 200 with an average of 6.98.

As households' ability to access informal and formal sources of finance might be correlated with other family head characteristics, the relationship between access to finance and the decision to establish an enterprise and its growth might be spurious when ignoring these characteristics. Liu (2005) shows that the *Hukou* registration (registered as urban / rural citizens) is related with the career choice, i.e. rural citizens are less likely to work in the state sector jobs, and more likely to be self-employed. Li et al. (2008) show that the communist party membership can help private entrepreneurs obtain bank loans and further enhance firm performance in China. Age, education and gender are often related with human capital (Becker, 1993), which may also affect the behavior of microenterprises in rural China. We therefore control for an array of family head characteristics, which include *Hukou* registration, age, high school education or above, communist party membership, and gender of family head. Specifically, six percent of family heads have an urban *Hukou* registration; the average age is 49.50 years; twelve percent have an education of high school or above; ten percent have communist party membership; and seven percent of household heads are females.

Village characteristics might also be important for the decision to become an entrepreneur. Fan et al. (2004) show that increased government investment in infrastructure may reduce rural poverty by creating improved employment opportunities in the nonfarm sector in China. As a result, we also control for an array of village characteristics, including access to running water, arable land per capita, and access to bus service in the village. Table 2 shows that 69 percent of villages have access to running water service; the average arable land per capita in the village is 0.92 *Mu* (about 0.15 *Acre*); and 39 percent of villages have access to bus service.

Using this household survey, this paper tests several hypotheses related to microenterprises' access to different financing sources. Firstly, we gauge the extent to which the decision to establish a microenterprise (i.e. entrepreneurship) is associated with access to informal and formal financing sources. As initial investments for the microenterprises often surpass self-owned funds, households need to borrow additional funds from informal or formal sources. Access to finance may enhance the decision to become entrepreneurs in rural areas by providing supplementary funds for initial investments for microenterprises.

We use the following probit model to test the hypothesis on the entrepreneurship and the access to finance:

$$\begin{aligned}
 Microenterprise_{i,j,k} = & \alpha_0 + \alpha_1 Hukou\ Urban_i + \alpha_2 Head\ Age_i + \alpha_3 Political\ Connection_i \\
 & + \alpha_4 Senior\ Education_i + \alpha_5 Female_i + \alpha_6 Durable\ Goods_i + \alpha_7 Travel\ Time\ to\ Financial\ Institution_i \\
 & + \alpha_8 Family\ and\ Friends\ as\ Potential\ Lenders_i + \alpha_9 Gift_i + \alpha_{10} Family\ Size_i + \alpha_{11} Running\ Water_j \\
 & + \alpha_{12} Land\ Per\ Capita\ in\ the\ Village_j + \alpha_{13} Bus_j + \theta_k County\ Dummies_k + \epsilon_i
 \end{aligned}
 \tag{1}$$

where i stands for a household, j for village, and k for county and *Microenterprise* equals 1 if a household has a microenterprise, 0 otherwise. On the right hand side, we have three categories of variables: family head characteristics (*Hukou Urban*, *Head Age*, *Political Connection*, *Senior Education*, and *Female*), family characteristics (*Durable Goods*, *Travel Time to Financial Institution*, *Family Members and Friends as Potential Lenders*, *Gift*, and *Family Size*), and village characteristics (*Running Water*, *Land Per Capita in the Village*, and *Bus*). The county dummies control for other important cultural and socio-economic differences across counties and provinces that are not captured by the village-level variables.

ϵ_i is the heteroskedasticity robust error term. Given the binary nature of the dependent variable, *Microenterprise*, the regressions are run with the probit model.

Secondly, we relate the size of the initial investment to access to informal and formal financing sources. While initial investments mainly depend on the industry of microenterprises, access to finance may also affect their size. We use the following OLS regression model:

$$\begin{aligned} \text{Initial Investment}_{i,j,k,l} = & \beta_0 + \beta_1 \text{Hukou Urban}_i + \beta_2 \text{Head Age}_i + \beta_3 \text{Political Connection}_i \\ & + \beta_4 \text{Senior Education}_i + \beta_5 \text{Female}_i + \beta_6 \text{Durable Goods}_i + \beta_7 \text{Travel Time to Financial Institution}_i \\ & + \beta_8 \text{Family and Friends as Potential Lenders}_i + \beta_9 \text{Gift}_i + \beta_{10} \text{Family Size}_i \\ & + \beta_{11} \text{Competitors at Start Year}_j + \beta_{12} \text{Running Water}_j + \beta_{13} \text{Land Per Capita in the Village}_j + \\ & \beta_{14} \text{Bus}_j + \theta_k \text{County Dummies}_k + \varphi_l \text{Industry Dummies}_l + \mu_i \end{aligned}$$

(2)

where l denotes industries. *Initial Investment* is the logarithm of 1 plus the amount of initial investment in RMB at the startup year of a microenterprise. By using logs, we can interpret the coefficient estimates as elasticities. In addition to all family head characteristics, family characteristics, and village characteristics in equation (1), we add a village-level variable to the initial investment equation (2), *Competitors at Startup Year*. We also include county and industry specific fixed effects, thus controlling for different investment levels across different counties and, critically, across different industries.

Finally, access to finance may also be related to the growth of microenterprises after the startup year. Microenterprises with employees may have more investment if they have access to finance (both informal and formal financing sources) and consequently a higher growth rate. However, those without employees may be run for subsistence purpose, and

never grow even with sufficient access to finance. Following Ayyagari et al. (2010) and Beck et al. (2005), we gauge whether firms' sales growth is associated with the access to informal and formal financing sources. To test this hypothesis we utilize the following OLS regression:

$$\begin{aligned} Sales\ Growth\ Rate_{i,j,k,l} = & \tau_0 + \tau_1 Finance_i + \tau_2 Finance_i \times Self - Employed_i + \tau_3 Self - Employed_i \\ & + \tau_4 Firm\ Size_i + \tau_5 Firm\ Age_i + \theta_k County\ Dummies_k + \varphi_l Industry\ Dummies_l + \epsilon_i \end{aligned}$$

(3)

The growth of microenterprise is measured by annual sales growth rate during 2007-2008; *Finance* includes a set of variables indicating the use of informal or formal finance; *Self-Employed* is equals one if there are no employees except for the entrepreneur himself / herself. We include the same set of control variables as in previous models, plus several firm characteristics, including *Firm Size* – measured as the logarithm of 1 plus the sales in 2007 – and *Firm Age* – measured as the logarithm of the number of years since start-up. As before, county and industry dummies are included in equation (3) to control for growth differences across counties and industries, orthogonal to the decisions of the individual microenterprises.

Table 3 shows the correlation coefficients between the variables. Panel A shows the correlation coefficients for all households, while Panel B shows the subsample results for the households with microenterprises. Panel A shows that households with more wealth in durable goods, higher amounts of gifts received and given, larger family size, and those with a head having urban *Hukou* registration and high school or above education, are more likely to start a microenterprise. In contrast, households located far away from formal financial institutions, residing in villages without access to running water and bus service, lower arable land per capita, and those with an older or female head are less likely to start a microenterprise. Panel B shows that all finance variables are positively correlated with sales growth except the use of informal finance in the startup year, although all correlation

coefficients are statistically insignificant. In addition, all finance variables at startup year are statistically positively, while self-employed is negatively associated with the size of initial investment. Besides, firm size and age are negatively associated with the sales growth rate, which is consistent with stylized facts (Clementi and Hopenhayn, 2006).

[Table 3 here]

4. RESULTS

This section presents our regressions results. We first gauge the relationship between access to informal and formal financial sources and the decision to become entrepreneur, initial investment and actual use of informal and formal external finance. We then relate the use of informal and formal external finance to firm growth. It is important to stress that we document correlations rather than implying causality with our regressions.

4.1 Finance, entrepreneurship and initial investment

Table 4 shows that our proxies for access to both informal and formal financial sources are significantly associated with the likelihood of running a microenterprise. Here we present Probit regressions for co-variates of entrepreneurship. Column (1) presents a regression with characteristics of the family head; column (2) adds family characteristics that proxy for access to financial services; column (3) adds village characteristics; column 4 restricts the

model specification in column 2 to the sample that is used in column (3) to account for the potential sample selection problem. Given data constraints, the number of observations varies across the three columns, though our findings are robust to this variation.¹²

[Table 4 here]

Columns (2) – (4) show that the travel time to the nearest financial institution is negatively related with the likelihood of running a microenterprise. Specifically, a ten percent lower travel time to the nearest financial institution is associated with a six percent higher likelihood of running a microenterprise. Wealth, as measured by durable goods, is positively associated with the likelihood of running a microenterprise, with a ten percent increase in wealth associated with a one percent increase in the likelihood. Household wealth can be seen as both a proxy for internal financing capacity of microenterprises as well as for possible collateral to receive outside informal or formal funding. The size of the family also enters positively and significantly, suggesting that access to more family members for possible funding or other support (e.g. labor) increases the likelihood that households run their own microenterprises. On the other hand, the number of family members and friends as potential lenders is not significantly associated with the likelihood of running a microenterprise. Similarly, gifts received and given enters only weakly significant (at most at the ten percent level) with a positive sign. Together, these results suggest that access to both formal (financial institutions) and informal sources (family members) as well as own funds (household wealth) are important for the decision to start a microenterprise in China.

¹² In robustness tests, we run the regression for column (1) with a restricted sample of columns (2) and (3), and for column (2) with a restricted sample of column (3). The results are similar both in magnitude and significance. We also conduct the same robustness checks for Table 5, and the results are quite similar. We suppress the results for conciseness, but they are available upon request.

Turning to the control variables, we note that – not surprisingly – households in urban areas (i.e. family heads with urban *Hukou* registration) are more likely to run a microenterprise. Among the other characteristics of the family, only age enters consistently across the regression with a significantly negative coefficient; families with older family heads are less likely to run a microenterprise. Families whose heads have education levels of high school or above are more likely to run microenterprises, although the coefficient is not significant in columns (2) – (4) when we control for family and village characteristics. Families whose heads are female are six to seven percent less likely to run microenterprises, although the coefficient enters at most at the ten percent significance level. Party membership and thus political connection cannot explain whether a household has a microenterprise or not.

Among the village variables, only the dummy variable indicating bus service enters positively and significantly. Neither access to running water nor the average arable land per capita is significantly correlated with the probability of running a microenterprise.

The regressions in Table 5 show that access to informal and formal financial services is also important for the size of the initial investment for the microenterprises. Column (1) presents a regression with characteristics of the family head; column (2) adds family characteristics that proxy for the access to financial services; column (3) adds village characteristics; column 4 restricts the model specification in column 2 to the sample that is used in column (3) to account for the potential sample selection problem.

[Table 5 here]

Here, we use OLS regressions to relate family head, family and village characteristics to the size of the initial investment in a microenterprise. Starting with the regressions in this table, we now work with the smaller sample of micro-entrepreneurs. The results suggest that

the size of the initial investment increases with the wealth of the household, as measured by durable goods, with the gifts that the family has received and given, and the size of the family. The size of the initial investment decreases with the distance to the nearest financial institution, while the number of family members and friends as potential lenders does not enter significantly. Interestingly and unlike in Table 4, none of the characteristics of the family head enters significantly. Among the village characteristics, the competition at the start of the enterprise, as measured by the log one plus the number of families with similar microenterprises in the village enters significantly and negatively, suggesting that households are investing less if there are already many other similar enterprises around, which could be both demand-driven in the product market (e.g. caution in investment decision) and supply-driven in financial market (e.g. caution by lenders). None of the other village characteristics enters significantly. As for the decision to establish or not a microenterprise, the size of the initial investment thus depends critically on the access to own funds, informal and formal external funds.

4.2 Finance and growth for microenterprises

The results in Table 6 show that the use of informal but not of formal external finance is related with higher firm growth, except for self-employed entrepreneurs. Here we use OLS regressions to relate the sales growth between 2007 and 2008 with the dummy variables indicating the use of formal or formal finance plus their interaction with a dummy variable for self-employed micro-entrepreneurs, i.e. entrepreneurs who do not have any employee from outside their immediate family. The results in column (1) of Table 6 shows that the use

of informal finance is associated with faster firm growth in the case of multiple-employee firms, while the results in column (2) show that the use of formal finance is not related to firm growth. Both the informal finance dummy and its interaction with self-employed dummy enter significantly, with coefficients that are of similar size but of opposite sign (column (1)). This suggests that the use of informal external resources help enterprises grow, but only if they have employees outside the immediate family. Neither the formal finance dummy nor its interaction with self-employed dummy enter significantly (column (2)), while the combination of formal / informal external finance dummy enters positively and significantly and its interaction with self-employed dummy enters negatively but only marginally significant (P-value is 0.124 in column (3)). We get similar results in columns (4) – (6) when controlling for family head characteristics.¹³ The P-value of the interaction for informal finance dummy and self-employed dummy is 0.148 in column (4), and the P-value of the interaction for finance dummy and self-employed dummy is 0.229 in column (6). Besides, we also find similar results in columns (7) – (9) when controlling for village characteristics, where both the coefficients for informal finance dummy and its interaction with self-employed dummy are statistically significant.

[Table 6 here]

The results are not only statistically, but also economically significant. Using informal finance in the case of multiple-employee enterprises is associated with 17 percent higher growth, which compares to a mean growth rate of six percent and a standard deviation of 37 percent. In contrast with Ayyagari et al. (2010), we find that informal finance may enhance

¹³ We also run the regression when controlling for family characteristics, i.e. Durable Goods, Travel Time to Financial Institution, Family and Friends as Potential Lenders, Gift, and Family Size. We find similar results with a slight difference in magnitude and significance. The same case applies to Table 8 when we use loan size as finance variables. The results are suppressed for conciseness but are available upon request.

the growth of firms with employees while formal finance is irrelevant for the growth of all firms. It is important to note the difference in samples, however. Ayyagari et al. (2010) use a sample of relatively larger firms with a minimum of 20 (15) employees in the manufacturing (service) industry, of which 22% are state-owned and 40% are registered as corporations. In contrast, 70% of our sample firms are self-employed microenterprises (i.e. without employees), while only 12 firms have more than 20 employees (see footnote 1). In addition, all microenterprises are privately owned and registered as household-based enterprises (i.e. the so-called “*individually-owned business*”). The behavior of microenterprises is essentially different with the SMEs and large firms, which may explain the conflicting results with Ayyagari et al. (2010).

The results in Table 7 confirm our previous findings that informal financing is associated with faster growth of enterprises with non-family employees, while formal finance is not. Rather than dummy variables for the use of informal and formal finance, here we use the logarithm of one plus total informal, total formal and total external financing, as well as their interaction with a self-employed dummy. While the amount of total informal financing enters positively and significantly, its interaction with the self-employed dummy enters negatively and marginally significantly (P-value is 0.106 in column (1)). We find the same results for the log of one plus total external financing and its interaction with the self-employed dummy (P-value is 0.228 in column (3)), while neither the amount of formal financing nor its interaction with the self-employed dummy enter significantly in our regression (column (2)). We find similar results in columns (4) – (6) when controlling for family head characteristics, although the sign of informal finance in column (4) turns insignificant (P-value is 0.105). Furthermore, we find similar results when controlling for

village characteristics in columns (7) – (9) with a slight difference in magnitude and significance.

[Table 7 here]

Together, the results in Tables 6 and 7 suggest that growth of microenterprises in rural China can be mainly explained by the use of informal external finance, but not by the use of formal external finance. These results stand in contrast to our findings from the previous section that access to both informal and formal finance can explain whether households start their own enterprise. They suggest an important advantage for informal financial service providers in screening and monitoring creditworthy micro-entrepreneurs, while they shed doubt on the ability of formal financial institutions in rural China, especially Rural Credit Cooperatives, to contribute to firm growth. They underline the important role of informal finance in the presence of regulatory restrictions on formal financial institutions.

While we find that the access to formal finance (i.e. distance to the nearest financial institution) is positively associated with the decision to become an entrepreneur and the size of the initial investment, we do not find any significant effect of the use of formal finance (i.e. loans outstanding from banks and credit cooperatives) on the growth of microenterprises. One potential reason is that households may be severely constrained in obtaining finance at the start-up year for the microenterprises, which makes the access to finance (i.e. both informal and formal finance) essential for the decision to become an entrepreneur. Banks may turn out be to inefficient lenders with the expansion of microenterprises (e.g. due to information asymmetry and connected borrowers), while informal financial providers fill in the gap using their proprietary information. Another reason could be that banks lend to informal financial institutions, which further intermediate loans to borrowers (Hoff and Stiglitz, 1997). As a result, the access to formal finance is positively associated with the

access to informal finance (i.e. see panel A of Table 3 for the negative correlation between the travelling time to the nearest financial institution and the number of family members and friends as potential lenders) and the use of informal finance (i.e. the results are suppressed for brevity). Thus, the access to formal finance may enhance the start-up decision of microenterprises and the size of initial investment. Finally, the access to formal finance may proxy the access to markets in general, i.e. the distance to the nearest financial institution is often correlated with the distance to the major markets, which may enhance the decision to become entrepreneurs and the size of initial investment. In sum, the access to formal finance is different with the use of formal finance, which may lead to diverging results among the start-up decision, the initial investment, and the subsequent growth of microenterprises.

4.3 Additional Results and RobustnessTest

Informal finance comprises different financing sources, e.g. family members and friends, informal financial institutions, and trade credits. Thus we split the informal finance into three categories. Table 8 shows the results for different informal financing sources. Informal financing from family members and friends is positively associated with the sales growth of microenterprises with employees in Model (1), (4) and (7) of Table 8 (i.e. marginally significant in Model (4)), while not for those self-employed. However, we do not find any significant effect of trade credit for either microenterprises with employees or those self-employed. Furthermore, we cannot precisely estimate the effect of informal financial institutions on those self-employed due to insufficient variations of the data (i.e. only three percent have loans from informal financial institutions), while we do not find any effect on the microenterprises with employees either. In sum, it seems that informal financing from family members and friends seem to the main driver for the enhancing effect.

[Table 8 here]

Our findings hold when we limit the sample to registered microenterprises. There is a special registration type of microenterprises in China, the “*getihu*” (literally translated as *individual industrial and commercial households*). Microenterprises registered as “*getihu*” must have less than eight employees, otherwise they have to be registered as other firm types. We obtain a subsample of “*getihu*” by restricting to the microenterprises with less than eight employees which are qualified to be registered as “*getihu*” (i.e. but may also be registered as other firm types). 312 out of 335 firms are registered as “*getihu*”. Table 9 shows the results when we use the subsample of “*getihu*”. We find qualitatively similar results for the informal finance in Model (7), although Model (1) and (4) are only marginally significant. However, model (2) of Table 9 shows that formal finance is positively associated with the growth of the “*getihu*” with employees, while not for those self-employed “*getihu*”. Formal finance does not enhance the microenterprises with eight or more employees due to inefficient bank loans in China (Bailey et al., 2011); neither does for those self-employed due to a lack of incentive of entrepreneurs for expansion.

[Table 9 here]

5. CONCLUSION

The effect of access to finance on entrepreneurship and microenterprise growth is of vital importance for poverty reduction and economic growth in developing countries. Using a survey dataset on Chinese rural households, we find that access to finance is positively

associated with the decision to start microenterprises and with the size of initial investment. In addition, we find that the use of informal finance is associated with higher growth of rural microenterprises with employees, while there is no effect for those without (i.e. self-employed). We do not find any significant relationship between the use of formal finance and firm growth. In addition, we find that the relationship between informal finance and firms' growth is driven by funding through friends and family.

Our findings are complementary to the literature on the relationship between informal and formal finance and firm growth in China. Unlike previous papers we focus on rural China and micro- or household-based entrepreneurs. Our findings provide important insights into the relative importance of different financial service providers in rural China. They confirm previous evidence on the dearth and inefficiency of formal financial institution in rural China and point to the important role of informal financial service providers in filling the gap left by banks and credit cooperatives.

China's government has been actively pushing for the development of rural areas and non-export domestic sectors. Our findings point to the important role that access to financial services should have on this agenda. They point to the urgency of strengthening the contractual and regulatory frameworks for formal financial institutions in rural areas. The formal financial institutions have not played a proper supporting role in rural China since the retreat of branches in the mid-1990s. There are a number of things that the financial institutions and government should do in order to promote the development of microenterprises and poverty reduction in rural China. Increasing the competition in the credit market, for example, may be a solution (Chong et al., 2013; Park et al., 2003). On the one hand, a fiercer credit market competition can drive banks and credit cooperatives to expand the borrower set through more investment in relationship lending (in a similar style as

informal financial institutions), which may help pick those “good” borrowers in the rural area (i.e. those households running microenterprises with external employees). On the other hand, it may also push these financial institutions to provide better service for existing borrowers, i.e. simpler loan applications procedures, faster loan approval process, and less corruption of loan officers. While it is infeasible to eliminate the informal finance, the formal financial institutions may utilize its cost advantage (i.e. lower interest rate than informal finance) to provide complementary funding for those rural households in shortage of fund.

References

- Agarwal, Sumit, and Robert Hauswald (2010). Distance and Private Information in Lending, *The Review of Financial Studies* 23(7), 2757-2788.
- Allen, Franklin, Qian, Jun, and Meijun Qian (2005). Law, Finance and Economic Growth in China, *Journal of Financial Economics* 77, 57-116.
- Ayyagari, Meghana, Demirgüç-Kunt, Asli, and Vojislav Maksimovic (2008). How Important Are Financing Constraints? The Role of Finance in the Business Environment, *World Bank Economic Review* 22 (3), 483-516.
- Ayyagari, Meghana, Demirgüç-Kunt, Asli, and Vojislav Maksimovic (2010). Formal versus Informal Finance: Evidence from China, *The Review of Financial Studies* 23(8), 3048-3097.
- Ayyagari, Meghana, Demirguc-Kunt, Asli, and Vojislav Maksimovic (2011). Firm Innovation in Emerging Markets: The Role of Finance, Governance, and Competition. *Journal of Financial and Quantitative Analysis* 46(6), 1545-80.
- Bailey, Warren, Huang, Wei, and Zhishu Yang (2011). Bank Loans with Chinese Characteristics: Some Evidence on Inside Debt in a State-Controlled Banking System, *Journal of Financial and Quantitative Analysis* 46(6), 1795–1830.
- Banerjee, Abhijit, Duflo, Esther, Glennerster, Rachel, and Cynthia Kinnan (2013). The Miracle of Microfinance? Evidence from a Randomized Evaluation, *NBER Working Paper* 18950.
- Beck, Thorsten, Demirgüç-Kunt, Asli, and Vojislav Maksimovic (2005). Financial and Legal Constraints to Growth: Does Firm Size Matter? *The Journal of Finance* 60(1), 137-177.

Beck, Thorsten, Lin, Chen, and Yue Ma, Forthcoming (Forthcoming). Why Do Firms Evade Taxes? The Role of Information Sharing and Financial Sector Outreach, *Journal of Finance*, In Press.

Becker, Gary S. (1993). Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education, *Chicago: The University of Chicago Press*.

Besley, Timothy, and Alec R. Levenson (1996). The Role of Informal Finance in Household Capital Accumulation: Evidence from Taiwan, *The Economic Journal* 106(434), 39-59.

Bischoff, Charles W., and Edward C. Kokkelenberg (1987). Capacity Utilization and Depreciation-In-Use, *Applied Economics* 19(8), 995-1007.

Bose, Pinaki (1998). Formal-Informal Sector Interaction in Rural Credit Markets, *Journal of Development Economics* 56, 265-280.

Cheng, Xiaoqiang, and Hans Degryse (2010). The Impact of Bank and Non-Bank Financial Institutions on Local Economic Growth in China, *Journal of Financial Services Research* 37, 179-199.

Chong, Terence Tai-Leung, Lu, Liping, and Steven Ongena (2013). Does Banking Competition Alleviate or Worsen Credit Constraints Faced by Small and Medium Enterprises? Evidence from China, *Journal of Banking and Finance* 37(9), 3412-3424.

Clementi, Gian Luca, and Hugo A. Hopenhayn (2006). A Theory of Financing Constraints and Firm Dynamics, *The Quarterly Journal of Economics*, 121(1), 229-265.

Crepon, Bruno, Florencia Devoto, Duflo, Esther, and William Parente (2011). Impact of Microcredit in Rural Areas of Morocco: Evidence from a Randomized Evaluation, *Working Paper*.

De Mel, Suresh, McKenzie, David, and Christopher Woodruff (2008). Returns to Capital in Microenterprises: Evidence from a Field Experiment, *The Quarterly Journal of Economics* 123(4), 1329-1372.

Degryse, Hans, Lu, Liping, and Steven Ongena (2013). Informal or Formal Financing? Or Both? First Evidence on the Co-Funding of Chinese Firms, *Working Paper*.

Demirgüç-Kunt, Asli, Klapper, Leora F., and Georgios A. Panos (2011). Entrepreneurship in Post-Conflict Transition, *Economics of Transition* 19(1), 27-78.

Epstein, Larry G., and Michael Denny (1980). Endogenous Capital Utilization in a Short-Run Production Model: Theory and an Empirical Application, *Journal of Econometrics* 12(2), 189-207.

Guiso, Luigi, Sapienza, Paola, and Luigi Zingales (2004). Does Local Financial Development Matter? *The Quarterly Journal of Economics* 119(3), 929-969.

Fan, Shenggen, Zhang, Linxiu, and Xiaobo Zhang (2004). Reforms, Investment, and Poverty in Rural China, *Economic Development and Cultural Change* 52(2), 395-421.

Hoff, Karla, and Joseph E. Stiglitz (1997). Moneylenders and Bankers: Price-increasing Subsidies in a Monopolistically Competitive Market, *Journal of Development Economics* 52, 429-462.

Jain, Sanjay (1999). Symbiosis vs. Crowding-Out: the Interaction of Formal and Informal Credit Markets in Developing Countries, *Journal of Development Economics* 59, 419-444.

Jin, Hehui, and Yingyi Qian (1998). Public Versus Private Ownership of Firms: Evidence from Rural China, *The Quarterly Journal of Economics* 113 (3), 773-808.

Karlan, Dean, and Jonathan Morduch (2010). Access to Finance, *Handbook of Development Economics* 5, Edited by Dani Rodrik and Mark Rosenzweig, Amsterdam: North Holland Publishing Company.

Karlan, Dean, and Jonathan Zinman (2011). Microcredit in Theory and Practice: Using Randomized Credit Scoring for Impact Evaluation, *Science* 332, 1278-84.

Li, Hongbin, Meng, Lingsheng, Wang, Qian, and Li-An Zhou (2008). Political Connections, Financing and Firm Performance: Evidence from Chinese Private Firms, *Journal of Development Economics* 87(2), 283-299.

Liu, Zhiqiang (2005). Institution and Inequality: the Hukou System in China, *Journal of Comparative Economics* 33(1), 133-15.

Ma, Guangrong, and Enyan Yang (2011). Social Networks, Informal Finance and Entrepreneurship, *Economic Research Journal* (in Chinese, *Jinji Yanjiu*) 2011-3, 83-94.

Park, Albert, Brandt, Loren, and John Giles (2003). Competition under Credit Rationing: Theory and Evidence from Rural China, *Journal of Development Economics* 71, 463-495.

Ping, Xinqiao, Zhang, Haiyang, Hao, Chaoyan, and Shuang Liang (2012). The Origins of Financial Constraints in the Rural Area (Nong Cun Jin Rong Yue Shu De Xing Cheng Yuan Yin Tan Jiu), *Economic Perspectives* 4 (in Chinese), 10-14.

Robb, Alicia M., and David T. Robinson (2012). The Capital Structure Decisions of Startup Firms, *The Review of Financial Studies* 1(1), 1-27.

Tsai, Kellee S. (2004). Imperfect Substitutes: The Local Political Economy of Informal Finance and Microfinance in Rural China and India, *World Development* 32(9), 1487-1507.

Tsai, Kellee S. (2002). *Back-Alley Banking: Private Entrepreneurs in China*, *Cornell University Press*, Ithaca, N.Y.

Xie, Ping (2003). Reforms of China's Rural Credit Cooperatives and Policy Options, *China Economic Review* 14(4), 434-442.

Zhang, Xuecun, Xu, Zhong, and Duo Qin, 2013, The Interest Rate of Informal Finance and Its Prospect: A Case Study in the City of Wenzhou, *Working Paper* (in Chinese).

Table 1. Variable definitions

Category	Variable Name	Variable Definitions
Dependent Variable	Microenterprise	= 1 if a family has a microenterprise, 0 otherwise
	Sales Growth 2008	= $\log(\text{sales in 2008}) - \log(\text{sales in 2007})$
	Initial Investment	The logarithm of 1 plus the initial investment of a microenterprise in RMB
Family Head Characteristics	Hukou Urban	= 1 if the family head has an urban Hukou registration, 0 otherwise
	Head Age	The logarithm of the age of family head at a firm's start year
	Senior Education	= 1 if the family head has a high school, college or higher education
	Political Connection	= 1 if the family head is a party member, 0 otherwise
	Female	= 1 if the family head is female, 0 otherwise
Family Characteristics	Durable Goods	The logarithm of 1 plus the value of durable goods, calculated with an annual depreciation rate of ten percent
	Travel Time to Financial Institution	The logarithm of 1 plus the travel time from the household to the nearest financial institutions in minutes
	Family Members and Friends as Potential Lenders	The logarithm of 1 plus the number of family members and friends who are potential lenders
	Gift	The logarithm of 1 plus the gift received and given in 2008
	Family Size	The number of family members
Village Characteristics	Running Water	= 1 if a village has running water, 0 otherwise
	Land Per Capita in the Village	Land Per Capita in the Village is the average arable land per capita in a village
	Bus	= 1 if a village has bus service, 0 otherwise
Firm-Level Variable	Informal Finance	Loans outstanding from family members, friends, informal financial institutions, trade credit, and others in 2008 year end
	Formal Finance	Loans outstanding from banks and credit cooperatives in 2008 year end
	Total Finance	The summation of Formal Finance and Informal Finance in 2008 year end
	Informal Finance at Start Year	Loans outstanding from family members, friends, informal financial institutions, and others at a firm's start year
	Formal Finance at Start Year	Loans outstanding from banks and credit cooperatives at firm's start year
	Informal	= 1 if Informal Finance is positive, 0 otherwise
	Formal	= 1 if Formal Finance is positive, 0 otherwise
	Finance	= 1 if Total Finance is positive, 0 otherwise
	Informal at Start Year	= 1 if Informal Finance at Start Year is positive, 0 otherwise
	Formal at Start Year	= 1 if Formal Finance at Start Year is positive, 0 otherwise
	Finance at Start Year	= 1 if either Informal Finance at Start Year or Formal Finance at Start Year is positive, 0 otherwise
	Family and Friends	= 1 if loans from family members and friends are positive, 0 otherwise
	Informal Financial Institution	= 1 if loans from informal financial institution are positive, 0 otherwise
	Trade Credits	= 1 if trade credits from suppliers are positive, 0 otherwise
	Self-Employed	= 1 if a microenterprise does not have other employees excluding the entrepreneur himself / herself, 0 otherwise
	Firm Size	The logarithm of 1 plus the sales in 2007
	Firm Age	The logarithm of the number of years since the startup of a microenterprise
	Competitor at Start Year	The number of competitors in the same village at a firm's start year

Table 2. Summary statistics

Microenterprise equals 1 if a family has a microenterprise, 0 otherwise. Hukou Urban equals 1 if a family head has an urban Hukou registration, 0 otherwise; Head Age is the logarithm of a family head's age; Senior Education equals 1 if a family head has an education of high school or above, 0 otherwise; Political Connection equals 1 if a family head is party member, 0 otherwise; Female equals 1 if a family head is female, 0 otherwise; Durable Goods is the logarithm of 1 plus the value of durable goods; Travel Time to Financial Institution is the logarithm of 1 plus the travel time in minutes from a family to the nearest financial institution; Family Members and Friends as Potential Lenders is the logarithm of 1 plus the number of family members and friends who are potential lenders; Gift is the logarithm of 1 plus the gift received and given in 2008; Family Size is the number of family members; Running Water equals 1 if a village has running water service; Land Per Capita in the Village is the average arable land per capita in a village; Bus equals 1 if a village has bus service, 0 otherwise. Sales Growth 2008 is the annual sales growth rate calculated as log difference between sales in 2008 and sales in 2007; Initial Investment is the logarithm of 1 plus the initial investment in the startup year of a microenterprise in RMB; Informal equals 1 if the microenterprise has informal finance at the end of 2008, 0 otherwise; Formal equals 1 if a microenterprise has formal finance at the end of 2008, 0 otherwise; Finance equals 1 if a microenterprise has either informal or formal finance at the end of 2008, 0 otherwise; Informal at Start Year equals 1 if a microenterprise has informal finance at start year, 0 otherwise; Formal at Start Year equals 1 if a microenterprise has formal finance at start year, 0 otherwise; Finance at Start Year equals 1 if a microenterprise has either informal or formal finance at start year, 0 otherwise; Informal Finance Size equals the logarithm of 1 plus informal finance at the end of 2008 are positive; Formal Finance Size equals the logarithm of 1 plus formal finance at the end of 2008 are positive; Finance Size equals the logarithm of 1 plus the informal and formal finance; Family and Friends equals 1 if a microenterprise has loans from family member or friends at the end of 2008, 0 otherwise; Informal Financial Institution equals 1 if a microenterprise has loans from informal financial institutions at the end of 2008, 0 otherwise; Trade credit equals 1 if a microenterprise has trade credit from their suppliers, 0 otherwise; Self-Employed equals 1 if a microenterprise does not have other employees excluding the entrepreneur himself / herself, 0 otherwise; Firm Size is the logarithm of 1 plus the sales in 2007; Firm Age is the logarithm of the number of years since firm startup.

Category	Variable Name	N	Mean	Median	Std. Dev	Min	P25	P75	Max
All Households	Microenterprise	1,949	0.27	0.00	0.45	0.00	0.00	1.00	1.00
	Hukou Urban	1,949	0.06	0.00	0.24	0.00	0.00	0.00	1.00
	Head Age	1,946	3.87	3.89	0.26	0.00	3.71	4.06	4.45
	Senior Education	1,942	0.12	0.00	0.32	0.00	0.00	0.00	1.00
	Political Connection	1,948	0.10	0.00	0.30	0.00	0.00	0.00	1.00
	Female	1,946	0.07	0.00	0.25	0.00	0.00	0.00	1.00
	Durable Goods	1,950	5.23	7.03	3.89	0.00	0.00	8.37	13.30
	Travel Time to Financial Institution	1,913	2.62	2.40	0.85	0.00	1.79	3.04	5.48
	Family Members and Friends as Potential Lenders	1,820	1.62	1.61	0.93	0.00	1.10	2.20	5.30
	Gift	1,891	6.22	7.31	3.16	0.00	5.99	8.16	12.23
	Family Size	1,949	4.12	4.00	1.51	1.00	3.00	5.00	11.00
	Running Water	1,915	0.69	1.00	0.46	0.00	0.00	1.00	1.00
	Land Per Capita in the Village	1,851	0.92	0.69	0.63	0.00	0.47	1.39	2.53
	Bus	1,898	0.39	0.00	0.49	0.00	0.00	1.00	1.00
Microenterprises	Sales Growth 2008	344	0.06	0.00	0.37	-2.17	0.00	0.13	2.48
	Initial Investment	502	8.39	9.21	3.41	0.00	7.24	10.60	14.51
	Informal	512	0.19	0.00	0.39	0.00	0.00	0.00	1.00
	Formal	513	0.12	0.00	0.32	0.00	0.00	0.00	1.00
	Finance	511	0.26	0.00	0.44	0.00	0.00	1.00	1.00
	Informal at Start Year	515	0.39	0.00	0.49	0.00	0.00	1.00	1.00

Formal at Start Year	517	0.16	0.00	0.37	0.00	0.00	0.00	1.00
Finance at Start Year	515	0.49	0.00	0.50	0.00	0.00	1.00	1.00
Informal Finance Size	512	1.87	0.00	3.93	0.00	0.00	0.00	12.85
Formal Finance Size	513	1.20	0.00	3.33	0.00	0.00	0.00	13.12
Finance Size	511	2.63	0.00	4.51	0.00	0.00	7.60	13.30
Family and Friends	513	0.17	0.00	0.37	0.00	0.00	0.00	1.00
Informal Financial Institution	527	0.03	0.00	0.16	0.00	0.00	0.00	1.00
Trade Credits	527	0.05	0.00	0.21	0.00	0.00	0.00	1.00
Self-Employed	531	0.70	1.00	0.46	0.00	0.00	1.00	1.00
Firm Size	386	8.99	9.68	3.36	0.00	8.52	10.82	14.91
Firm Age	528	1.90	1.95	0.93	0.00	1.10	2.64	3.69
Competitor at Start Year	477	1.54	1.39	1.21	0.00	0.69	2.40	6.40

Table 3 Panel A. Correlation table for microenterprise. Microenterprise equals 1 if a family has a microenterprise, 0 otherwise; Initial Investment is the logarithm of 1 plus the initial investment in the startup year of a microenterprise in RMB; Hukou Urban equals 1 if a family head has an urban Hukou registration, 0 otherwise; Head Age is the logarithm of a family head's age; Senior Education equals 1 if a family head has an education of high school or above, 0 otherwise; Political Connection equals 1 if a family head is party member, 0 otherwise; Female equals 1 if a family head is female, 0 otherwise; Durable Goods is the logarithm of 1 plus the value of durable goods; Travel Time to Financial Institution is the logarithm of 1 plus the travel time in minutes from a family to the nearest financial institution; Family Members and Friends as Potential Lenders is the logarithm of 1 plus the number of family members and friends who are potential lenders; Gift is the logarithm of 1 plus the gift received and given in 2008; Family Size is the number of family members; Running Water equals 1 if a village has running water service; Land Per Capita in the Village is the average arable land per capita in a village; Bus equals 1 if a village has bus service, 0 otherwise. * Significance at 5% level.

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]
Microenterprise	[1]	1													
Initial Investment	[2]	–	1												
Hukou Urban	[3]	0.0582*	-0.0019	1											
Head Age	[4]	-0.1034*	-0.0203	0.0181	1										
Senior Education	[5]	0.0901*	0.1150*	0.1502*	-0.0701*	1									
Political Connection	[6]	0.0000	0.0250	0.0739*	0.1145*	0.1449*	1								
Female	[7]	-0.0530*	0.0173	0.0378	0.0418	-0.0423	-0.0375	1							
Durable Goods	[8]	0.1000*	0.4067*	0.0681*	-0.0711*	0.0951*	0.0360	-0.0423	1						
Travel Time to Financial Institution	[9]	-0.1267*	-0.2338*	-0.0677*	0.0274	-0.1187*	0.0027	0.0367	-0.1453*	1					
Family Members and Friends as Potential Lenders	[10]	0.0169	0.1022*	-0.0604*	-0.0612*	0.0393	0.0524*	-0.0694*	0.1837*	-0.0985*	1				
Gift	[11]	0.0939*	0.2286*	-0.0588*	0.0074	0.0777*	0.0501*	-0.0489*	0.1330*	-0.1465*	0.1256*	1			
Family Size	[12]	0.1430*	0.1205*	-0.1319*	-0.0490*	0.0253	0.0092	-0.0516*	0.1038*	0.0779*	0.0449	0.0334	1		
Running Water	[13]	-0.0748*	-0.0126	-0.0851*	-0.0024	0.0082	0.0113	0.0527*	-0.0209	-0.0928*	0.0035	-0.1167*	-0.0620*	1	
Land Per Person in the Village	[14]	-0.1356*	0.0910*	-0.0959*	-0.0285	-0.0165	-0.0510*	-0.0637*	0.1101*	-0.0815*	0.1060*	0.0544*	-0.2345*	0.0907*	1
Bus	[15]	-0.0498*	0.0878	-0.0440	-0.0100	-0.0072	0.0172	-0.0624*	0.2015*	-0.1936*	0.1260*	-0.0117	-0.1775*	0.2490*	0.5574*

Panel B. Correlation table for initial investment and sales growth. Initial Investment is the logarithm of 1 plus the initial investment in the startup year of a microenterprise in RMB; Sales Growth 2008 is the annual sales growth rate calculated as log difference between sales in 2008 and sales in 2007; Informal equals 1 if a microenterprise has informal finance at the end of 2008, 0 otherwise; Formal equals 1 if a microenterprise has formal finance at the end of 2008, 0 otherwise; Finance equals 1 if a microenterprise has either informal or formal finance at the end of 2008, 0 otherwise; Informal at Start Year equals 1 if a microenterprise has informal finance at start year, 0 otherwise; Formal at Start Year equals 1 if a microenterprise has formal finance at start year, 0 otherwise; Finance at Start Year equals 1 if a microenterprise has either informal or formal finance at start year, 0 otherwise; Self-Employed equals 1 if a microenterprise does not have other employees excluding the entrepreneur himself / herself, 0 otherwise; Firm Size is the logarithm of 1 plus the sales in 2007; Firm Age is the logarithm of the number of years since the startup of a microenterprise. * Significance at 5% level.

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Sales Growth 2008	[1]	1									
Initial Investment	[2]	0.0558	1								
Informal	[3]	0.0353	0.2429*	1							
Formal	[4]	0.0730	0.2054*	0.2113*	1						
Finance	[5]	0.0694	0.2972*	0.8203*	0.6182*	1					
Informal at Start Year	[6]	-0.0045	0.4385*	0.3153*	0.0605	0.2521*	1				
Formal at Start Year	[7]	0.0537	0.2887*	0.0893*	0.5293*	0.3355*	0.0174	1			
Finance at Start Year	[8]	0.0153	0.5164*	0.2776*	0.2826*	0.3752*	0.8241*	0.4513*	1		
Self-Employed	[9]	-0.0364	-0.1584*	-0.0618	-0.0822	-0.0709	-0.0764	-0.035	-0.0688	1	
Firm Size	[10]	-0.1343*	0.1356*	-0.0590	-0.0016	-0.0477	0.0353	0.0370	0.0687	-0.0511	1
Firm Age	[11]	-0.0853	-0.2615*	-0.0954*	-0.0967*	-0.1255*	-0.1260*	-0.1152*	-0.1572*	0.0222	0.3593*

Table 4. Probit regressions for microenterprise. Dependent variable is Microenterprise, which equals 1 if a family has a microenterprise, 0 otherwise. Hukou Urban equals 1 if a family head has an urban Hukou registration, 0 otherwise; Head Age is the logarithm of a family head's age; Senior Education equals 1 if a family head has an education of high school or above, 0 otherwise; Political Connection equals 1 if a family head is party member, 0 otherwise; Female equals 1 if a family head is female, 0 otherwise; Durable Goods is the logarithm of 1 plus the value of durable goods; Travel Time to Financial Institution is the logarithm of 1 plus the travel time in minutes from a family to the nearest financial institution; Family Members and Friends as Potential Lenders is the logarithm of 1 plus the number of family members and friends who are potential lenders; Gift is the logarithm of 1 plus the gift received and given in 2008; Family Size is the number of family members; Running Water equals 1 if a village has running water service; Land Per Capita in the Village is the average arable land per capita in a village; Bus equals 1 if a village has bus service, 0 otherwise. Marginal effects and Pseudo R-squared are reported. Column (4) restricts the specification of column (2) to the sample of column (3). All regressions include county dummies. Heteroskedasticity robust standard errors are in brackets, significance * at 10%, ** at 5%, *** at 1%.

Variable Category	Variable Name	(1)	(2)	(3)	(4)
Family Head Characteristics	Hukou Urban	0.118** [0.054]	0.136** [0.058]	0.122** [0.062]	0.115* [0.060]
	Head Age	-0.187*** [0.043]	-0.164*** [0.044]	-0.171*** [0.045]	-0.165*** [0.045]
	Senior Education	0.092*** [0.035]	0.048 [0.036]	0.060 [0.037]	0.060* [0.037]
	Political Connection	-0.016 [0.034]	-0.028 [0.035]	-0.030 [0.035]	-0.028 [0.035]
	Female	-0.072* [0.037]	-0.062 [0.039]	-0.068* [0.039]	-0.067* [0.039]
Family Characteristics	Durable Goods		0.008** [0.003]	0.009*** [0.003]	0.009*** [0.003]
	Travel Time to Financial Institution		-0.057*** [0.014]	-0.060*** [0.015]	-0.065*** [0.014]
	Family Members and Friends as Potential Lenders		-0.005 [0.012]	-0.004 [0.012]	-0.005 [0.012]
	Gift		0.007* [0.004]	0.006 [0.004]	0.006 [0.004]
	Family Size		0.035*** [0.008]	0.038*** [0.008]	0.038*** [0.008]
Village Characteristics	Running Water			0.029 [0.036]	
	Land Per Capita in the Village			-0.048 [0.034]	
	Bus			0.084* [0.045]	
	County Dummies	Yes	Yes	Yes	Yes
	Observations	1,933	1,720	1,639	1,639
	Pseudo R-squared	0.052	0.084	0.095	0.092

Table 5. OLS regressions for initial investment. Dependent variable is the logarithm of 1 plus the initial investment for the microenterprise in RMB. Hukou Urban equals 1 if a family head has an urban Hukou registration, 0 otherwise; Head Age is the logarithm of a family head's age; Senior Education equals 1 if a family head has an education of high school or above, 0 otherwise; Political Connection equals 1 if a family head is party member, 0 otherwise; Female equals 1 if a family head is female, 0 otherwise; Durable Goods is the logarithm of 1 plus the value of durable goods; Travel Time to Financial Institution is the logarithm of 1 plus travel time in minutes from a family to the nearest financial institution; Family Members and Friends as Potential Lenders is the logarithm of 1 plus the number of family members and friends who are potential lenders; Gift is the logarithm of 1 plus gift received and given in 2008; Family Size is the number of family members; Competitors at Start Year is the logarithm of 1 plus the number of families with similar microenterprises within a village; Running Water equals 1 if a village has running water service; Land Per Capita in the Village is the average arable land per capita in a village; Bus equals 1 if a village has bus service, 0 otherwise. Column (4) restricts the specification of column (2) to the sample of column (3). All regressions include county dummies. Heteroskedasticity robust standard errors are in brackets, significance * at 10%, ** at 5%, *** at 1%.

		(1)	(2)	(3)	(4)
Family Head Characteristics	Hukou Urban	-0.030 [0.652]	-0.131 [0.669]	0.519 [0.708]	0.563 [0.690]
	Head Age	-0.239 [0.668]	-0.096 [0.671]	-0.505 [0.682]	-0.306 [0.691]
	Senior Education	0.501 [0.368]	0.553 [0.372]	0.455 [0.401]	0.426 [0.407]
	Political Connection	0.076 [0.533]	-0.203 [0.476]	-0.389 [0.496]	-0.309 [0.496]
	Female	0.477 [0.618]	-0.091 [0.642]	-0.250 [0.644]	-0.335 [0.663]
Family Characteristics	Durable Goods		0.246*** [0.037]	0.208*** [0.039]	0.227*** [0.039]
	Travel Time to Financial Institution		-0.749*** [0.183]	-0.852*** [0.198]	-0.760*** [0.195]
	Family Members and Friends as Potential Lenders		0.088 [0.155]	0.054 [0.157]	0.056 [0.162]
	Gift		0.141*** [0.053]	0.108* [0.058]	0.125** [0.059]
	Family Size		0.316** [0.124]	0.295** [0.140]	0.289** [0.139]
Village Characteristics	Competitors at Start Year			-0.386*** [0.141]	
	Running Water			-0.679 [0.431]	
	Land Per Capita in the Village			0.032 [0.431]	
	Bus			0.889 [0.581]	
	Constant	8.582*** [2.745]	6.574** [2.691]	10.510*** [2.758]	8.379*** [2.753]
	County Dummies	Yes	Yes	Yes	Yes
	Industry Dummies	Yes	Yes	Yes	Yes
	Observations	495	438	377	377
	R-squared	0.230	0.401	0.392	0.367

Table 6. OLS regressions for the firm growth. Dependent variable is Sales Growth 2008. Informal equals 1 if a microenterprise has informal finance at the end of 2008, 0 otherwise; Formal equals 1 if a microenterprise has formal finance at the end of 2008, 0 otherwise; Finance equals 1 if a microenterprise has either informal or formal finance, 0 otherwise; Self-Employed equals 1 if a microenterprise does not have other employees excluding the entrepreneur himself / herself, 0 otherwise; Firm Size is the logarithm of 1 plus the sales in 2007; Firm Age is the logarithm of the age of a microenterprise; Hukou Urban equals 1 if a family head has a urban Hukou registration, 0 otherwise; Head Age is the logarithm of the family head's age; Senior Education equals 1 if a family head has an education of high school or above, 0 otherwise; Political Connection equals 1 if a family head is party member, 0 otherwise; Female equals 1 if a family head is female, 0 otherwise; Running Water equals 1 if a village has running water service; Land Per Capita in the Village is the average arable land per capita in a village; Bus equals 1 if a village has bus service, 0 otherwise. All regressions include industry and county dummies. Heteroskedasticity robust standard errors are in brackets, significance * at 10%, ** at 5%, *** at 1%.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Finance Variables	Informal Finance	0.166** [0.083]			0.160* [0.095]			0.177** [0.085]		
	Formal Finance		0.121 [0.097]			0.114 [0.104]			0.113 [0.096]	
	Finance			0.167** [0.076]			0.154* [0.087]			0.162** [0.076]
	Informal Finance × Self-Employed	-0.172* [0.097]			-0.154 [0.106]			-0.185* [0.100]		
	Formal Finance × Self-Employed		-0.063 [0.193]			-0.054 [0.198]			-0.105 [0.191]	
	Finance × Self-Employed			-0.157 [0.102]			-0.136 [0.113]			-0.172* [0.102]
Firm Characteristics	Self-Employed	-0.058 [0.057]	-0.076 [0.056]	-0.049 [0.055]	-0.055 [0.058]	-0.069 [0.058]	-0.048 [0.056]	-0.058 [0.059]	-0.073 [0.057]	-0.048 [0.057]
	Firm Size	-0.036** [0.018]	-0.037** [0.018]	-0.038** [0.018]	-0.034* [0.019]	-0.034* [0.018]	-0.035* [0.019]	-0.038** [0.018]	-0.038** [0.019]	-0.039** [0.019]
	Firm Age	-0.038 [0.034]	-0.035 [0.033]	-0.037 [0.034]	-0.047 [0.035]	-0.044 [0.034]	-0.046 [0.035]	-0.037 [0.035]	-0.036 [0.034]	-0.036 [0.034]
Family Head Characteristics	Hukou Urban				-0.003 [0.055]	-0.001 [0.055]	-0.001 [0.055]			
	Head Age				0.135 [0.104]	0.135 [0.102]	0.133 [0.108]			
	Senior Education				0.031 [0.049]	0.023 [0.049]	0.029 [0.049]			
	Political Connection				-0.011 [0.050]	-0.014 [0.051]	-0.008 [0.050]			
	Female				0.147 [0.113]	0.144 [0.113]	0.139 [0.116]			
Village Characteristics	Running Water							0.092 [0.057]	0.083 [0.058]	0.089 [0.057]
	Land Per Capita in the Village							0.053 [0.058]	0.056 [0.055]	0.053 [0.056]
	Bus							-0.270** [0.115]	-0.271*** [0.104]	-0.267** [0.111]
	Constant	0.456 [0.328]	0.466 [0.333]	0.466 [0.342]	-0.077 [0.496]	-0.078 [0.494]	-0.060 [0.497]	0.408 [0.338]	0.419 [0.346]	0.414 [0.350]
	County Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Observations	335	335	335	329	329	329	315	315	315
	R-squared	0.094	0.090	0.096	0.101	0.099	0.103	0.127	0.122	0.128

Table 7. Loan size. Dependent variable is the Sales Growth in 2008. Informal Finance Size equals the logarithm of 1 plus informal finance at the end of 2008; Formal Finance Size equals the logarithm of 1 plus formal finance at the end of 2008; Finance Size equals the logarithm of 1 plus the informal and formal finance; Self-Employed equals 1 if a microenterprise does not have other employees excluding the entrepreneur himself / herself, 0 otherwise; Firm Size is the logarithm of 1 plus the sales in 2007; Firm Age is the logarithm of the age of a microenterprise; Hukou Urban equals 1 if a family head has a urban Hukou registration, 0 otherwise; Head Age is the logarithm of the family head's age; Senior Education equals 1 if a family head has an education of high school or above, 0 otherwise; Political Connection equals 1 if a family head is party member, 0 otherwise; Female equals 1 if a family head is female, 0 otherwise; Running Water equals 1 if a village has running water service; Land Per Capita in the Village is the average arable land per capita in a village; Bus equals 1 if a village has bus service, 0 otherwise. All regressions include industry and county dummies. Heteroskedasticity robust standard errors are in brackets, significance * at 10%, ** at 5%, *** at 1%.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Finance Variables	Informal Finance Size	0.016* [0.008]			0.015 [0.009]			0.017** [0.008]		
	Formal Finance Size		0.010 [0.009]			0.010 [0.009]			0.010 [0.009]	
	Finance Size			0.015** [0.007]			0.014* [0.008]			0.015** [0.007]
	Informal Finance Size × Self-Employed	-0.015 [0.009]			-0.013 [0.010]			-0.016* [0.010]		
	Formal Finance Size × Self-Employed		-0.003 [0.021]			-0.002 [0.021]			-0.007 [0.021]	
	Finance Size × Self-Employed			-0.012 [0.010]			-0.010 [0.011]			-0.014 [0.010]
Firm Characteristics	Self-Employed	-0.061 [0.056]	-0.079 [0.056]	-0.055 [0.055]	-0.059 [0.058]	-0.072 [0.058]	-0.053 [0.056]	-0.062 [0.058]	-0.076 [0.057]	-0.054 [0.057]
	Firm Size	-0.037** [0.018]	-0.038** [0.018]	-0.039** [0.019]	-0.035* [0.019]	-0.034* [0.019]	-0.037* [0.019]	-0.039** [0.019]	-0.038** [0.019]	-0.040** [0.019]
	Firm Age	-0.038 [0.034]	-0.035 [0.033]	-0.036 [0.034]	-0.047 [0.035]	-0.044 [0.033]	-0.046 [0.034]	-0.037 [0.035]	-0.036 [0.033]	-0.036 [0.034]
Family Head Characteristics	Hukou Urban				-0.007 [0.056]	-0.001 [0.055]	-0.005 [0.056]			
	Head Age				0.136 [0.104]	0.134 [0.102]	0.133 [0.108]			
	Senior Education				0.030 [0.049]	0.023 [0.049]	0.029 [0.049]			
	Political Connection				-0.011 [0.050]	-0.014 [0.051]	-0.008 [0.051]			
	Female				0.147 [0.113]	0.146 [0.113]	0.140 [0.116]			
Village Characteristics	Running Water							0.092 [0.057]	0.083 [0.058]	0.088 [0.057]
	Land Per Capita in the Village							0.053 [0.058]	0.055 [0.055]	0.054 [0.057]
	Bus							-0.271** [0.115]	-0.269*** [0.102]	-0.266** [0.110]
	Constant	0.470 [0.330]	0.468 [0.333]	0.482 [0.346]	-0.065 [0.498]	-0.073 [0.494]	-0.047 [0.498]	0.423 [0.340]	0.422 [0.346]	0.429 [0.353]
	County Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Observations	335	335	335	329	329	329	315	315	315
	R-squared	0.093	0.091	0.096	0.100	0.099	0.103	0.127	0.122	0.128

Table 8. Various sources of informal finance. Dependent variable is the Sales Growth in 2008. Family and Friends equals 1 if a microenterprise has loans from family member or friends at the end of 2008, 0 otherwise; Informal Financial Institution equals 1 if a microenterprise has loans from informal financial institutions at the end of 2008, 0 otherwise; Trade credit equals 1 if a microenterprise has trade credit from their suppliers, 0 otherwise; Self-Employed equals 1 if a microenterprise does not have other employees excluding the entrepreneur himself / herself, 0 otherwise; Firm Size is the logarithm of 1 plus the sales in 2007; Firm Age is the logarithm of the age of a microenterprise; Hukou Urban equals 1 if a family head has a urban Hukou registration, 0 otherwise; Head Age is the logarithm of the family head's age; Senior Education equals 1 if a family head has an education of high school or above, 0 otherwise; Political Connection equals 1 if a family head is party member, 0 otherwise; Female equals 1 if a family head is female, 0 otherwise; Running Water equals if a village has running water service; Land Per Capita in the Village is the average arable land per capita in a village; Bus equals 1 if a village has bus service, 0 otherwise. All regressions include industry and county dummies. Heteroskedasticity robust standard errors are in brackets, significance * at 10%, ** at 5%, *** at 1%.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Finance Variables	Family and Friends	0.165* [0.091]			0.159 [0.105]			0.183* [0.094]		
	Informal Financial Institution		0.079 [0.087]			0.047 [0.123]			0.069 [0.088]	
	Trade credit			0.101 [0.073]			0.093 [0.069]			0.089 [0.076]
	Family and Friends × Self-Employed	-0.169 [0.105]			-0.147 [0.117]			-0.190* [0.110]		
	Informal Financial Institution × Self-Employed		-			-			-	
	Trade Credit × Self-Employed			-0.149 [0.101]			-0.270* [0.152]			-0.136 [0.109]
	Self-Employed	-0.061 [0.057]	-0.082 [0.055]	-0.081 [0.054]	-0.059 [0.058]	-0.074 [0.057]	-0.073 [0.056]	-0.061 [0.059]	-0.083 [0.056]	-0.082 [0.056]
	Firm Size	-0.035** [0.018]	-0.035** [0.017]	-0.036** [0.018]	-0.032* [0.018]	-0.032* [0.018]	-0.032* [0.018]	-0.036** [0.018]	-0.037** [0.018]	-0.037** [0.018]
Firm Characteristics	Firm Age	-0.038 [0.034]	-0.038 [0.035]	-0.038 [0.034]	-0.047 [0.035]	-0.047 [0.035]	-0.046 [0.035]	-0.037 [0.035]	-0.038 [0.035]	-0.038 [0.035]
	Hukou Urban				-0.004 [0.055]	-0.004 [0.061]	0.008 [0.056]			
	Head Age				0.140 [0.104]	0.137 [0.104]	0.133 [0.105]			
	Senior Education				0.029 [0.049]	0.025 [0.049]	0.027 [0.049]			
	Political Connection				-0.012 [0.050]	-0.016 [0.050]	-0.016 [0.050]			
	Female				0.148 [0.112]	0.148 [0.111]	0.158 [0.118]			
	Running Water							0.092 [0.058]	0.087 [0.058]	0.087 [0.058]
	Land Per Capita in the Village							0.053 [0.057]	0.054 [0.057]	0.054 [0.058]
Village Characteristics	Bus							-0.270** [0.115]	-0.276** [0.116]	-0.276** [0.116]
	Constant	0.443 [0.327]	0.464 [0.329]	0.467 [0.330]	-0.103 [0.495]	-0.089 [0.503]	-0.077 [0.501]	0.394 [0.338]	0.421 [0.339]	0.423 [0.341]
	County Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Observations	335	335	335	329	329	329	315	315	315
	R-squared	0.093	0.086	0.087	0.100	0.095	0.096	0.127	0.120	0.120

Table 9. Microenterprises with less than eight employees (*getihu*). Dependent variable is Sales Growth 2008. Informal equals 1 if a microenterprise has informal finance at the end of 2008, 0 otherwise; Formal equals 1 if a microenterprise has formal finance at the end of 2008, 0 otherwise; Finance equals 1 if a microenterprise has either informal or formal finance, 0 otherwise; Self-Employed equals 1 if a microenterprise does not have other employees excluding the entrepreneur himself / herself, 0 otherwise; Firm Size is the logarithm of 1 plus the sales in 2007; Firm Age is the logarithm of the age of a microenterprise; Hukou Urban equals 1 if a family head has a urban Hukou registration, 0 otherwise; Head Age is the logarithm of the family head's age; Senior Education equals 1 if a family head has an education of high school or above, 0 otherwise; Political Connection equals 1 if a family head is party member, 0 otherwise; Female equals 1 if a family head is female, 0 otherwise; Running Water equals 1 if a village has running water service; Land Per Capita in the Village is the average arable land per capita in a village; Bus equals 1 if a village has bus service, 0 otherwise. All regressions include industry and county dummies. Heteroskedasticity robust standard errors are in brackets, significance * at 10%, ** at 5%, *** at 1%.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Finance Variables	Informal Finance	0.017 [0.011]			0.017 [0.012]			0.019* [0.011]		
	Formal Finance		0.019* [0.011]			0.018 [0.012]			0.018 [0.011]	
	Finance			0.020** [0.009]			0.020* [0.010]			0.021** [0.009]
	Informal Finance × Self-Employed	-0.016 [0.011]			-0.015 [0.013]			-0.018 [0.012]		
	Formal Finance × Self-Employed		-0.011 [0.022]			-0.010 [0.023]			-0.015 [0.022]	
	Finance × Self-Employed			-0.018 [0.011]			-0.016 [0.013]			-0.019* [0.012]
Firm Characteristics	Self-Employed	-0.063 [0.061]	-0.077 [0.061]	-0.048 [0.061]	-0.058 [0.063]	-0.067 [0.063]	-0.044 [0.063]	-0.062 [0.064]	-0.075 [0.062]	-0.046 [0.063]
	Firm Size	-0.039* [0.021]	-0.041* [0.021]	-0.040* [0.021]	-0.036 [0.022]	-0.037 [0.022]	-0.038* [0.023]	-0.041* [0.022]	-0.042* [0.022]	-0.042* [0.022]
	Firm Age	-0.050 [0.036]	-0.047 [0.034]	-0.050 [0.035]	-0.059 [0.037]	-0.055 [0.035]	-0.059 [0.036]	-0.049 [0.036]	-0.048 [0.034]	-0.049 [0.035]
Family Head Characteristics	Hukou Urban				-0.011 [0.055]	-0.003 [0.054]	-0.007 [0.055]			
	Head Age				0.114 [0.110]	0.108 [0.107]	0.112 [0.114]			
	Senior Education				0.027 [0.054]	0.015 [0.055]	0.024 [0.055]			
	Political Connection				-0.009 [0.056]	-0.009 [0.056]	-0.006 [0.056]			
	Female				0.152 [0.114]	0.145 [0.116]	0.141 [0.119]			
Village Characteristics	Running Water							0.106* [0.059]	0.094 [0.060]	0.102* [0.058]
	Land Per Capita in the Village							0.064 [0.059]	0.067 [0.056]	0.063 [0.057]
	Bus							-0.282** [0.118]	-0.275*** [0.104]	-0.273** [0.112]
	Constant	0.501 [0.352]	0.509 [0.356]	0.503 [0.367]	0.049 [0.556]	0.064 [0.554]	0.056 [0.555]	0.446 [0.363]	0.458 [0.370]	0.444 [0.375]
	County Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Observations	312	312	312	306	306	306	292	292	292
	R-squared	0.097	0.098	0.103	0.102	0.104	0.108	0.133	0.132	0.138

Appendix 1

Panel A. Sample distribution of surveyed families by county

Province	County	Number of Families	Number of Families with Microenterprises
Yunnan (129 counties in the province)	Yiliang	246	62
	Nanjian	212	36
	Songming	232	74
Hunan (122 counties in the province)	Sangzhi	202	55
	Yueyang	216	85
	Liling	240	97
Heilongjiang (128 counties in the province)	Longjiang	200	33
	Dongning	230	40
	Mohe	173	51
Total	-	1,951	533

Panel B. Sample distribution of microenterprises by industry

Industry Name	Number of Observations
Agriculture, Forestry, Animal Husbandry and Fishing	41
Mining	8
Manufacturing	63
Construction	52
Transportation	75
Commerce	154
Catering	40
Health Care	10
Culture and Entertainment	8
Service	62
Other	20
Total	533

Appendix 2

Panel A. Loan sources by county

Province	County Name	N	Percent of Microenterprises with Informal Finance		Percent of Microenterprises with Formal Finance		Percent of Microenterprises with Finance	
			Start Year	2008 Year End	Start Year	2008 Year End	Start Year	2008 Year End
Yunnan	Yiliang	62	0.26	0.22	0.24	0.20	0.44	0.35
	Nanjian	36	0.35	0.18	0.21	0.09	0.50	0.21
	Songming	74	0.44	0.16	0.27	0.11	0.52	0.22
Hunan	Sangzhi	55	0.35	0.14	0.23	0.25	0.50	0.32
	Yueyang	85	0.37	0.17	0.05	0.04	0.39	0.18
	Liling	97	0.46	0.24	0.17	0.11	0.57	0.29
Heilongjiang	Longjiang	33	0.67	0.39	0.03	0.06	0.67	0.39
	Dongning	40	0.36	0.10	0.15	0.13	0.46	0.20
	Mohe	51	0.34	0.13	0.08	0.08	0.38	0.19
Total	-	533	0.39	0.19	0.16	0.12	0.49	0.26

Panel B. Loan sources by industry

Industry Name	N	Percent of Microenterprises with Informal Finance		Percent of Microenterprises with Formal Finance		Percent of Microenterprises with Finance	
		Start Year	2008 Year End	Start Year	2008 Year End	Start Year	2008 Year End
Agriculture, Forestry, Animal Husbandry and Fishing	41	0.15	0.10	0.18	0.15	0.28	0.21
Mining	8	0.63	0.43	0.25	0.57	0.63	0.71
Manufacturing	63	0.41	0.26	0.23	0.11	0.56	0.29
Construction	52	0.15	0.17	0.13	0.10	0.23	0.26
Transportation	75	0.56	0.26	0.32	0.17	0.75	0.37
Commerce	154	0.42	0.19	0.10	0.11	0.48	0.26
Catering	40	0.45	0.18	0.11	0.05	0.53	0.21
Health Care	10	0.40	0.00	0.10	0.20	0.50	0.20
Culture and Entertainment	8	0.63	0.43	0.25	0.43	0.63	0.57
Service	62	0.31	0.13	0.09	0.03	0.38	0.13
Other	20	0.45	0.05	0.16	0.05	0.50	0.10
Total	533	0.39	0.19	0.16	0.12	0.49	0.26

Appendix 3

Timeline of laws and regulations related with rural financial system in China

Release date	Name	Note	Institution
1993/12/25	<i>Resolutions on the financial system reform</i>	It stipulates the reform in the rural financial system, e.g. rural credit cooperative, rural cooperative foundation, rural cooperative bank, etc.	State Council
1996/8/20	<i>Resolutions on the rural financial system reform</i>	The basic law for the reform of the rural financial system.	State Council
1998/7/13	<i>The prohibition act of illegal financial institutions and illegal financial business</i>	It stipulates the types of illegal financial institutions that should be suppressed and forbidden.	State Council
1998/10/14	<i>Resolutions on several major issues on the agriculture and rural area</i>	It raises the role of micro-credit in intermediating the fund for poverty reduction.	CCCPC
1999/1	<i>No.3 file of the State Council of 1999</i>	It suppresses and forbids the rural cooperative foundation.	State Council
2004/12/31	<i>No.1 file of the CCCPC for 2005</i>	It encourages the setting up of micro-credit companies in the rural area	CCCPC
2008/4/12	<i>Notice of the People's Bank of China and the China Banking Regulatory Commission on the Relevant Policies for Village Banks, Loan Companies, Rural Mutual Cooperatives and Small Loan Companies</i>	It stipulates the basic regulatory rules for the major financial institutions which are engaged in the microfinance.	PBOC and CBRC
2008/5/4	<i>Guiding comments on the pilot of micro-credit companies</i>	The basic law for micro-credit companies, e.g. rules on their setting-up procedures, funding sources, and regulatory rules on their businesses.	PBOC and CBRC
2014/3/13	<i>Administrative licensing rules for rural small- and medium sized financial institutions</i>	It stipulates the registration and regulatory rules for the rural commercial bank, rural cooperative bank, rural credit cooperative, village bank, loan company, and rural mutual cooperative.	CBRC

Abbreviations: CCCPC is the central committee of the China communist party; PBOC is People's Bank of China; CBRC is the China Banking Regulatory Commission.