Understanding Informal Financing

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Abstract

This paper offers a framework to understand informal financing based on mechanisms to deal with asymmetric information and enforcement. We find that constructive informal financing such as trade credits and family borrowing that relies on information advantages or an altruistic relationship is associated with good firm performance. Underground financing such as money lenders who use violence for enforcement is not. Constructive informal financing is prevalent in regions where access to bank loans is extensive, while its role in supporting firm growth decreases with bank loan availability. Finally, similar relations exist in many large or fast growing emerging economies.

1. Introduction

A strand of literature has debated the role of informal financing in supporting firm and economy growth. The formalities of informal financing included in these studies refer to a variety of financing sources apart from banks and stock markets. Diamond (1984) and Berger and Udell (1998) suggest that the role of a delegated monitor defines a formal financial intermediary and differentiates it from informal financing. Kandori (1992) and Udry (1994) emphasize the nature of self-enforcing contracts as opposed to social sanctions for repayment to differentiate formal from informal financing. In empirical studies, informal financing often includes but is not restricted to: trade credit, interpersonal borrowing (money from friends or families), private money houses, pawnshops, community cooperatives, and so forth. These sources may or may not meet the criteria suggested by the above theoretical definitions of informal financing. The purpose of our paper is to propose a framework to further separate informal financing into different categories based on both informational mechanisms (monitoring) and repayment enforcement methods. Furthermore, we empirically demonstrate that it is important to categorize them along these dimensions in order to understand the role of informal financing in supporting firm and economy growth.

Specifically, for a financing channel to play an effective role, it needs to overcome adverse selection and moral hazard problems associated with asymmetric information, and to deal with recourse in case of default. It is widely acknowledged that banks' and markets' failures in these dimensions for small and medium size enterprises (SMEs) lead to inadequate financing for them. The theoretical work on informal financing typically assumes that the informal sources (investors) have superior information through business relations or social networks to help monitoring and

3

enforcement, and hence reduce moral hazard and/or adverse selection problems.[1] Those based on social networks often involve an altruistic relationship in addition (Lee and Persson 2012). However, there are also informal financing sources that are not confined to direct business or social relations, but possibly to an indirect and much broader network, e.g., lending agencies or loan brokers working for underground financial institutions. These institutions may charge high interest and fees to cover the extreme risk in their business. Some agents may even use violence to enforce payment in case of delinquency. These sources exist and play roles respectively in specific institutional environments or at specific economic development stages. They also possibly achieve different results because of the different mechanisms that they rely on.

We classify informal financing into two types based on whether there exists an information advantage to overcome frictions and whether enforcement methods are non-violent. We define constructive informal financing as those transactions that derive their information and enforcement technology from business or social relationships, mainly trade credits and family borrowing. This type of financing typically aims at supporting business operations and uses business or social relationships to reduce asymmetric information and to assist collection, recovery or recourse. The pricing of such loans considers the credit worthiness, collateral usage, and risk of production and recovery. For example, Biais and Gollier (1997) and Peterson and Rajan (1997) argue that trade credit can solve the asymmetric information problem associated with bank financing, which precludes small or young firms from bank credits, because usage of trade credits incorporates private information between suppliers and their customers.

Underground financing, on the other hand, we define as being transactions which have no superior information advantage and may rely on a network only in a loose sense. This type of

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[1] For example, Stiglitz (1990), Varian (1990), Banerjee, Besley, and Guinnane (1994), and Jain (1999) study the information advantage in some informal sources. Mookherjee and Png (1989), Prescott (1997), and Gine (2011) stress the importance of risk assessment. Finally, Ghatak (1999) focuses on how to overcome adverse selection.

financing is often made to speculative activities, charges extremely high interest rates or fees, and employs violence rather than legal recourse to collect payments or renegotiate in the case of delinquency. In terms of pricing, contract, and enforcement, these financing channels operate within a grey area or beyond legal boundaries, e.g., loan sharks.

There are also informal sources that are hard to classify unconditionally, for example, rotating savings and credit associations (Besley, Coate, and Loury 1993). These group lending methods increase members' welfare under certain conditions but may have a negative implication on social relationships, including violence in some circumstances (Montgomery 1996 and Ghatak and Guinnane 1999).

Using the World Banks' survey on SMEs, we empirically examine the role of each category above in supporting firm and economy growth. We choose Chinese firms as our primary sample because the literature's controversy regarding the role of informal financing mainly comes from China, and also because there are a variety of informal financing practices and large across region variations in China. Nevertheless, we use the international sample to verify that the Chinese example is not an outlier and our approach of categorizing informal financing is applicable to other countries. The international sample also allows us to examine the impact of culture on informal financing practices at the country level. Finally, we supplement the World Bank Survey with our self-conducted survey which goes to into great detail to investigate the category "other financing" that has been treated as a black-box in many previous studies and datasets used.

Clearly financing and firm growth are endogenous. We address this issue by applying both a Heckman approach and a propensity score matching method. In the former approach, we control for selection bias in examining the finance and growth relation. In the latter approach, taking

firms that actually use a particular financing source as the treatment sample, we match each treatment firm with a controlling firm that has the same propensity to use this source but factually does not. We then draw the inference about the finance-growth relation within the matched sample. We also examine the cross sectional implications of the finance-growth argument to address the potential alternatives by unobservable variables.

We find that the usage of informal financing is more popular in smaller, younger, and less audited firms. Constructive informal financing is positively associated with firm growth but underground financing is not. Furthermore, constructive informal financing is prevalent in regions where access to bank loans is extensive and business-government relationships are good. Both constructive financing and bank financing are positively associated with firm growth, however, their interactive role in supporting firm growth decreases the larger they are. Constructive informal financing and underground financing play similar roles in other countries as in China. In many countries, underground financing is actually negatively associated with firm growth. Interpersonal trust and happiness measures are positively associated with the usage of constructive informal financing in a country. Confidence in government however plays roles differently for different forms of informal financing. Finally, we find the black-box of "other finance" in previous studies consists of family borrowing as well as internal retained earnings and addition of this information does not affect our findings on the role of constructive informal financing.

Our classification of informal financing into constructive and underground financing and evidence on their respective roles in supporting firm growth offers empirical support to the large strand of theoretical literature that emphasizes superior information and monitoring technology in explaining the popularity of informal financing. It also reconciles the contradictory evidence

in the empirical literature on the economic role of informal financing. In particular, while Allen, Qian, and Qian (2005, AQQ 2005 subsequently) document informal financing as the driving force in supporting the private sector in China; Ayyagari, Demirgüç-Kunt, and Maksimovic (2010, ADM 2010 subsequently) show that bank financing, not informal financing, is associated with growth of Chinese firms. We reconstruct ADM (2010)'s key tables but differentiate constructive informal financing from underground financing. We find that the constructive informal financing is positively associated with firm growth.[2]

Our findings also shed light on the debate in the literature: on whether firms use informal financing as a second-best choice when formal financing is unavailable or prefer a particular source due to specific firm conditions. Though our paper does not address this question directly, our mechanism-based classification provides a framework that makes informal financing and bank financing more comparable. As both sources rely on agents' sophistication in dealing with asymmetric information, monitoring, and recourse effectively, the development of constructive informal financing and bank finance are complementary. Consistent with this premise, we show that firms operating in regions with extensive bank loan access have prevalent access to constructive informal financing.

Studies on China's financial system reform debate whether the government's ban on some informal financing in the 1990s was politically or economically driven. Our mechanism-based approach offers a benchmark to evaluate the two positions.

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[2] Another data treatment issue that drives the different results in AQQ (2005) and ADM (2010) is how the unidentified sources "other" are labeled. AQQ (2005) treat them as part of informal financing since all the formal sources have been exhausted in the grouping. ADM (2010) however treat it as internal financing, possibly due to the reason that this treatment will bring the internal financing level comparable to other countries. In our paper, we exclude the "other" from analysis in the first part of the paper since the sources hence the mechanisms are not identified. Later in the paper, we consider the components of "other".

Finally, our empirical analyses with the international sample suggest that the mechanism-based approach to informal financing is applicable to other economies. The general lesson is that information acquisition and enforcement capacity play key roles for financial intermediaries to work regardless of the specific formality. While banks use collateral to reduce risk, suppliers who lend to client firms can use their implicit equity stake in the firms to provide protection. Broadly speaking, the effect of financial intermediation depends on its underlying information mechanism rather than whether it is formal or informal.

The reminder of the paper is organized as follows. In Section 2, we discuss various sources of informal financing, the mechanisms they rely on, and the role they play in supporting firm growth. Section 3 introduces the data. Section 4 presents the empirical results. Section 5 conducts robustness checks in the international sample. Section 6 concludes the paper.

2. Informal financing mechanisms and classification

The role of financial intermediaries such as banks and the direct financing through equity markets is to bridge the gap between those with a surplus and those with a deficit of capital. However, asymmetric information between banks/markets and firms may preclude financing for valuable projects. The asymmetric information problem is particularly severe for small firms, firms without bank relationships, and during credit tightening periods. It is also particularly severe in developing countries that usually have less developed financial systems, inadequate business laws, and insufficient intermediary service. For example, Brandt and Li (2003) show that private firms are significantly less likely to obtain loans, are subject to higher loan standards, and receive smaller loans. Consequently they are more likely to resort to trade credit financing than large firms.

China provides a rich paradigm to study informal finance. The development of the financial system lags behind the fast growing economy and the informal sector nurtured millions of small firms that are usually not lent to by banks and financial markets. Government policy is for banks to prioritize state-owned firms in terms of credit allocation and empirical evidence shows that this is indeed the case. The rationale for the policy for banks to bias towards state owned firms and against the private sector include the state ownership of banks, asymmetric information between banks and private firms, the lack of sound accounting practices and credit evaluation methods, and the problem of contract enforcement. To overcome financing constraints, private firms in China have widely adopted many alternative financing sources.

Tsai (2004) is one of the pioneering works on informal financing in China. Through rich field interviews, she documents a broad set of informal sources used by Chinese entrepreneurs: interpersonal lending, trade credits, money lenders, loan sharks, rotating savings, credit organization, pawnshops, indigenous banks, money houses, mutual assistance societies, and so forth.[3] She also documents many anecdotal stories on how informal financing is used to support entrepreneurship. She differentiates these informal sources mainly along legal lines. For example, interpersonal lending and trade credit, the most basic strategies that entrepreneurs use to satisfy short liquidity needs, are legal because the interest rate does not exceed the government required

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[3] We borrow one example from Tsai (2004) about an owner of a factory with more than 30 employees, in Zhejiang province. Owner Lin never borrowed from formal sources, as he said, "It's not worth it to me to apply for a loan from a state bank or rural credit cooperative because the credit officers are dirty and rip me off given my family background. If I applied for a 100,000 RMB (US$12,000) loan, I would only receive 60,000 RMB (US$7,200) because the credit officer would pocket the other 40,000 RMB (US$4,800). Meanwhile, I would still be expected to pay interest on 100,000 RMB". Lacking official connections thus less interested in formal finance, Owner Lin managed to invest 700,000 RMB (US$84,000) in his motorcycle parts factory by using 100,000 RMB (US$12,000) of his own savings, borrowing 200,000 RMB (US$24,000) interest free from his four older siblings, and borrowing 400,000 RMB ($48,000) at 24% annual interest through moneylenders. The latter loans were guaranteed by his sisters who have good credit among moneylenders in the textile sector.

ceiling[4]. In contrast, loan sharks and private money houses charge much higher interest rates or fees and these loans are regarded as illegal by the People's Bank of China. Some informal sources' legal status varies over time and across regions. For example, rotated saving was once a praised practice in rural China but now is banned in most Chinese cities. Some pawnshops are legally registered, while some others are registered with non-financial regulators and may or may not engage in illegal lending practices.

We want to classify informal financing sources, ex-ante, based on the mechanisms they rely on for the purpose of information production and repayment enforcement. This is because the effectiveness of these informal sources in supporting firm operation largely depends on how they overcome the asymmetric information. The mechanism they use should correspondingly address the moral hazard and adverse selection problems that drive away formal financing in the first place.

We adopt two criteria to separate constructive informal financing from underground financing.

(a) The information technology for monitoring, risk control, and pricing. (b) The recourse mechanism in case of delinquency. The first category, namely constructive informal financing, includes trade credit, small loan companies, banks' credit extension arms, registered pawnshops or financing companies, direct and informed lending between direct family members and close relatives. These informal sources use personal, community, or business relationships to reduce asymmetric information and reduce risk through economic collateral. The price of funding reflects both the risk and the closeness of the relationship – the value of social bonding. In the

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[4] By the law established by the Chinese Supreme Court and enacted since August 1991, the ceiling for interest rates is four times the rate for a similar bank loan.

case of delinquency or default, there are sufficient economic and social connections that facilitate renegotiation and resolutions.

The second category, namely underground financing, includes loan sharks, unregistered pawnshops, lending agencies and loan brokers. These informal sources have little information technology to rely on. They are less concerned about the risk of project and even less to monitor or control risk. The pricing of loans is usually fixed at a predatory rate. In the case of delinquency, violence maybe used to force payment. We present the categorization in table 1.

[Insert table 1 about here]

Given regulators' concern with the social impacts of informal financing institutions, our classification is naturally correlated with these financing channels' legal status and lending targets. The constructive sources are often legally permitted and target entrepreneurship activities. Underground sources on the other hand are often illegal and target speculative activities such as gambling. However, our mechanism-based approach is still distinct from legality. For example, some of the legally registered pawnshops may lend to gamblers rather than entrepreneurs. The ex-ante criterion to tell the difference is not their legal status rather their economic activities and composition of the clients. Another example is credit cooperatives such as rotation savings, credit organizations, rural cooperative foundations, and mutual benefit funds that existed in China till the late 1990s. These indigenously organized informal institutions played an extremely important role in the early stage of the China's reform especially in allowing rural households to transition from agriculture to entrepreneurship (Qian and Huang 2011). However, they were declared to be illegal by the People's Bank of China in the late 1990s and were banned. Despite their illegal status, if financing in these forms were identified, our classification rule would label them constructive informal financing because of their relationship based nature, their purpose to

support entrepreneurship, and their mutual monitoring mechanism to reduce risk and facilitate recourse.

Our mechanism-based classification offers a general framework to understand informal financing. Applying this unified framework, we can identify constructive informal financing in different information environments: Although their specific form may change over time or across countries, the essential mechanisms share similarities. This approach predicts ex-ante whether a specific informal source fills the financing gap for SMEs and supports economic growth effectively by verifying whether this source has a mechanism to address informational issues -- the difficulty in information production and risk control that cause formal financing through banks and markets to fail. On the other hand, financing sources that fail these measures are not likely to have any positive effect on firm performance. In what follows, we empirically test the above hypothesis using survey data on Chinese SMEs.

3. The Data

3.1 The survey

We use the same survey data for Chinese firms as in ADM (2010). This World Bank Investment Climate survey was undertaken in early 2003 in collaboration with the Enterprise Survey Organization of the Chinese National Bureau of Statistics. It is part of the World Bank Enterprise Surveys which use standardized survey instruments and a uniform sampling methodology to investigate the investment climate of countries across the world. The Enterprise Surveys sample from the universe of registered businesses using a stratified random sampling methodology in each country.

The Chinese survey covers 2,400 firms from 18 cities that are representative of a wide range of regions in China. The firms are randomly selected from both manufacturing and services industries with a restriction on minimum firm size measured by the number of employees. The minimum number of employees was set at 20 for manufacturing firms, and at 15 employees for services firms.

There are two sections in the survey questionnaires. The first section asks for general information about the firm, its relations with clients, suppliers and government, and the manager's opinion on the business environment. The general information allows us to identify firms' registration status: state owned companies (SOEs), incorporated, collectives or cooperatives, and other legal structures; ownership structure - domestic or foreign - and detailed percentages owned by individuals, managers, institutional investors, firms and banks.

The second section is based on interviews with the firm's accountant and personnel manager and asks for balance sheet information and other quantitative information on employee training, schooling, and wages. While most of the qualitative questions pertain only to the year 2002, a short panel from 1999 to 2002 is available for the quantitative questions.

On the firms' financing situation, the interviewees are asked to identify various sources that finance firms' working capital and new investment respectively and the proportionate contribution of each source. The financing sources include: state-owned commercial banks, other commercial banks, urban credit cooperatives, rural credit cooperatives, foreign-owned commercial banks, trade credits from suppliers or customers, investment funds, special development funds, state services, retained earnings, loans from family and friends, moneylenders, informal banks, sales of stock to the management or legal persons, public issue of marketable shares to outside investors, and other unidentified sources. The interviewees indicate

the percentage of each source over the total funding used. These percentages add up to 100% for working capital and new investment respectively.

3.2 Sample descriptions

We describe the sample firms in table 2. Sample firms are mostly small with average total assets of 19.11 million USD (median of 2 million USD) in year 2002 (USD/CNY8.28 in 2002). They are highly leveraged with debt/equity ratio mean at 0.61. Although small, they are not necessarily start-ups, because the sample mean age is 16 years (median 10 years). 40% of the sample firms are incorporated and almost a quarter of them are state controlled. They grow fast, with mean log(sales) growth from 1999 to 2002 of 34.28% or median of 7.13%.

Only 24% of the sample firms have borrowed from banks. Based on the survey answers, the application process is extremely inefficient. For long-term bank loans, it takes on average 43 days from filing the application to being able to withdraw funds.

[Insert table 2 about here]

3.3 Group of informal financing sources

We group the trade credits and personal lending as constructive informal financing, because they use social or business relationships to reduce asymmetric information. In case of delinquency and default, the social collateral and implicit stake arising from business transactions serve natural mechanisms for renegotiation and restructure solutions. In both channels, reputation arising from repeated games can also serves as a risk-reducing mechanism.

We use the "other informal" item to measure underground financing. Presumably, money lenders, pawnshops, and informal banks are all in this group. As we discussed in section 2, while some of these sources are illegal and destructive, some others actually work in a constructive way. Since the survey does not differentiate between them, we can only take them all in the

14

underground financing in our empirical analysis. This treatment will create a bias against finding distinctive roles between constructive informal financing and underground financing. In other words, our results would be stronger if we could tell them apart.

Even though the survey questionnaires cover all the various financing sources that World Bank surveyors are aware of, the largest financing component (37%~41%) for Chinese firms is still unidentified "other" sources. In ADM (2010), this component is put in internal financing and in AQQ (2005), informal financing. Based on our field experiences, these sources include but are not limited to informal financial institutions that operate beyond China's current regulatory boundary, such as the cooperatives and credit organizations that are banned by the central bank. These sources may or may not use constructive mechanisms. They may also include sources that are specified in the questionnaire but the entrepreneurs simply do not want to disclose, or may be misclassifications. Unable to identify the source and the corresponding working mechanisms, we treat them neither as internal financing nor as informal financing in the analysis. However, in the later part of this part, we will use our own self-conducted survey to investigate what exactly this item covers.

While ADM (2010) use only observations on working capital financing, we investigate both working capital and new investment in new land, buildings, machinery and equipment. We are particularly interested in the new investment category, because it is much more striking to use informal financing to support long-term investment than for operational purposes. For example, Lee and Person (2012) suggest that family borrowing may be only used in less risky projects, as entrepreneurs do not want to impose excess risk on families which carry other important social values. Therefore, evidence of how informal financing is used potentially contributes fresh insights and new perspective to this literature.

3.4 Summary statistics of financing sources

We summarize the usage of various financing sources to fund new investment and working capital in the full survey sample as well as in subsamples partitioned by locations and firm characteristics. In particular, we report the usage of each type of informal source across regions.

Usage of financing sources

Table 3 describes the percentage of each financing component, with panel A for each individual form, panel B, groupings, and panel C, the correlations among these sources and their correlations with firm growth. As panel A shows, while the "other" category ranks first, the second largest source is bank loans, which is 21% for working capital and 27% for new investment with most of them coming from local banks. Retained earnings are the third largest source covering 16% for working capital and 13% for new investments. The equity financing comes next, with the majority coming from selling shares to other legal entities that raises around 7%. Funds raised from employees through equity are also significant covering more than 3% of the working capital and new investment, while the public issuance of equity only counts for about 1% of the funding. The distribution pattern paints a clear picture that the most important and largest components of the financial system in China – the state owned banks and public equity market – contribute little to financing private firms.

Panel B shows that disclosed informal financing contributes about 8%-10% to total financing for firms' working capital as well as new investments. The majority, 6.8%~7.8% is in the constructive category and about 1.8% is in underground financing.

Finally, panel C shows that firms' sales growth is positively associated with the usage of constructive informal financing in both new investment and in working capital. Bank financing and underground informal financing, however, have negative or very minimal correlations with

firms' sales growth. The usages of constructive informal financing in new investment and in working capital are highly correlated.

[Insert table 3 about here]

Cross region variation in the usage of informal financing

To gain insight into cross region patterns, we plot in Figure 1 the composition of total financing for new investment (panel A) and working capital (panel B) by cities. At the aggregate level of each city, we compute the percentage of each financing source over total financing. These percentages are then presented using different patterns of shadow in the column corresponding to the city. As we see from the figures, the equity financing for new investment is highest in Wuzhou with about 30% and lowest in Dalian with about 5%. Bank loans for new investment are highest in Jiangmen with about 35% and lowest in Haerbin with about 2%. Total informal financing for working capital is highest in Wenzhou with about 16% and lowest in Guiyang with about 2%.

In Figure 2, we further decompose the informal financing sources into interpersonal loans, trade credits, and underground informal financing. Each type of informal financing varies dramatically across cities. For example, Wenzhou again ranks first in terms of using interpersonal loans for working capital. However, Hangzhou, a city less than 100 kilometers away from Wenzhou, but 10 times larger in size and one level higher in terms of political jurisdiction, has the lowest usage of interpersonal loans. Moreover, there is no underground financing at all in Hangzhou. The usage of underground financing is highest in Benxi, a city located in the northeast of China not too far away from Haerbin, which has similar natural resources, history, and industry structure, but uses the least bank loans among the sample cities.

[Insert Figure 1 and Figure 2 about here]

17

Variation of using informal financing across firm characteristics

Table 4 reports the percentage of each type of informal financing over total financing in funding firms' new investment (panel A) and working capital (panel B) in subsamples of firms divided by firm characteristics. As the table shows, the usage of inter-personal loans is dramatically larger in start-ups, small firms, and non-SOEs compared to other firms. Consistent with the notion that informal financing works in an environment where social networks prevail in conducting business, we find that the usage of inter-personal loans are much larger in firms that do not sign formal contracts or have external auditors than otherwise. Furthermore, trade credit usage is larger when a friend controls the supplier of the firm than otherwise. However, we also see that trade credit usage is larger in firms in less competitive industries. Furthermore, firms in more competitive industries instead have more inter-personal loans. This pattern is particularly interesting and calls for analysis, because it contradicts the previous literature that suggests that family loans are likely to be used for less risky projects only.

[Insert table 4 about here]

4. Empirical Analysis

This main empirical part of our paper investigates four questions. First, what determines the usage of informal financing? Second, what are the respective roles of constructive informal financing versus underground financing in supporting firm growth? Third, are there further differences between family borrowing and trade credits among the constructive informal financing and why they could behave differently from what the conventional literature suggests? Finally, are informal financing and formal financing substitutes or compliments?

4.1 Choice of informal financing

In table 5, we run logit regressions to explore the determinants of informal financing choices.

The dependent variable is a dummy variable, which equals one if a particular type of informal financing is used by the firm, otherwise zero. For example, the variable Dummy (constructive informal financing) equals one if the surveyed firm uses constructive informal financing in funding its working capital or new investment, otherwise zero. The explanatory variables include firm size, age, leverage, profitability, ownership structure, product market competitiveness, and industry fixed effect. We also control for firms' reliance on informal mechanisms using dummy variables that capture whether the firm has an external auditor and whether the firm signs formal contracts with its suppliers. Finally, we also explore the effect of regional institutional development on the popularity of informal financing. We choose three indices from those developed by the China's National Economic Research Institute (NERI) and the China Reform Foundation (CRF) for this purpose. They are the relation with government (a ranking of perception by the entrepreneurs), market proportion of credit allocation (the portion of bank credits that goes to the private sector), and Legal and Accounting institutional development (a cross region rank by the number of law firms and accounting firms in the city). The indices are computed based on their annual surveys around the country since 1997. We use the 2001 values.

As table 5 shows, the likelihood of using informal financing is negatively associated with firm size, with a marginal effect around -1.9% for constructive informal financing and -0.7% for the underground financing. Both effects are significant at the 1% level. The likelihood of using constructive informal financing is also lower in the SOEs, old firms, and firms that have external auditors. In particular, SOEs are 9% less likely to use constructive informal financing. This effect is again significant at the 1% level. The likelihood of using constructive informal financing is also positively associated with the market proportion of credit allocation, relation with government, and legal and accounting institution development. In particular, market

proportion of credit allocation has a substitution as well as complementary relation with constructive informal financing: When we control for other complementary institutional development in the region, its coefficients turn from positive to negative. Our findings on the determinants of informal financing choices are consistent with Chinese government policies, our field observations, and evidence in existing literature that government biases resource allocation towards the state sector and large firms, leaving private firms and small firms significantly constrained in obtaining financing. The positive and significant relation between the prevalence of access to bank loans and the usage of constructive informal financing suggests that bank loans and informal financing, though naturally substitutes for each other, may actually have a complementary relation in terms of their development and availability. We will explore this issue further in section 4.4.

[Insert table 5 about here]

4.2 Informal financing and firm growth

Endogeneity is always a concern in examining the finance-and-growth relationship. On one hand, firms with access to finance can take investment opportunities and grow; on the other hand, firms that grow will have easy access to finance. Leading or lagging variables is one way to shed light on the causality question. The best leading-lagging relation offered by this survey data is to use financing in year t-1 to t to explain the sales change at the end of year t over the end of year t-1,[5] which should be conservatively interpreted as a contemporary association. We also use two additional methods to address this endogeneity problem: the Heckman (1979) selection model and the propensity score matching method.

The Heckman Model

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[5] This argument in testing that financing leads to growth is exactly the same as in ADM (2010).

20

In the 1st stage of the Heckman approach, we predict the usage of a particular financing source for either working capital or investment purpose based on the choice models in table 5. However, as the survey does not contain information on whether collateral is used in accessing informal financing, we use the fraction of cash payment in repurchasing raw materials and the fraction of firms using any type of informal financing as the instruments for informal financing. In the 2nd stage of the Heckman approach, we regress firm growth over the year on financing choice at the beginning of the year. The control variables include firm characteristics, industry competition, other financing, and Heckman's lambda.

Table 6 presents results from the Heckman approach. The first two columns present the 1st and 2nd stage for constructing informal financing and the last two columns for underground financing. As table 6 shows, constructive informal financing is consistently and positively associated with firm growth both as the choice variable and as the control variable. The magnitude is around 7% and significant at the 10% level. Underground financing, however, is negative but insignificantly associated with firm growth. We conduct sensitivity tests by varying the specification of size using either continuous log(assets) or quintiles of asset size in the regressions and find that the above results are robust to the specification of control variables. When we also use the dummy for whether the firm has an external auditor as the instrument in the first stage, the results are similar. Tables for these robustness tests are available upon request.

[Insert table 6 about here]

Propensity Score Matching Method

In the propensity score matching approach, we match firms based on the likelihood that each particular financing is used for each particular purpose. That is Dummy (constructive informal financing for new investment) equals one if the firm uses constructive informal financing to

finance new investment, otherwise zero. In the first stage, we predict the likelihood of each firm using a particular type of financing for investment in the analysis for table 5. We then construct one matched sample for each type of financing. The treatment samples are firms that used the particular source for the particular function. The controlling samples are drawn from firms that do not use that particular source for that particular function. For each treatment firm, the controlling firm is chosen by matching (the same or the closest with less than 2% deviation) the corresponding type of likelihood. In the second stage, we regress the firms' sales growth on the actual usage of financing sources for the particular purpose in each matched sample.

We report the results from the propensity score matching method in table 7 for usage of informal financing in new investment. When the treatment sample and control sample is correctly matched, the distribution of firm characteristics should be random across the treatment and control samples -, i.e., the parallel assumption. Consistent with this assumption, panel A of table 7 shows that there is no significant difference in firm characteristics and financing likelihood that the matching is based on between the treatment sample and the controlling sample. The only difference is the actual usage of financing and the dependent variable that is to be explained.

Panel B presents the regression results within the matched samples. For each matched sample, we run two regressions that vary in firm size measurement, one with log(assets) and the other size quintiles. Consistent with results in table 6 where the Heckman approach is used, constructive informal financing in the propensity matching method is also consistently and positively associated with firm growth, with the magnitude being around 17% and significant at the 5% level. Underground financing has no significant relation with firm growth.

[Insert table 7 about here]

22

The findings from the Heckman model and the propensity score matching method are both consistent with the prediction from the mechanism-based approach. Informal financing that uses business or social advantages to overcome information asymmetry and facilitate monitoring and renegotiation is an effective method of financing. Although the empirical findings here show no significant relation between underground financing and firm growth, we cannot exclude the possibility that underground financing may have a destructive effect on firm growth. This is because our empirical measurement of underground financing based on this survey data has to include some of the unidentifiable constructive sources that are banned by the central bank for regulatory purposes.

Cross sectional implications

Essentially, the Heckman approach and the propensity score matching method share the same technique which is to control for observables but not latent variables. In addressing possible endogeneity issues driven by unobservables, we try to shed light by examining the cross sectional variation of the relation between the financing source and growth. If we suspect any latent variables drives the relations above, we would need a theory to show that these latent variables drive the cross sectional pattern as well.

As informal financing fills the gap for SME financing, its role in supporting growth should be stronger for smaller, younger, and non-state owned firms (Peterson and Rajan 1997). In examining the cross sectional implication, we notice that family loans and trade credits have quite sharp differences. Therefore, in table 8, we present the subsample relations between family loans and firms' growth. In subsection 4.3 that follows, we explore the differences between family loans and trade credit further.

Results in table 8 support the cross sectional hypotheses. In fact, we find that the positive and significant influence of family loans on firm growth exist only in younger firms, smaller firms and non-state-owned firms.

[Insert table 8 about here]

4.3 Family loans versus trade credit

Our constructive informal financing includes both the family borrowing in which family relationships plays a key information role and trade credit in which business relationships play a key role. It is worth differentiating them to shed light on the risk and costs relevant to informal financing in today's China.

Family values, financing cost, and project risk

As Lee and Person (2012) argue, family borrowing, in addition to the information technology involves altruism and this makes the financing cost likely cheaper than trade credit. On the other hand, social collateral values more than the economic stakes involved in the projects, therefore pushing entrepreneurs to use it as the last resort in order to reduce the risk imposed on altruistic relatives. In summary, this theory implies that trade credits are more costly than family borrowing, while the latter is matched with less risky projects than the former.

We therefore analyze interpersonal borrowing and trade credit's relation with firm growth by coding them separately for working capital and new investment respectively. The results are reported in table 9. We find that interpersonal borrowing from family and relatives is associated with around 12% of sales growth, and the relation is significant at the 5% level. Trade credit, however, is not significantly associated with firm growth.

[Insert table 9 about here]

This finding, from Lee and Person's (2012) perspective, suggests that there are many low risk and profitable projects in China, but access to financing at a reasonable cost is the largest hurdle to achieve growth. This conjecture also implies that the effectiveness of family borrowing in supporting firm growth will be stronger in regions where the institutional environment is better. We empirically examine this implication to test this conjecture.

In table 10, we report the role of family borrowing in the subsample of firms according to the regional development of the private sector and legal and accounting institutions. The analysis is conducted in two stages (Heckman) but we report only the 2nd stage results. As table 10 shows, the coefficients of family loans on sales growth are significant only in the subsample of firms located in the cities where the development of private sector and legal and accounting institutions is high. Trade credit, underground financing, and bank loans, however, do not have such a pattern. This cross sectional pattern further confirms our conjecture that there are many low risk and profitable projects in China, but access to financing at a reasonable cost is the largest hurdle to achieving growth.

[Insert table 10 about here]

Trade credits, costs, and monopoly power

A natural question then is why trade credit cannot achieve the same goal. We conjecture two possible reasons. First, according to (Cull, Xu, and Zhou 2009), trade credits in China are often channeled through formal sources. The financing through the formal sector is costly. Trade credits are hence likely to be costly. Second, according to Lehar, Song, and Yuan (2013) firms with monopoly power over suppliers or customers are likely to use trade credits to extract surplus rather than financing. Consistent with the two possible mechanisms mentioned above, we find that large firms and firms with bank loan access are more likely to have access to trade

credit (tables are available upon request). Furthermore, trade credits in large firms and firms

with fewer competitors are indeed associated with better firm growth. The results are presented

in table 11. This empirical evidence explains why trade credit cannot play an effective substitute

financing role in China. As a result, family lending becomes an important factor for China's

economic growth.

[Insert table 11 about here]

4.4. Substitutes or complements: bank financing and informal financing

As family transfers play an important role in supporting firm growth, economic

improvement by households reinforces the advancement of the corporate sector. Therefore, our

earlier findings that informal financing are more prevalent in regions where banks grant more

credit to firms is quite intuitive. That is, formal and informal financing are complementary to

each other in terms of their development. In this subsection, we further analyze their relation in

terms of their role in supporting firm growth.

We regress firm growth on the usage of constructive informal financing, the percentage

of firms in the region that access bank loans, their interactive and other control variables. As

table 12 shows, regional development in bank financing is positively and significantly associated

with firm growth. The coefficient is large ranging between 36% and 50%, and always significant

at the 5% level. Usage of constructive informal financing is also positively associated with firm

growth with a coefficient of 8% ~12% on average. The coefficients on their interactions,

however, are negative and in one of the specifications, significant.

These findings in table 12 deliver two messages. First, both bank loans and constructive

informal financing are positively associated with firm growth. Second, their interactive role,

however, is negative. Together with the early finding that constructive informal financing is

more prevalent in cities where more firms access bank loans, we can see that informal financing can effectively support economic growth when bank credits supply lags behind economic demand. Its development, however, largely depends on banking development and hence on the economic advance of householders. Therefore formal and informal financing are both substitutes and complements.

[Insert table 12 about here]

5. Other issues

In this section, we address two important related issues with informal financing. First, whether the informal financing and growth relation we find here is China-specific only? Second, what is in the "other financing" category and whether unbundling this black-box affects the results above?

5.1 Is China an outlier?

As the World Bank Enterprise Surveys covers registered businesses across countries with similar survey questions, we are able to conduct the same empirical examination in other countries. We do not expect the results found in China to be robust in all other countries, because institutional background, social structure, and family interactions vary across countries and they play the key role in forming informal financing mechanisms. An important question is whether China is an outlier and if so to what extent China is an outlier. Therefore, we examine informal financing in another 12 emerging countries covered by the survey. These 12 countries are either among the top 10 largest emerging economies or the top 10 fastest growing emerging economies in the world.

Informal financing across countries

In table 13, we present, for these 12 countries together with China, the year when the surveys were conducted, the sample size, and the composition of financing for each country. In panel A, we present the percentage of each financing source for working capital and in panel B, new investment. In panel C, we present the descriptive statistics for the control variables.

Consistent with Beck, Demirguc-Kunt, and Maximovic's (1998) description of financing patterns around the world, panel A shows that for most countries the largest financing component is "retained earnings", followed by "bank financing". The percentage of informal financing, based on our categorization of constructive financing (trade credit + personal lending) and underground financing (other informal) on average accounts for 13.02% (median) or 13.16% (mean) of total financing of working capital. It is the lowest at 4.25% in Egypt and the highest at 20.42% in Brazil. China at 9.87% actually locates in the lower middle part of the range. Panel B shows a similar pattern in the financing for new investments. In particular, the percentage of informal financing in China is 8.75%, which is comparable to the mean across countries of 7.50%. Therefore, China is not an outlier in using informal financing. In fact, it is quite an "average" country compared to other large or fast developing economies.

[Insert table 13 about here]

We present the firm and industry characteristics in Panel C. Firm size, measured by total assets, varies across countries. Sample firms in Chile and Pakistan are particularly large with average total assets of $3,373 million and $1,454 million, respectively. China's sample average of firm size and age are close to the median across countries' averages. Using the same criteria as for Chinese firms, *Dummy SOE* in the international sample equals one if the government holds more than a 50% stake in the firm, otherwise zero. *Bank Loan Dummy* equals one if a firm has an overdraft facility or line of credit, otherwise zero.

The survey asks firms to rank the degree to which access to finance becomes a major constraint for business development. The rank ranges from 0 to 4, with 4 indicating the most severe constraint and 0, the least. The constraint in access to finance is most severe in Brazil (2.59) and least severe in South Africa (0.79). This question, however, is not available for the Chinese sample. Hence, we are unable to infer whether China is an "average" country in terms of the severity of access to finance impeding development. Another shortcoming of the international survey sample is that information on competitors is missing for Chile, China, Egypt, Turkey, and Vietnam. Therefore, we construct a dummy variable to indicate whether competition information is missing for a firm. The mean of this dummy is 58% for the international sample.

The effect of culture values on informal financing usage

Finally, in panel D of table 13, we investigate the cultural influence on informal financing usage. We obtain observations of *interpersonal trust, confidence in government*, and *happiness* indices from the World Value Survey (the 1999-2004 wave) conducted by the World Value Survey Association. The usage of constructive informal financing, underground financing, interpersonal loans, trade credits, and others are respectively explained by these three indices (one-by-one) and with control for firm size – log(Assets), age, number of competitors, ownership, financing constraints, and bank loan access, and industry fixed effects. For each regression, we report only the coefficients on the corresponding World Value indices.

As the panel shows, constructive informal financing and interpersonal borrowing in particular is significantly and positively associated with *interpersonal trust, confidence in government,* and *happiness.* Trade credit usage is also positively associated *with interpersonal trust* and *happiness*, but negatively with *confidence in government*. Finally, underground financing is significantly negatively associated with *confidence in government* and *happiness*.

These results suggest that in countries where people are happy, trust each other and the government, financing using social and business networks is more likely to occur. On the other hand, in countries, where people are not happy, do not trust each other or the government, legal financing or financing with violent recourse methods are more likely to occur.

Informal financing and firm growth across countries

In analyzing the relation between informal financing and firm growth, we again use the Heckman approach to control for endogeneity. In the first stage, we analyze the determinants of constructive informal financing and underground financing respectively. The dependent variable *Dummy(constructive informal financing)* equals one if constructive informal financing is used in either working capital or new investment. The same is done for underground financing. As we don't have the city level information on financial development for other countries as we do for China, we use the rank of how severe access to finance imposes constraints on firm business as the instrumental variable. Other explanatory variables include firm size, age, state ownership, industry competition, bank financing, other financing, and industry fixed effect. In the second stage, we regress firms' log(sales growth) on constructive informal financing and underground financing respectively. The control variables include all the above and Heckman's lambda from the first stage.

We present the results in table 14, with panel A for constructive informal financing and panel B for underground financing. As the table shows, with occasional exceptions, firms' usage of informal financing, both for constructive informal ones and underground ones, are significantly and positively associated with firms' rank of severity that access to finance becomes their development constraint. In Chile, the Philippines, and Sri Lanka, the usage of constructive informal financing is also significantly and positively associated with firms' access

to bank loans just as in China. These relations, however, are obfuscated when it comes to underground financing.

For the role of supporting firm growth, we find that in the Turkish sample usage of constructive informal financing is positively and significantly associated with log(sales) growth (coefficient 0.098 and t stat 2.06). This relation, however, does not show up in other countries, and even goes the opposite way for Thailand. The results on Thailand are overall quite puzzling, because even bank loan access in that country is negatively and significantly associated with firm growth.

For the analysis of underground financing, Egypt and South Africa drop out of the sample because of perfect prediction in the 1st stage. In the remaining 10 countries, 7 of them display a negative relation between underground financing and firm growth. This negative relation is significant in Bangladesh, Brazil and Sri Lanka.

In sum, the Heckman analyses deliver the following results. First, the constraint on access to finance encourages the usage of informal financing as a substitute. Second, access to constructive informal financing is complimentary to access to bank loans, because they are positively associated with each other. Third, constructive informal financing (underground financing) is positively (negatively) associated with firm growth in some other countries just as in China. Overall, these results suggest that China is not the only country that benefits from informal financing and that our approach of categorizing informal financing is applicable to other countries to a certain extent.

[Insert table 14about here]

5.2 What do we know about "other financing"?

31

As the international comparison in table 13 shows, the black-box "other financing" in China appears to be much higher than in other countries. It seems inappropriate to include this item in either formal or informal financing given the survey questionnaires have listed various sources of "informal" as well as a choice of "other informal". Possibly due to variation of certain financing items' definitions across countries, some formal/informal financing items are recorded in the "other financing" item. In the earlier analysis, we chose to be conservative, exclude this item, and include only what is definitely informal financing.

However, the "other financing" item represents a quite large component of financing and is too important to ignore. AQQ (2005) and Allen, Carletti, Qian, and Valenzuela (2013) group the "other" item (38.57%) into informal financing. ADM (2010) instead treat it as retained earnings possibly because China's retained earnings appear to be lower than other countries'. Indonesia (19.47% in other) and Sri Lanka (15.81% in other) may have the same problem as China. In the rest of this section, we want to address two questions related to this issue. First, has this item driven the discrepancy in the literature regarding the role of informal financing? Second, what financing sources are really included in this item?

The role of "other financing" in supporting firm growth

In panel A of table 15, we analyze the relation of "other financing" with firm growth. There are three Heckman regressions. The first one treats "other financing" as part of constructive informal financing; the second one treats "other financing" as part of underground financing, and the third one analyzes "other financing" by itself. We find that the severity of access to finance as a business constraint does not explain the "other financing." Furthermore, "other financing" itself is negatively but insignificantly related with firm growth. This effect is similar to underground financing. Combining these two makes no difference to their relation to firm

growth. However, when "other financing" is included in the constructive informal financing, it weakens both the economic magnitude and significance for the latter's effect on firm growth.

In panel B of table 15 we apply the Heckman approach to "other financing" in the international sample. We find that the severity of access to finance as a business constraint does not explain the "other financing" in many countries. The exceptions are Brazil, Chile, and Egypt. The usage of "other financing" is more common in state-owned, larger, or older firms. Furthermore, "other financing" is associated with firm growth in Egypt, Sri Lanka, and Vietnam. .

Results in table 15 suggest that the determinants and role of "other" financing have large cross country variations. "Other financing" is positively associated with firm growth in some countries, however, not in China. It therefore calls for a comparative approach to understand this category in depth and across countries. Given its large magnitude in Chinese firms' financing components, we next focus on China to conduct a careful investigation of this opaque item.

[Insert table 15 about here]

What are included in the "other financing" category?

We try to address this question with two approaches. First, we conduct univariate comparison for the usage of "other' financing for the Chinese sample in the World Bank's survey. In panel A of table 16, we find that the usage of "other" financing is larger in the state-owned firms than non-state owned firms, smaller firms, younger firms, and firms with better past growth. The pattern related to ownership suggests that "other" financing perhaps includes certain government subsidiaries. The pattern related to size and age however suggests that it may also include informal financing.

Second, we use a sample of face-to-face surveys with entrepreneurs that we conducted around the country to obtain detailed specific financing items used by the entrepreneurs. In particular, the survey questionnaire differentiates the financing at the startup stage and growth period. It also avoids asking for financial, profitability, or identification questions to reduce potential hiding or distortion of information. The survey was conducted in 2008 covering 13 cities that overlap with the World Bank's Survey. Among the 431 sample firms, there are 400 valid observations for financing at the startup stage, and 282 for financing at the growth stage. In identifying the financing items, we use terms with which the local entrepreneurs are familiar with and when there is any possibility of confusion, we ask the entrepreneurs to describe the financing arrangement then categorize the item accordingly ourselves. The details of the survey are reported in the appendix of this paper.

In table 16, we compare the observations from our own survey to that of the World Bank to gain insights of "other financing" in the World Bank survey. In panels B, C, and D, we present the usage of each financing source based on the World Bank Survey and our own survey on startup financing and financing at the growth stage, respectively. As can be seen, the percentage of financing coming from bank loans, state and government funds, private equity or debts are all at similar levels in the three panels, around 20%, 2%, and 10% respectively. These similarities confirm the comparability of the two surveys.

The dramatic differences show up for Family/friends borrowing, Retained earnings, and others. Specifically, accordingly to our survey, 67% of the financing at the startup stage comes from Family/friends borrowing and 62% if the financing at the growth stage comes from retained earnings. Correspondingly, the World Bank's survey shows 5.71% for interpersonal borrowing, 15.76% for retained earnings, and 41.66% for others. It seems that the "other" has captured

mostly family/friends borrowing for firms at the startup stage and retained earnings for mature firms.

[Insert table 16 about here]

To strengthen the comparability of the sample, we also match firms on their age, size, and ownership structure. The results from the matched samples are consistent with the full sample results above. As such, AQQ(2005) is right to include others in the informal financing if only for the startup firms, while ADM(2010) is also correct to include them in the internal financing if only for mature firms. Most importantly, our results on the role of informal financing classified by information mechanism are not affected by the category of "other financing".

6. Conclusion

We distinguish informal financing by whether the providers have effective information technology to overcome moral hazard and adverse selection problems that impede formal financing for SMEs and whether repayment avoids violence. We find that constructive informal financing that has an information advantage and monitoring mechanisms through social or business networks can fix the gap between lenders and small firms, and hence support firm growth. Underground financing, on the other hand, without such mechanisms but using violence for repayment cannot achieve the same effect. We also find that the development of the banking industry complements the development of constructive informal financing. While they both play important roles in supporting economic growth, the marginal effect of each declines in the presence of the other. Moreover, the usage and role of informal financing in supporting firm growth is also affected by the regional institutional development and culture values, such as interpersonal trust, trust of the government, and happiness. Combining the World Bank survey

and our survey, we are also able to unbundle the black-box "other financing," that caused problems on where to include it in many previous studies.

Our approach advocates an understanding of informal financing in terms of its information and enforcement mechanisms. The empirical evidence based on this approach reconciles the differences in the existing literature in terms of the role of informal financing. Furthermore, although some studies argue that the Chinese government's ban on informal financing is largely politically driven, our findings suggest that it is partially economically justified, because it also attempts to eliminate some informal sources that involve violence and are potentially socially destructive that fail to bring benefits to firms and the overall economy.

Finally, the international evidence suggests that China is quite "average" in terms of using informal financing. Access to formal finance is a severe business constraint on small private firms in most large and fast growing economics, so informal financing becomes more developed. Constructive informal financing is associated with positive firm growth in some countries and underground financing is associated with negative growth in most countries. As such, our information-mechanism-based understanding of informal financing is applicable to other countries.

Appendix: Our self-conducted survey on Chinese SMEs used in section 5 of this paper

The survey was designed by Professor Meijun Qian, NUS Business School, financially sponsored by the National University of Singapore, and executed with the collaboration from the Center for Financial Security Research, School of Economics, Peking University (organized by Professor Lv Suiqi).

The survey have 63 questionnaires covering six parts of firm information: basic firm characteristics, financing conditions and choices, governance and dispute mechanisms, interactions with formal and informal financial institutions, relationship with government and business associations, and entrepreneur backgrounds. There is also an additional appendix survey for firms that have obtained finance from informal financial institutions on the transaction process and background information. The survey is conducted in 13 cities from all parts of China. It covers all five geographic regions of China and cities of various sizes. 10 of the 13 cities overlap exactly with the World Bank Investment Climate survey's sample cities. The three non-overlaps are Shanghai, Nanjing, and Yangzhou. The latter two are from Jiangsu province. Together with Shanghai, they are part of the most vibrant economic zone in China but were not covered in World Bank's initial survey.

We recruited graduate students from Peking University with matching hometown requirements and trained them extensively with knowledge of corporate financing, one-by-one in each particular survey question, and educated them in the caveats of conducting surveys. They went back to each hometown and conducted the survey at the same time, which was the summer of 2008. We also used PKU tokens as gifts, the PKU's alumni networks, and business consulting by the Center for Financial Security Research to facilitate the face-to-face meeting and monitor the standards of conducting the survey. To get the most honest answers possible, we avoid

asking information that would allow the personal identification of the interviewee or financial information for the firm.

We collected information from 431 sample firms. As we target private sector firms only, we exclude the four firms that were listed firms or state-owned firms that were surveyed by mistake. The final sample of 427 firms is summarized in Appendix table A1. In panel A, we present the distribution of sample firms by city and ownership types consisting of domestic private firms, joint venture with FDI, and joint venture with collectives. In panel B, we present the distribution of sample firms by ownership and industries. We use the Chinese Industry Classification Standards published by the China Bureau of National Statistics to group the firms into seven industries.

Appendix table A2 summarizes sample firms' size, growth, and business network, and professional practice regarding legal and accounting issues. As it shows, our sample covers a wide range of firm sizes and skewed towards small firms. The mean and median of employee numbers are 1059 and 100 respectively. These firms are of various ages too, with both mean and median around 10 years old. More than half of the firms have returns on assets higher than 20%, almost one third have higher than 30% returns over the past 5 years. 73 of them belong to some financing network (credit association) where firms lend to each other. Even more of them, 183, belong to some form of business network where information is exchanged. More than half of them have their own regular legal councils and CPAs. Some (73) of them surprisingly have no professional auditors to monitor their accounting information.

Table A1: Distribution of the sample firms by city, ownership, and industry

Panel A: By city and ownership type

City	Total	Domestic Private	Joint with Foreign	Collectives
Changsha	30	25	4	1
Guiyang	28	24	0	4
Hangzhou	29	22	6	1
Hefei	27	18	4	5
Wuxi	31	22	5	4
Nanjing	30	22	3	5
Shanghai	30	25	5	0
Shenyang/Changchun	30	22	5	3
Shenzhen	32	20	11	1
Wuhan	30	22	4	4
Xi'an/Yinchuan	33	32	0	1
Yangzhou	36	30	5	1
Wenzhou	61	52	7	2
Total	427	336	59	32

Panel B: By industry and ownership type

Industry	Total	Domestic Private	Joint with Foreign	Collectives
Manufacture	215	170	32	13
Computer, Information	52	40	10	2
Energy, Transportation, Construction	36	24	5	7
Retail, food	32	22	5	5
Real Estate, Commercial Services	44	42	1	1
Public Services	9	6	1	2
Others	39	32	5	2
Total	427	336	59	32

Table A2: Summary statistics of sample firms

This table presents summary statistics of the sample firms, their age, size, Return to Assets, access to network for financing, legal Counsel, CPA, and Professional Auditors.

Panel A: Firm Characteristics

	Mean	Min	p10	Median	p90	Max	std
Number of employee	1056	3	30	150	1000	120000	7281
Age of the firms (Year)	10.7	1	4	10	18	59	7

Panel B: Average annualized ROA in the past five years

	<0	0~ 10%	10% ~ 20%	20% ~ 30%	>30%	Total
Number of of firms	34	60	101	89	130	414

Panel C: Number of firms in network or use professional services

	Yes	No
Financing network	73	310
Business Association	182	213
Legal Counsel	284	140
Certified Public Accountant	235	184
Professional Auditors	347	73

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Table 1: Classification of informal financing

	Constructive informal financing	Underground financing
Criterion 1: Informational mechanisms		
Information technology	Personal relationship, social relationship, or business relationship	No relationship or indirect network
Monitoring and risk assessment	Social collateral Economic collateral	None
Pricing	Linked to risk and collateral	Fixed predatory rate or fees
Criterion 2: Repayment/Enforcement		
Recourse/renegotiation in case of delinquency	Restructuring arrangement	Violence
Correlated issues		
Lending targets	Entrepreneurship, business operation, production	Speculation, consumption, or gambling
Legal status	Legal or socially acknowledged	Illegal or socially impermissible
Examples	Trade credit, small loan company, banks' credit extension arms, registered pawnshops or financing companies, interpersonal lending between family and relatives	Loan sharks, unregistered pawnshop, self-claimed lending agency or loan broker

Table 2: Descriptions of sample firms in the survey

We describe the surveyed sample firms in this table. For the 2,400 Chinese firms covered in the survey, we summarize their size (total assets), leverage (debt/equity), fixed assets, sales, age, and their ownership structure in the year 2002. The observations of total assets, fixed assets, leverage, sales, productivity, re-investment rate, profit margin, interest burden, and bank loan interest are winsorized at the 1% level on both sides. The amount of total asset, fixed asset and sales are converted from RMB to USD dollar based on the exchange rate in 2002: USD/CNY=8.28.

We also describe their sales growth and productivity growth from year 2001 to 2002, reinvestment rate, interest burden, profit margin, etc. in year 2002. Sales growth = ln(sale in 2002/sales in 2001); Labor productivity =(Sales-total materials cost)/total number of workers; Labor productivity growth = ln(productivity in 2002/productivity in 2001). Interest burden=interest payment/revenue; Margin=profit/revenue.

Finally, we describe their bank loan access: the percentage firms with bank loan access, approval time (Long Term Loan) and approval time (Short Term Loan) are the days it takes from filing loan application to drawing funding. The loan interest rate is the actual interest rate in the loan contract.

Variable	N	Mean	Median	Std.	Min	Max
Total Asset (USD million)	2,119	19.11	1.95	63.75	0.01	487.03
Fixed Asset (USD million)	2,077	9.49	0.74	31.55	0.00	238.97
Leverage (Debt/Equity)	2,119	0.61	0.60	0.33	0.02	1.83
Age (Year)	2,119	16.24	10.00	14.45	3.00	53.00
Sales (USD million)	2,119	12.17	1.16	43.26	0.00	326.32
# of employees	2,119	545.04	124.00	2,581.15	15.00	70,169.00
Dummy (SOE)	2,119	0.22	0.00	0.41	0.00	1.00
Dummy (Corporate)	2,119	0.40	0.00	0.49	0.00	1.00
Dummy (Cooperative/Collectives)	2,119	0.16	0.00	0.36	0.00	1.00
Sale Growth (%)	2,119	30.47	7.13	121.28	-87.24	849.64
Labor Productivity Factor Growth (%)	1,446	0.67	3.92	68.70	-320.24	209.11
Re-investment Rate (%)	1,877	18.78	0.00	33.12	0.00	100.00
Margin (Profit/Revenue %)	2,117	-10.51	0.65	59.47	-482.49	45.08
Interest Burden (%)	2,118	2.60	0.00	8.34	-0.37	60.26
Dummy (Bank loan access)	2,115	0.24	0.00	0.43	0.00	1.00
Approval time (Days, Long Term Loan)	873	43.07	30.00	58.05	1.00	547.00
Approval time (Days, Short Term Loan)	1,124	23.39	15.00	28.76	1.00	300.00
Bank loan interest rate (%)	1,087	5.13	5.46	2.08	0.07	11.00

Table 3: Financing components of surveyed firms.

We describe the percentage of each financing component contributed to firms' working capital and new investment. In panel A, we present the percentage of each detailed component. In panel B, we present the percentage of each group. The six groups are: (1). Bank Financing, which includes local commercial banks and foreign commercial banks; (2). Equity Financing, which includes the private issuance of equity to both management, employees, other agents and public issuance of equity to outside investors; (3). Government support which includes investment funds or special development financing or other state services; (4).Internal funding which includes retained earnings and others; (5) Constructive informal financing which includes trade credit and loans from family and friends; (6). Underground financing takes "other informal" item, presumably include money lender, pawnshops, loan sharks and informal banks, etc.

Panel A: Percentage of each financing components

	No. of obs.	Local Banks	Foreign Banks	Equity Fin. (employees)	Equity Fin. (legal person)	Equity Fin. (public issue)	Retained Earnings	Trade Credit	Inter Personal	Other infor mal	Govt. Fund	Others
New investment	1,220	21.27	0.14	2.97	7.67	1.21	15.76	1.13	5.71	1.87	0.60	41.66
Working capital	1,730	27.74	0.18	3.15	7.13	0.74	13.29	2.32	5.49	1.84	0.42	37.71

Panel B: Percentage of each financing source groups

	No. of obs.	Bank Financing	Equity Financing	Government Fund	Retained Earnings,	Other Financing	Constructive Informal Financing	Underground Financing
New investment	1,220	21.41	11.85	0.60	15.76	41.66	6.85	1.87
Working capital	1,730	27.92	11.02	0.42	13.29	37.71	7.80	1.84

Panel C: Correlation among financing sources and firm growth

	Log (Sale growth)	Bank loan Dummy	Constr. informal financing	New Investment	Working Capital	Under. financing
Log (Sale growth)	1					
Bank loan Dummy	0.03	1				
Constructive informal Financing	0.06**	0.03	1			
- New Investment	0.07**	-0.06**	0.79***	1		
- Working Capital	0.06**	0.03	0.98***	0.76***	1	
Underground financing	-0.01	-0.04	0.09***	0.08***	0.09***	1

Table 4: Usage of informal financing by firm characteristics

In this table, we report the usage of informal financing in funding new investment (panel A) and working capital (panel B) in the sample firms. The constructive informal financing include interpersonal loans and trade credit. The underground financing takes the item "Other informal" in the survey. We also include the item "other" here, because this is also an item that may have some informal financing,.

Panel A: Informal financing for new investment

	# of firms	Interpersonal	Trade credit	Underground	Others
Classified by Age					
Startup (Age < =6 years)	341	10.53	1.10	2.06	34.92
Young (7 years =<Age <= 20 years)	601	4.30	1.55	1.67	41.89
Established (Age> 20 years)	278	2.86	0.25	2.08	49.42
Classified by Asset					
Small (Below median)	563	11.28	1.12	2.04	42.16
Large (Above/equal median)	655	0.95	1.15	1.73	41.20
Classified by SOE					
Non-State	954	7.04	1.45	1.98	38.51
State Owned	266	0.98	0.00	1.47	52.95
Classified by Competition					
Low (less than16 competitors)	434	3.06	1.89	2.68	39.42
High (more/equal than 16 competitors)	786	7.18	0.71	1.42	42.89
Classified by Industry					
Manufacture	848	6.63	1.49	2.51	38.53
Service	372	3.63	0.32	0.41	48.80
Classified by Fraction of Cash Payment					
Small (Below median)	425	3.47	1.98	1.60	42.44
Large (Above/equal median)	408	10.17	1.02	3.56	33.50
Classified by whether firm has external auditor					
No	299	11.83	1.10	1.50	40.71
Yes	909	3.78	1.16	2.02	42.19
Classified by whether it signs official contract with suppliers					
No	190	10.49	0.89	3.05	39.77
Yes	967	4.94	1.24	1.60	41.49
Classified by whether suppliers are controlled by friends					
No	807	6.79	1.50	2.51	38.62
Yes	25	4.00	2.00	4.00	25.56

Panel B: Informal financing for working capital

	# of firms	Interpersonal	Trade credit	Underground	Others
	Classified by Age				
Startup (Age < =6 years)	479	8.94	1.88	2.12	34.55
Young (7 years =<Age <= 20 years)	844	5.02	3.30	1.92	36.96
Established (Age> 20 years)	407	2.40	0.78	1.34	42.99
	Classified by Asset				
Small (Below median)	863	9.46	1.56	2.32	41.82
Large (Above/equal median)	865	1.54	3.08	1.36	33.69
	Classified by SOE				
Non-State	1,376	6.64	2.84	1.85	35.86
State Owned	354	1.02	0.27	1.80	44.91
	Classified by Competition				
Low (less than16 competitors)	601	3.44	2.95	1.90	36.45
High (more/equal than 16 competitors)	1,129	6.57	1.98	1.81	38.38
	Classified by Industry				
Manufacture	1,209	6.22	3.03	2.08	35.35
Service	521	3.78	0.65	1.29	43.18
	Classified by Fraction of Cash Payment				
Small (Below median)	619	3.36	3.66	1.54	38.06
Large (Above/equal median)	567	9.60	2.47	2.57	31.69
	Classified by whether firm has external auditor				
No	452	11.72	1.37	1.98	39.20
Yes	1259	3.33	2.66	1.82	37.42
	Classified by whether it signs official contract with suppliers				
No	280	9.35	1.45	3.51	37.57
Yes	1,359	4.82	2.57	1.40	36.97
	Classified by whether suppliers are controlled by friends				
No	1,149	6.24	3.01	2.09	35.85
Yes	30	7.33	3.40	0.33	19.93

Table 5: Determinants of informal financing sources

We explain the usage of informal financing (the dependent variable equals 1 if the particular type of informal financing is used by the firm, otherwise 0) with firm characteristics (ln(assets), ln(age)), profitability (past year sales growth, profit margin), ownership structure (dummy for Corporate, Cooperatives/Collectives, or State. State dummy takes the value of 1 if the state owns more than 50% of the company), product market competitiveness (by # of competitors), firms' reliance on informal mechanism (the existence of external auditor and whether the firm signs formal contracts with its suppliers), and regional institutional development (market proportion of credit allocation and Legal and Accounting institutional development in the city). Dummy (Collateral) equals 1 if the firm was able to provide collateral for its existing bank loans, otherwise zero. Dummy (Negative equity) equals 1 if the firm's equity value is negative, otherwise zero. To control for the bank financing environment, we compute the percentage of firms in the city (in the survey sample) that have access to bank loans. The city level institutional development index is computed using surveys conducted by the China's National Economic Research Institute (NERI) and the China Reform Foundation (CRF).We report the marginal effect. T-statistics are in the parentheses. *,**, and *** represent the significance at the 10%, 5%, and 1% level, respectively.

Dependent = Usage of	Constructive informal financing			Underground financing		
	(1)	(2)	(3)	(4)	(5)	(6)
Log(Asset)	-0.016***	-0.019***	-0.020***	-0.005**	-0.007***	-0.007**
	(-3.42)	(-4.05)	(-3.08)	(-2.15)	(-2.63)	(-2.15)
Log(Age)	-0.036***	-0.035***	-0.040**	0.006	0.006	0.004
	(-2.75)	(-2.76)	(-2.27)	(0.77)	(0.83)	(0.42)
Sales growth (1999 to 2001)	0.034**	0.032**	0.023	0.013	0.011	0.006
	(2.06)	(1.96)	(1.04)	(1.51)	(1.38)	(0.61)
Marketization of credit allocation	0.011***	-0.018***	-0.028***	0.001	-0.010**	-0.009*
	(4.24)	(-2.75)	(-3.01)	(0.58)	(-2.42)	(-1.80)
Government relation		0.061***	0.098***		0.018**	0.014
		(4.63)	(5.12)		(2.07)	(1.29)
Service of intermediary institutions		0.038***	0.046***		0.022***	0.023**
		(3.02)	(2.58)		(2.69)	(2.39)
Fraction of Cash Payment			0.106***			0.037**
			(3.06)			(2.03)
Dummy (Has External Auditor)	-0.050**	-0.038**	-0.045*	0.002	0.004	0.008
	(-2.57)	(-2.03)	(-1.72)	(0.13)	(0.35)	(0.48)
Dummy (Sign official contract)	-0.029	-0.027	-0.046	-0.020	-0.020	-0.036*
	(-1.32)	(-1.29)	(-1.45)	(-1.47)	(-1.47)	(-1.95)
Profit Margin	0.018	0.023	0.035	0.001	0.002	0.002
	(0.94)	(1.19)	(1.35)	(0.10)	(0.19)	(0.23)
Dummy (Neg Equity)	0.068*	0.069*	0.096*	-0.007	-0.008	0.000
	(1.82)	(1.87)	(1.89)	(-0.33)	(-0.41)	(0.01)
Dummy (SOE)	-0.090***	-0.088***	-0.114***	0.008	0.009	0.013
	(-3.66)	(-3.60)	(-3.27)	(0.49)	(0.61)	(0.64)
Dummy (Corporate)	0.044**	0.051***	0.037	0.028**	0.028**	0.017
	(2.45)	(2.90)	(1.47)	(2.17)	(2.28)	(1.11)
Dummy (Coop./Coll.)	-0.029	-0.023	-0.043	0.004	0.003	-0.008
	(-1.18)	(-0.92)	(-1.26)	(0.20)	(0.17)	(-0.38)
Dummy (16~100 Competitors)	-0.027	-0.026	-0.033	-0.020	-0.018	-0.021
	(-1.26)	(-1.26)	(-1.17)	(-1.50)	(-1.43)	(-1.47)
Dummy(>100 Competitors)	0.048**	0.046**	0.053*	-0.003	-0.002	-0.017
	(2.47)	(2.41)	(1.93)	(-0.28)	(-0.18)	(-1.17)
Dummy (Service Industry)	-0.124***	-0.126***		-0.019*	-0.022*	
	(-7.42)	(-7.61)		(-1.67)	(-1.95)	
Observations	1,571	1,571	1,137	1,571	1,571	1,137
Pseudo R-squared	0.15	0.17	0.14	0.03	0.05	0.05

Table 6: Informal financing and firm growth – Heckman's approach

In the first stage, we explain the determinants of usage of constructive informal financing. In the second stage, we examine the financing and growth nexus while controlling for the predicted likelihood of the constructive informal financing with Heckman's lambda. The instruments in the first stage are fraction of Cash payment in purchasing raw materials and the percentage of firms in the city using each corresponding type of informal financing. T-statistics are in the parentheses. *,**, and *** represent the significance at the 10%, 5%, and 1% level, respectively.

Dependent=	Dummy (Constructive informal)	Log (Sales growth)	Dummy (Underground financing)	Log (Sales growth)
	(1)	(2)	(3)	(4)
Constructive Informal financing		0.077*		0.079*
		(1.78)		(1.83)
Underground Financing		-0.092		-0.074
		(-1.49)		(-1.20)
Bank Loan Dummy		0.029		0.027
		(0.80)		(0.74)
Fraction of Cash Payment	0.092***		0.029*	
	(2.68)		(1.70)	
Average Usage of Informal Financing in the city	0.006***		0.008***	
	(3.39)		(4.62)	
Government Relation	0.076***	0.067	0.007	0.058*
	(3.91)	(1.58)	(0.74)	(1.85)
Marketization of credit allocation	-0.026***	-0.010	-0.003	-0.014
	(-2.85)	(-0.65)	(-0.58)	(-0.95)
Legal and Accounting institution	0.052***	0.039	0.015	0.052*
	(2.93)	(1.30)	(1.64)	(1.77)
Sales growth (99 to 01)	0.024	-0.029	0.003	-0.032
	(1.05)	(-0.47)	(0.32)	(-0.54)
Profit Margin	0.035	-0.079	-0.005	-0.101*
	(1.39)	(-1.46)	(-0.54)	(-1.89)
Dummy (Neg Equity)	0.089*	-0.166**	0.002	-0.188***
	(1.79)	(-2.19)	(0.08)	(-2.65)
Log (Asset)	-0.018***	-0.031**	-0.007**	-0.033***
	(-2.80)	(-2.48)	(-2.47)	(-3.07)
Log (Age)	-0.039**	-0.071***	0.000	-0.060**
	(-2.23)	(-2.59)	(0.02)	(-2.35)
Dummy (16~100 Comp.)	-0.030	-0.052	-0.020	-0.074*
	(-1.05)	(-1.27)	(-1.49)	(-1.71)
Dummy(>100 Competitors)	0.056**	-0.118**	-0.014	-0.156***
	(2.07)	(-2.39)	(-0.99)	(-3.63)
Ownership types are also controlled in the regression				
Lambda		0.097		0.148**
		(1.03)		(2.16)
Constant		0.069		-0.058
		(0.26)		(-0.26)
Observations	1,149	1,147	1,149	1,147
R-squared		0.06		0.06

Table 7: Informal financing and firm growth – propensity score matching method.

In the first stage, we analyze the determinants of financing. For each of the treatment firms that uses the specific financing source for the specific function purpose, we find a matching controlling firm. The controlling firm meets two requirements: first it is a firm that does not use that specific financing sources for any function, and second it has the same likelihood (if not the same, the closest with less than 2% deviation) based on the first stage model's prediction of the informal financing source usage. In the second stage, we regress the firm growth on dummy (using specific financing sources for specific functions) within the matched sample and with other financing sources and firm characteristics controlled for.

In panel A, we compare the firm characteristics of the treatment sample and controlling sample. In panel B, we report the regression results from the matched sample. T-statistics are in the parentheses. *,**, and *** represent the significance at the 10%, 5%, and 1% level, respectively.

Panel A: Comparison of firm characteristic in the matched samples

Matched sample by the likelihood of access to:	Constructive informal financing in new investment		Underground financing in new investment	
	Treatment sample mean – controlling sample mean	*t*-stat of the difference in mean	Treatment sample mean – controlling sample mean	*t*-stat of the difference in mean
Log Sales Growth (%)	0.183**	2.34	0.005	0.04
Dummy (Bank loan)	-0.020	-0.31	-0.087	-0.70
% of firms in the city using constr. inf. fin.	-0.004	-0.28	-0.035	-1.41
Dummy (Collateral)	-0.010	-0.14	-0.217	-1.53
Sales growth (99~01)	0.015	0.97	0.016	0.87
Margin (Profit/Sales, %)	0.017	0.21	-0.056	-0.19
Dummy (Negative Equity)	-0.020	-0.55	0.000	0.00
Log Asset	0.055	0.20	0.568	0.84
Log(Age)	-0.035	-0.39	0.055	0.27
Similar comparison are done for firm ownership and competition				

Panel B OLS results within the matched sample: Dependent = Log(sale growth 2001 ~ 2002)

Matched sample by the likelihood of access to:	Constructive informal financing in new investment		Underground financing in new investment	
	(1)	(2)	(3)	(4)
Dummy (Const. informal fin.in new investment)	0.173**	0.184**		
	(2.21)	(2.37)		
Dummy (Underground fin. in new investment)			0.074	0.101
			(0.65)	(1.02)
Dummy (Bank loan)	0.144	0.126	0.221	0.315**
	(1.58)	(1.41)	(1.67)	(2.35)
Continuous firm size measures	Yes	No	Yes	No
Quartile size measures	No	Yes	No	Yes
Firm characteristics, ownership, competition, and regional institution development indices are controlled for				
Observations	202	202	46	46
R-squared	0.08	0.12	0.27	0.47

Table 8: Cross sectional implication for the finance and growth relation

In this table, we analyze the finance and growth relation in the subsample of firms. Six subsamples are constructed. They are (1). Non-SOEs; (2). SOEs; (3) Assets size <median; (4). Assets size>median; (5). Start-up: Age=<6 years; (6). Young: Age between 7 and 20, and (7). Established: Age>=20. Family loan dummy equals one if family loan is used in working capital or new investment. T-statistics are in the parentheses. *,**, and *** represent the significance at the 10%, 5%, and 1% level, respectively.

Dependent =	Log (Sales growth 2001 ~ 2002)						
	Non-SOE	SOE	Assets <Median	Assets >Median	Startup	Young	Established
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Family Loan Dummy	0.114***	-0.037	0.102**	0.160*	0.137*	0.105*	-0.020
	(2.72)	(-0.12)	(2.14)	(1.69)	(1.74)	(1.87)	(-0.14)
Bank Loan Dummy	0.030	0.079	0.100*	-0.003	0.048	0.045	0.055
	(0.84)	(1.05)	(1.94)	(-0.08)	(0.63)	(1.04)	(0.91)
Dummy (Neg Equity)	-0.111	-0.145	-0.024	-0.235***	0.133	-0.136	-0.190**
	(-1.49)	(-1.36)	(-0.27)	(-2.72)	(0.81)	(-1.45)	(-2.10)
Log (Asset)	-0.011	-0.010	-0.007	-0.008	-0.013	-0.015	0.005
	(-1.23)	(-0.75)	(-0.43)	(-0.57)	(-0.85)	(-1.38)	(0.28)
Log (Age)	-0.049**	-0.047	-0.071**	-0.039	-0.403**	-0.072	0.043
	(-2.05)	(-1.28)	(-2.05)	(-1.59)	(-2.52)	(-1.12)	(0.38)
Dummy (SOE)			0.051	0.014	0.036	0.038	-0.022
			(0.78)	(0.28)	(0.37)	(0.62)	(-0.31)
Dummy (Corporate)	-0.034		-0.036	-0.040	-0.044	-0.046	-0.006
	(-0.96)		(-0.64)	(-0.93)	(-0.67)	(-1.03)	(-0.08)
Dummy (Coop./Coll.)	-0.029		-0.027	-0.073	-0.030	-0.032	-0.055
	(-0.58)		(-0.41)	(-1.07)	(-0.18)	(-0.50)	(-0.61)
Dummy (16~100 Competito	-0.025	-0.110	-0.021	-0.066	0.033	-0.073	-0.077
	(-0.61)	(-1.59)	(-0.35)	(-1.46)	(0.40)	(-1.48)	(-1.08)
Dummy(>100 Competitors)	-0.133***	-0.091	-0.094*	-0.162***	-0.160**	-0.124***	-0.052
	(-3.48)	(-1.18)	(-1.85)	(-3.28)	(-2.17)	(-2.63)	(-0.77)
Constant	0.479***	0.486*	0.514*	0.402*	0.856**	0.627***	0.160
	(3.32)	(1.95)	(1.71)	(1.93)	(2.43)	(2.78)	(0.34)
City Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,376	353	864	863	478	844	407
R-squared	0.04	0.10	0.05	0.07	0.08	0.04	0.07

Table 9: Within constructive informal financing: trade credit and personal borrowing from family and relatives

In this table, we explain firm growth with financing sources, firm characteristics, and product market competitiveness. We separate constructive informal financing into trade credit and interpersonal (family) borrowing. T-statistics are in the parentheses. *,**, and *** represent the significance at the 10%, 5%, and 1% level, respectively.

Dependent =	Log (Sales growth 2001 ~ 2002)			
Usage of informal finance	Working capital		New investment	
	(1)	(2)	(3)	(4)
Family Loan Dummy	0.112***		0.125**	
	(2.59)		(2.01)	
Trade Credit Dummy		-0.018		0.078
		(-0.29)		(0.82)
Bank Dummy	0.042	0.044	0.048	0.047
	(1.34)	(1.40)	(1.31)	(1.30)
Dummy (Neg. Equity)	-0.119*	-0.117*	-0.130*	-0.127
	(-1.94)	(-1.91)	(-1.68)	(-1.64)
Log (Asset)	-0.010	-0.013*	-0.007	-0.010
	(-1.34)	(-1.72)	(-0.79)	(-1.17)
Log (Age)	-0.048**	-0.049**	-0.051**	-0.052**
	(-2.44)	(-2.46)	(-2.35)	(-2.39)
Dummy (SOE)	0.018	0.013	-0.001	-0.004
	(0.47)	(0.33)	(-0.02)	(-0.09)
Dummy (Corporate)	-0.039	-0.030	-0.041	-0.032
	(-1.20)	(-0.93)	(-1.12)	(-0.87)
Dummy (Coop./Coll.)	-0.047	-0.048	-0.034	-0.036
	(-1.01)	(-1.04)	(-0.62)	(-0.65)
Dummy (16~100 Competitors)	-0.044	-0.046	-0.077*	-0.077*
	(-1.24)	(-1.28)	(-1.86)	(-1.83)
Dummy(>100 Competitors)	-0.126***	-0.123***	-0.148***	-0.142***
	(-3.69)	(-3.61)	(-3.91)	(-3.72)
Constant	0.410***	0.444***	0.405***	0.450***
	(3.03)	(3.29)	(3.54)	(3.98)
City Dummies	Yes	Yes	Yes	Yes
Observations	1,728	1,728	1,219	1,219
R-squared	0.04	0.04	0.06	0.06

Table 10: Role of family loans in supporting firm growth – by institutional development in the region

In this table, we analyze the role of family loan in supporting firm growth with Heckman's approach. The second stage results are reported below. Each column is the second stage estimation, representing whether a particular institutional development is high or low. T-statistics are in the parentheses. *,**, and *** represent the significance at the 10%, 5%, and 1% level, respectively.

	Stage 2: Y = Log (Sales growth)			
	Development of private sector		Legal and Accounting Institutions	
	High	Low	High	Low
Family Loan Dummy	0.139**	0.063	0.139**	0.058
	(2.47)	(1.01)	(2.14)	(1.06)
Trade Credit Dummy	0.048	-0.207	0.015	-0.194
	(0.79)	(-1.39)	(0.25)	(-1.03)
Underground financing	-0.045	-0.081	-0.028	-0.083
	(-0.63)	(-1.02)	(-0.43)	(-1.05)
Bank Loan Dummy	0.047	0.068	0.014	0.107**
	(1.14)	(1.38)	(0.32)	(2.27)
Log (Asset)	-0.016	-0.022	-0.008	-0.020
	(-1.00)	(-1.45)	(-0.53)	(-1.22)
Log (Age)	-0.053*	-0.081**	-0.059**	-0.062*
	(-1.82)	(-2.52)	(-2.16)	(-1.79)
Sales growth (99 to 01)	0.028	-0.091	-0.036	-0.076
	(0.36)	(-1.50)	(-0.59)	(-1.02)
Profit Margin	-0.091	-0.138**	-0.125*	-0.114**
	(-1.33)	(-2.57)	(-1.83)	(-1.99)
Dummy (Neg Equity)	-0.130	-0.236***	-0.157*	-0.236***
	(-1.47)	(-2.67)	(-1.80)	(-2.62)
Lambda	0.075	0.032	0.058	-0.009
	(1.43)	(0.39)	(0.88)	(-0.12)
Constant	0.339**	0.545***	0.373***	0.515***
	(2.32)	(3.36)	(2.74)	(3.19)
Market competition and firm ownership are controlled for.				
City Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Observations	808	845	859	794
R-squared	0.04	0.09	0.06	0.07

Table 11: Trade credits' role in supporting firm growth

In this table, we explain firm growth with trade credit and its interaction with firm characteristics. *Trade Credit* equals one if the firm use trade credit in its financing, otherwise equals zero. T-statistics are in the parentheses. *,**, and *** represent the significance at the 10%, 5%, and 1% level, respectively.

Dependent =	Log (Sales growth 2001 ~ 2002)			
	Working Capital		New investments	
	(1)	(2)	(3)	(4)
Trade Credit*Log (Asset)	0.065***		0.052	
	(2.71)		(1.41)	
Trade Credit*Dummy (<15 Competitors)		0.209*		-0.118
		(1.81)		(-0.61)
Trade Credit	-0.707***	-0.103	-0.443	0.140
	(-2.71)	(-1.21)	(-1.30)	(0.82)
Bank Dummy	0.042	0.044	0.048	0.048
	(1.32)	(1.38)	(1.33)	(1.31)
Dummy (Neg Equity)	-0.125**	-0.125**	-0.135*	-0.136*
	(-2.05)	(-2.06)	(-1.74)	(-1.76)
Log (Asset)	-0.015**	-0.012*	-0.011	-0.010
	(-2.10)	(-1.75)	(-1.35)	(-1.17)
Log (Age)	-0.066**	-0.069**	-0.076**	-0.077**
	(-2.08)	(-2.18)	(-2.16)	(-2.20)
Dummy (SOE)	0.009	0.011	-0.007	-0.008
	(0.24)	(0.28)	(-0.17)	(-0.19)
Dummy (Corporate)	-0.023	-0.022	-0.025	-0.025
	(-0.72)	(-0.68)	(-0.68)	(-0.68)
Dummy (Coop./Coll.)	-0.053	-0.046	-0.036	-0.034
	(-1.13)	(-0.97)	(-0.65)	(-0.62)
Dummy (<15 Competitors)	0.090***	0.082***	0.113***	0.118***
	(2.97)	(2.62)	(3.31)	(3.45)
Constant	0.275**	0.246**	0.263***	0.248**
	(2.21)	(2.01)	(2.65)	(2.50)
City Dummies	Yes	Yes	Yes	Yes
Observations	1,726	1,726	1,217	1,217
R-squared	0.04	0.04	0.05	0.05

Table 12: Complementary role of bank financing and constructive informal financing

In this table, we explain firm growth with financing sources, firm characteristics, ownership, and the competiveness on the product market. We include a new variable, percentage of firms in the city using constructive informal financing, and its interaction with bank loan access. T-statistics are in the parentheses. *,**, and *** represent the significance at the 10%, 5%, and 1% level, respectively.

Dependent =	Log (Sales growth 2001 ~ 2002)			
Usage of informal finance	Working Capital		New investments	
	(1)	(2)	(3)	(4)
Dummy (Constructive Informal financing)	0.224*	0.080**	0.416**	0.136**
	(1.82)	(2.12)	(2.45)	(2.42)
% of firms in the city using bank loan	0.438**	0.345**	0.495**	0.369*
	(2.36)	(2.03)	(2.37)	(1.86)
% of firms in the city using bank loan	-0.589		-1.207**	
* Dummy (Constructive inf. fin.)	(-1.40)		(-2.08)	
Log (Asset)	-0.010	-0.010	-0.006	-0.007
	(-1.44)	(-1.51)	(-0.82)	(-0.83)
Log (Age)	0.024	0.025	0.005	0.006
	(0.63)	(0.65)	(0.13)	(0.13)
Dummy (Neg Equity)	-0.139**	-0.139**	-0.152**	-0.150*
	(-2.28)	(-2.28)	(-1.98)	(-1.96)
Dummy (SOE)	-0.032	-0.031	-0.034	-0.036
	(-1.01)	(-1.00)	(-0.98)	(-1.01)
Dummy (Corporate)	-0.049	-0.050	-0.020	-0.022
	(-1.11)	(-1.14)	(-0.37)	(-0.41)
Dummy (Coop./Coll.)	-0.040	-0.040	-0.074*	-0.070*
	(-1.13)	(-1.12)	(-1.79)	(-1.68)
Dummy (16~100 Competitors)	-0.118***	-0.118***	-0.141***	-0.138***
	(-3.55)	(-3.55)	(-3.73)	(-3.63)
Dummy(>100 Competitors)	-0.044**	-0.044**	-0.045**	-0.046**
	(-2.26)	(-2.26)	(-2.08)	(-2.13)
Constant	0.245***	0.271***	0.226**	0.258**
	(2.69)	(3.08)	(2.19)	(2.56)
Observations	1,730	1,730	1,220	1,220
R-squared	0.03	0.02	0.03	0.03

Table 13: Financing sources by country

This table presents the financing composition (percentage of the total financing) for each country. *Bank Financing* includes financing from domestic and foreign banks; *Operation Financing* includes Credit Card and Leasing arrangements. *Constructive informal financing* includes *trade credit* and *Interpersonal loans. Underground financing is measured with other informal financing. Access to Financing as Business Constraint* ranges from 0 to 4 indicating how severe the access to financing imposes constraints on the firms' business development (4 indicates most severe, 0 indicates least severe).

In panel A and B, we report the financing composition for working capital and new investment respectively. In panel C, we summarize firm characteristics in each sample country. Finally in panel D, we investigate the cultural influence on informal financing usage. We obtain observations of *interpersonal trust, confidence in government*, and *happiness* indices from the World Value Survey (the 1999-2004 wave) conducted by the World Value Survey Association. Each coefficient reported in the panel D is from an independent regression. In the regressions, we control for firm size – log(Assets), age, number of competitors, ownership, financing constraints, and bank loan access, and industry fixed effects.

Panel A: Financing in working capital (%)

Country	Year of Survey	# of firms	Bank Financing	Equity Financing	Government Fund	Retained Earnings	Operation Financing	Trade Credit	Inter-personal loan	Other Informal	Other	Constructive +Underground (TC, IPL, OI)
Bangladesh	2002	974	33.21	0.51	0.48	55.82	0.51	4.17	4.26	0.46	0.58	8.90
Brazil	2003	1,505	26.95	3.03	2.26	43.99	1.50	15.37	2.52	2.53	1.84	20.42
Chile	2004	922	27.35	0.48	1.76	52.16	1.82	6.80	0.97	0.36	8.31	8.13
China	2003	1,902	26.51	11.54	0.38	13.13	NA	2.29	5.76	1.82	38.57	9.87
Egypt	2004	704	6.05	2.66	0.20	85.62	0.28	1.67	2.49	0.09	0.94	4.25
Indonesia	2003	482	17.74	1.61	0.94	39.93	1.18	3.63	8.89	6.61	19.47	19.13
Pakistan	2002	936	4.92	12.87	1.28	65.27	1.43	4.70	6.99	1.29	1.26	12.98
Philippines	2003	650	8.48	5.99	0.29	61.87	0.62	11.54	8.25	1.09	1.87	20.89
South Africa	2003	505	15.64	0.65	0.15	66.94	1.03	11.68	1.14	0.21	2.57	13.02
Sri Lanka	2004	369	22.69	12.76	1.89	32.15	1.44	10.24	2.67	0.35	15.81	13.26
Thailand	2004	1,385	45.69	11.04	0.58	24.82	NA	13.61	1.48	1.11	1.38	16.19
Turkey	2005	599	19.65	10.23	6.40	49.25	3.72	6.57	3.56	0.16	0.46	10.29
Vietnam	2005	1,096	27.60	26.36	0.84	27.23	0.72	7.43	5.30	0.65	3.04	13.38
Total		12,029	24.36	8.43	1.21	42.72	1.26	7.75	4.10	1.31	9.10	13.16

Panel B: Financing in new investments (%)

Country	Year of Survey	# of firms	Bank Financing	Equity Financing	Government Fund	Retained earnings	Operation Financing	Trade Credit	Inter-personal loan	Other Informal	Others	Constructive +Underground (TC, IPL, OI)
Bangladesh	2002	884	29.60	0.38	0.26	60.04	1.77	2.64	4.31	0.35	0.65	7.30
Brazil	2003	1,248	14.24	4.27	8.61	56.26	3.52	8.69	1.12	1.05	2.25	10.85
Chile	2004	655	30.74	1.21	2.55	47.48	6.08	3.51	0.60	0.23	7.60	4.34
China	2003	1,331	20.53	12.35	0.48	15.29	NA	1.04	5.93	1.78	42.60	8.75
Egypt	2004	523	6.63	3.70	0.19	87.03	0.08	0.80	0.95	0.00	0.62	1.75
Indonesia	2003	203	19.61	1.72	2.35	39.53	3.43	2.44	10.78	7.76	12.37	20.99
Pakistan	2002	222	6.70	15.95	1.28	56.97	3.50	1.96	10.20	2.71	0.72	14.87
Philippines	2003	179	13.29	4.34	0.20	57.96	1.52	7.96	10.17	0.59	3.97	18.73
South Africa	2003	462	16.12	0.09	0.50	59.51	16.25	0.62	0.84	0.22	5.86	1.68
Sri Lanka	2004	252	15.16	2.66	2.17	50.84	4.54	2.13	1.58	0.28	20.63	3.99
Thailand	2004	1,382	58.33	13.45	0.35	19.33	NA	3.53	1.82	0.68	1.95	6.03
Turkey	2005	402	23.24	9.56	5.67	46.82	7.09	4.40	2.62	0.17	0.42	7.20
Vietnam	2005	930	28.04	26.97	3.23	30.41	0.55	1.01	4.64	0.54	3.82	6.19
Total		8,673	26.52	8.96	2.39	42.13	3.98	3.23	3.34	0.93	9.58	7.50

Panel C: Summary statistics of firm and industry characteristics

Country	Year of Survey	# of firms	Log (Asset in USD million)	Age	Dummy SOE	Dummy (16~100 Com)	Dummy (>100 Comp)	Dummy (Missing Com.)	Bank Loan Dummy	Access to financing as business constraint
Bangladesh	2002	976	2.66	13.25	0.00	0.36	0.33	0.06	0.66	2.06
Brazil	2003	1,508	6.80	19.72	0.00	0.02	0.01	0.71	0.75	2.59
Chile	2004	935	3373.46	26.24	0.01	0.00	0.00	1.00	0.84	1.12
China	2003	2,155	24.49	15.97	0.22	0.00	0.00	1.00	0.26	NA
Egypt	2004	702	3.21	20.62	0.02	0.00	0.00	1.00	0.12	1.51
Indonesia	2003	481	54.31	19.31	0.03	0.06	0.01	0.22	0.24	1.23
Pakistan	2002	132	1454.29	23.87	0.01	0.56	0.14	0.01	0.23	1.86
Philippines	2003	630	8.90	19.60	0.00	0.08	0.01	0.19	0.31	0.90
South Africa	2003	508	16.33	26.87	0.00	0.08	0.01	0.02	1.00	0.79
Sri Lanka	2004	383	2.20	31.40	0.11	0.03	0.01	0.54	0.61	0.84
Thailand	2004	1,385	10.54	15.45	0.00	0.42	0.10	0.00	0.85	0.87
Turkey	2005	641	7.69	19.86	0.01	0.00	0.00	1.00	0.54	2.31
Vietnam	2005	1,104	3.45	12.49	0.21	0.00	0.00	1.00	0.41	1.83
Total		11,752	371.09	18.54	0.07	0.13	0.05	0.58	0.51	1.61

Panel D: Culture (measures from World Value Survey) and the usage of informal financing

	(1)	(2)	(3)	(4)	(5)
Dependent =	Constructive Informal Financing	Interpersonal Loan	Trade Credit	Underground Financing	Other
Interpersonal Trust	0.101***	0.047***	0.077***	-0.006	-0.026**
	(5.14)	(3.90)	(4.29)	(-0.90)	(-2.47)
Confidence in Government	-0.014	0.070***	-0.094***	-0.039***	0.010
	(-0.92)	(7.61)	(-6.51)	(-6.53)	(1.17)
Happiness	0.395***	0.103***	0.387***	0.121***	-0.046*
	(8.49)	(3.47)	(9.30)	(6.61)	(-1.76)

Table 14: Informal financing and firm growth -- Heckman's test

In this table, we present the Heckman tests' results on the relation of informal financing usage and firm growth. In panel A, the analysis is on constructive financing and panel B, underground financing. In both panels, we report the key coefficients and standard errors for the regression for each country.

In the first stage, we analyze the determinants of using informal financing with a probit model. If the interest is constructive informal financing, the dependent variable is Dummy (constructive informal) equal one if constructive informal is used in working capital or investment, otherwise zero. The similar is done for underground financing. The explanatory variables include firm size, age, state ownership, industry competition, and most important access to bank loans and a scale measure to measure the severity of *access to financing as business constrains*. Its value varies from 0 to 4. Industry fixed effect is also controlled for.

In the second stage, we regress the firms' sale growth on usage of informal financing and Heckman's lambda from the first stage. Other controlling variables include firm size, age, state ownership, industry fixed effect, and usage of other financing sources: bank loan, others.

Panel A: Constructive informal financing and firm growth

	Bangladesh	Brazil	Chile	Egypt	Indonesia	Pakistan	Philippines	South Africa	Sri Lanka	Thailand	Turkey	Vietnam
Stage 1: the determinants of using constructive financing												
Financing Access as constraint	-0.022**	0.033***	0.048***	0.001	0.046***	0.052	0.058***	0.025	0.047**	0.026**	0.038***	0.047***
	(-2.02)	(3.51)	(5.36)	(0.13)	(2.95)	(1.58)	(3.54)	(1.09)	(2.10)	(2.36)	(2.64)	(4.47)
Bank Loan Dummy	-0.015	-0.000	0.087**	0.051	0.035	0.115	0.126***	NA	0.233***	0.036	0.033	-0.001
	(-0.47)	(-0.01)	(2.50)	(1.30)	(0.73)	(1.18)	(2.71)	NA	(3.89)	(0.84)	(0.79)	(-0.03)
Control variables are: Log(firm asset), log(age), Dummy(state ownership), Dummy(16~100 competitors), Dummy(>100 competitors), Dummy(missing Competitor information), industry fixed effect												
Observations	941	1,484	918	510	468	118	616	341	368	1,280	576	1,053
Psuedo R-square	0.02	0.01	0.05	0.05	0.03	0.07	0.04	0.03	0.14	0.07	0.03	0.03
Stage 2: Constructive informal financing and firm growth												
Constructive Inform	-0.021	-0.027	0.013	-0.024	-0.003	-0.002	-0.004	-0.029	-0.036	-0.058**	0.098**	-0.030
	(-0.89)	(-1.55)	(0.34)	(-0.31)	(-0.07)	(-0.02)	(-0.15)	(-0.65)	(-0.81)	(-2.45)	(2.06)	(-0.96)
Bank Loan Dummy	0.044*	0.061***	0.013	0.568	0.087*	0.130	0.057		0.000	-0.073*	0.027	0.039
	(1.92)	(2.78)	(0.25)	(1.03)	(1.85)	(0.86)	(1.60)		(0.00)	(-1.70)	(0.57)	(1.20)
Control variables are: Log(firm asset), log(age), Dummy(state ownership), Dummy(16~100 competitors), Dummy(>100 competitors), Dummy(missing Competitor information), underground financing, other financing, industry fixed effect												
Observations	941	1,484	918	510	468	118	616	341	368	1,280	576	1,053
R-squared	0.04	0.07	0.02	0.06	0.12	0.08	0.04	0.07	0.10	0.06	0.06	0.03

Panel B: Underground financing and firm growth

	Bangladesh	Brazil	Chile	Egypt	Indonesia	Pakistan	Philippines	South Africa	Sri Lanka	Thailand	Turkey	Vietnam
Stage 1: the determinants of using underground financing												
Financing Access as constraint	0.009**	0.033***	0.004***		0.018*	-0.019	0.015***		0.004	0.014***	0.003	0.009***
	(2.20)	(6.23)	(2.62)		(1.75)	(-0.64)	(4.59)		(1.10)	(4.03)	(0.59)	(3.47)
Bank Loan Access	0.003	-0.038**	-0.010**		-0.080**	0.046	0.029**		0.012	0.002	0.003	-0.014
	(0.33)	(-2.36)	(-2.34)		(-2.50)	(0.51)	(2.18)		(1.02)	(0.16)	(0.17)	(-1.49)
Control variables are: Log(firm asset), log(age), Dummy(state ownership), Dummy(16~100 competitors), Dummy(>100 competitors), Dummy(missing Competitor information), industry fixed effect												
Observations	846	1,484	685		452	69	608		199	1,277	232	932
Psuedo R-square	0.09	0.08	0.28		0.11	0.15	0.18		0.28	0.11	0.1	0.13
Stage 2: Underground financing and firm growth												
Underground Financing	-0.135*	-0.070**	-0.260		0.096	-0.029	-0.010		-0.212**	-0.047	0.126	0.023
	(-1.68)	(-1.99)	(-1.49)		(1.15)	(-0.26)	(-0.14)		(-2.26)	(-1.06)	(1.51)	(0.25)
Bank Loan Access	0.044*	0.056***	-0.030		-0.037	-0.028	0.048		-0.205*	-0.047	-0.011	-0.005
	(1.93)	(2.58)	(-0.56)		(-0.36)	(-0.42)	(1.47)		(-1.70)	(-1.11)	(-0.16)	(-0.13)
Control variables are: Log(firm asset), log(age), Dummy(state ownership), Dummy(16~100 competitors), Dummy(>100 competitors), Dummy(missing Competitor information), underground financing, other financing, industry fixed effect												
Observations	846	1,484	685		452	69	608		199	1,277	232	932
R-squared	0.05	0.07	0.02		0.11	0.17	0.04		0.07	0.06	0.08	0.03

Table 15: The influence of "other financing" on firm growth

In panel A, we present the results from three Heckman regressions in examining the relation between "other" financing and firms' log(sales growth) in the Chinese sample. In the first one, "other financing" is treated as part of constructive informal financing. In the second one, "other" is treated as part of underground financing. Finally, the effect of "other" is examined by itself. In the first stage of each regression, the dependent variable is a dummy that equals one if the specific financing of interest is used in the firms either for working capital or for new investments, otherwise zero. In the 2nd stage, the dependent variable is firms' log(sales) growth. The numbers in parentheses are t-statistics. ***, **, and * represents significance at the 1%, 5%, and 10%, respectively.

In panel B, we present the Heckman results on the relation between "other financing" and firms' log(sales) growth using international data. In the first stage, we use a probit model to predict the likelihood of firms' using "other" financing. The instrument variable is the severity of access to financing. In the second stage, we analyze the relation of "other financing" and growth, with Heckman's lambda and other firm characteristics controlled.

Panel A: "Other" and firms' log(sales growth) in Chinese sample with Heckman approach

	Dummy (Constructive + Other)	Log (Sales growth)	Dummy (Underground + Other)	Log (Sales growth)	Dummy (Other)	Log (Sales growth)
	(1)	(2)	(3)	(4)	(5)	(6)
Constructive + Other		0.008				
		(0.29)				
Underground + Other				-0.033		
				(-1.17)		
Dummy (Other)						-0.025
						(-0.89)
Constructive Informal financ				0.084**		0.087**
				(2.25)		(2.33)
Underground financing		-0.040				-0.054
		(-0.78)				(-1.05)
Bank Loan Dummy		0.050		0.038		0.039
		(1.59)		(1.19)		(1.25)
Fraction of firms in the city accessing bank loans	-0.033		-0.184		-0.182	
	(-0.22)		(-1.21)		(-1.18)	
Dummy (SOE)	-0.016***	-0.013	-0.000	-0.009	0.005	-0.009
	(-2.62)	(-1.21)	(-0.06)	(-1.33)	(0.78)	(-1.34)
Dummy (Corporate)	-0.005	-0.039**	0.010	-0.033*	0.006	-0.034*
	(-0.26)	(-2.21)	(0.54)	(-1.65)	(0.35)	(-1.76)
Dummy (Coop./Coll.)	0.032	-0.049	0.028	-0.049	0.051	-0.050
	(1.04)	(-1.23)	(0.86)	(-1.33)	(1.55)	(-1.32)
Log (Asset)	0.046	-0.119***	0.023	-0.125***	0.032	-0.126***
	(1.63)	(-2.80)	(0.78)	(-3.62)	(1.08)	(-3.62)
Log (Age)	-0.007	-0.002	-0.003	-0.001	-0.001	-0.001
	(-0.40)	(-0.14)	(-0.14)	(-0.07)	(-0.03)	(-0.08)
Dummy (16~100 Comp.)s	-0.004	-0.030**	-0.012	-0.030**	-0.009	-0.030**
	(-0.64)	(-2.09)	(-1.39)	(-2.12)	(-1.22)	(-2.13)
Dummy(>100 Comp)	-0.014	-0.183***	-0.041	-0.186***	-0.043	-0.186***
	(-0.31)	(-2.93)	(-0.86)	(-2.98)	(-0.89)	(-2.97)
Sales growth (99 to 01)	-0.035		0.016		0.008	
	(-1.05)		(0.46)		(0.22)	
Profit Margin	-0.047*		-0.095***		-0.113***	
	(-1.67)		(-3.31)		(-3.90)	
Dummy (Neg Equity)	0.013		0.022		0.026	
	(0.35)		(0.55)		(0.66)	
Lambda		0.070		0.008		-0.004
		(0.20)		(0.05)		(-0.03)

61

Constant		0.304*		0.299*		0.309*
		(1.88)		(1.81)		(1.88)
Observations	1,665	1,663	1,665	1,663	1,665	1,663
R-squared		0.03		0.04		0.04

Panel B: "Other" financing and firms' log(sales growth) in international data

VARIABLES	Bangladesh	Brazil	Chile	Egypt	Indonesia	Pakistan	Philippines	South Africa	Sri Lanka	Thailand	Turkey	Vietnam
Stage 1: The determinants of "other" financing												
Access to Finance as constraint	-0.000	0.007*	0.023**	0.008***	-0.028	-0.000	0.001	0.008	-0.020	0.000	-0.002	0.002
	(-0.06)	(1.65)	(2.55)	(3.17)	(-1.54)	(-0.63)	(0.10)	(0.72)	(-0.95)	(0.13)	(-0.82)	(0.30)
Bank Loan	0.017*	-0.022	-0.052	-0.012*	0.133**	0.000	0.019		-0.221*ᵃ	-0.079**ᵃ	-0.001	0.011
	(1.65)	(-1.61)	(-1.40)	(-1.76)	(2.54)	(1.35)	(1.09)		(-4.38)	(-5.28)	(-0.08)	(0.54)
Dummy (SOE)			-0.082	0.121**	0.248				0.462***			0.202***
			(-0.72)	(2.03)	(1.41)				(4.71)			(6.63)
Log (Asset)	-0.001	0.004	0.007	0.000	-0.000	-0.000	0.005*	0.013*	0.032**	0.005**ᵃ	0.002**	-0.002
	(-0.38)	(1.18)	(1.35)	(0.24)	(-0.05)	(-1.27)	(1.84)	(1.68)	(2.52)	(3.98)	(2.34)	(-0.38)
Log (Age)	-0.005	0.004	0.033*	0.019***	-0.059	-0.000*	0.005	-0.011	-0.027	0.002	-0.007	0.032**
	(-0.61)	(0.51)	(1.69)	(2.73)	(-1.60)	(-1.67)	(0.45)	(-0.62)	(-0.93)	(0.42)	(-1.25)	(2.54)
Also control for competition and industry												
Observations	846	1,452	918	325	459	64	608	305	365	1,120	454	1,053
Pseudo R-square	0.09	0.02	0.03	0.24	0.05	0.58	0.05	0.08	0.27	0.24	0.07	0.15
Panel B: Second stage, OLS with Log (Sales growth) as dependent												
Other	-0.010	-0.063	-0.038	-0.081	-0.075	-0.127	0.011	0.225**	-0.077	-0.039	-0.283	0.046
	(-0.20)	(-1.46)	(-0.94)	(-1.08)	(-1.44)	(-0.96)	(0.19)	(2.34)	(-1.37)	(-0.82)	(-0.73)	(0.80)
Constructive Inform	-0.027	-0.028	0.012	-0.033	-0.005	-0.030	-0.003	-0.037	-0.026	-0.052**	0.098*	-0.028
	(-1.07)	(-1.60)	(0.33)	(-0.32)	(-0.11)	(-0.18)	(-0.11)	(-0.79)	(-0.59)	(-2.04)	(1.81)	(-0.91)
Underground financ	-0.140*	-0.074**	-0.269	0.457***	0.094	-0.016	-0.009	-0.478***	-0.221***	-0.033	0.054	0.027
	(-1.73)	(-2.09)	(-1.54)	(3.56)	(1.13)	(-0.13)	(-0.12)	(-5.00)	(-2.67)	(-0.67)	(0.66)	(0.29)
Bank Loan Dummy	0.279	0.060**	0.003	0.033	0.002	0.080	0.459*		0.001	0.478	0.050	0.153***
	(0.60)	(2.45)	(0.06)	(0.27)	(0.02)	(0.73)	(1.67)		(0.01)	(0.94)	(0.96)	(3.19)
Control for size, age, ownership, competition and industry												
Observations	846	1,452	918	325	459	64	608	305	365	1,120	454	1,053
R-squared	0.05	0.08	0.02	0.08	0.11	0.28	0.04	0.07	0.07	0.06	0.06	0.03

Table 16: Investigation of "other" in the World Bank Investment Climate Survey

In panel A, we present and compare the mean of percentage usage of "other" financing in subsample of firms, partitioned by their ownership, firm size, age and past sales growth. In panel B, C, and D, we report the financing composites in the Investment Climate survey, our survey for firms' financing at the startup stage and growth stage, respectively.

Panel A: Comparative statistics of "other" for the Chinese sample in the World Bank Investment Climate Survey

	By ownership	By firm assets size	By firm age	By past growth
Working capital				
Below median (state for ownership)	44.89	41.81	36.65	40.04
above median (or Non-state for ownership)	35.86	34.69	38.74	35.21
Difference	9.03***	-7.12***	2.09	-4.83**
t-value	3.40	-3.28	0.97	-2.21
New Investment				
Below median (state for ownership)	52.78	42.73	39.08	45.86
above median (or Non-state for ownership)	38.67	41.34	44.45	38.26
Difference	14.11***	-1.39	5.37**	-7.60***
t-value	4.39	-0.51	2.01	-2.79

Panel B: Financing – World Bank Investment Climate Survey

	All firms with valid record of financing					Conditional on financing > 0		
	# of firms	Mean	Std Dev	Min	Max	# of firms	Mean	Min
Retained Earnings	1,220	15.76	32.95	0	100	303	63.48	1
Bank Financing	1,220	21.41	36.88	0	100	369	70.79	3
Others	1,220	41.66	47.08	0	100	592	85.85	2
Government Fund	1,220	0.60	6.67	0	100	15	48.93	5
Trade Credit	1,220	1.13	8.57	0	100	28	49.25	10
Interpersonal Loan	1,220	5.71	20.75	0	100	111	62.81	3
Other Informal	1,220	1.87	12.14	0	100	39	58.51	1
Equity Fin. (employees)	1,220	2.97	15.40	0	100	60	60.33	2
Equity Fin. (legal person)	1,220	7.67	24.40	0	100	131	71.45	4
Equity Fin. (public issue)	1,220	1.21	9.53	0	100	26	56.73	1

Panel C: Financing at the startup stage – our survey

| Variable	All firms with valid record of financing					Conditional on financing > 0		
	# of firms	Mean	Std.	Min	Max	# of firms	Mean	Min
Funds from Family	400	47.16	31.96	0	100	346	54.52	5
Friends (Relatives) Lending	400	19.41	21.19	0	100	252	30.81	5
Bank Financing	400	15.01	20.85	0	100	183	32.80	2
Informal Institutions	400	2.99	9.51	0	90	56	21.34	5
State or Government Funds	400	2.41	10.72	0	100	32	30.13	10
Private Equity	400	6.37	18.52	0	100	71	35.88	5
HK, TW, Macau investors	400	2.43	10.80	0	100	24	40.50	10
Oversea Chinese investors	400	0.83	6.61	0	80	8	41.25	10
Funds from Foreign Investors	400	3.59	15.75	0	100	25	57.44	10

Panel D: Financing at the growth stage (in the past three years) – our survey

Variable	All firms with valid record of financing					Conditional on financing > 0		
	# of firms	Mean	Std.	Min	Max	# of firms	Mean	Min
Retained Earnings	282	61.94	30.26	0	100	265	65.91	10
Bank Financing	282	22.44	24.11	0	100	174	36.37	3
Informal Institutions	282	1.97	7.30	0	50	27	20.56	5
State or Government Funds	282	1.20	7.49	0	100	13	26.08	5
Private Equity or Debt	282	9.67	18.64	0	100	63	43.85	10
HK, TW, Macau investors	282	0.73	5.68	0	65	6	34.17	10
Funds from Foreign Investors	282	2.23	11.61	0	100	17	37.06	10

Figure 1: Composition of Total Financing: by Cities

This figure plots the percentage of each source in firm's total financing for new investment (Panel A) and working capital (panel B) funds. Each column represents a city's aggregate numbers. The different patterns of shadow of the column represent different financing sources.

Panel A: Composition of Financing for New Investment Funds
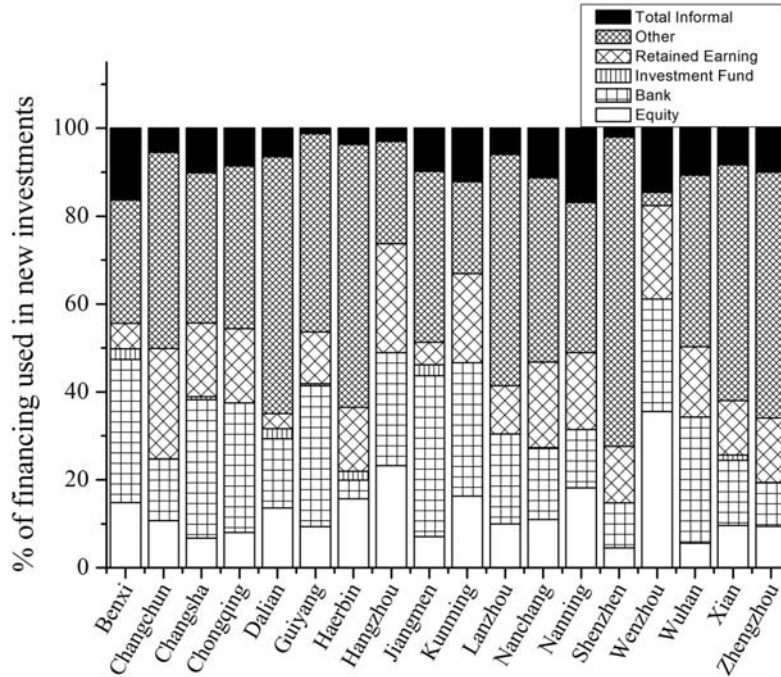
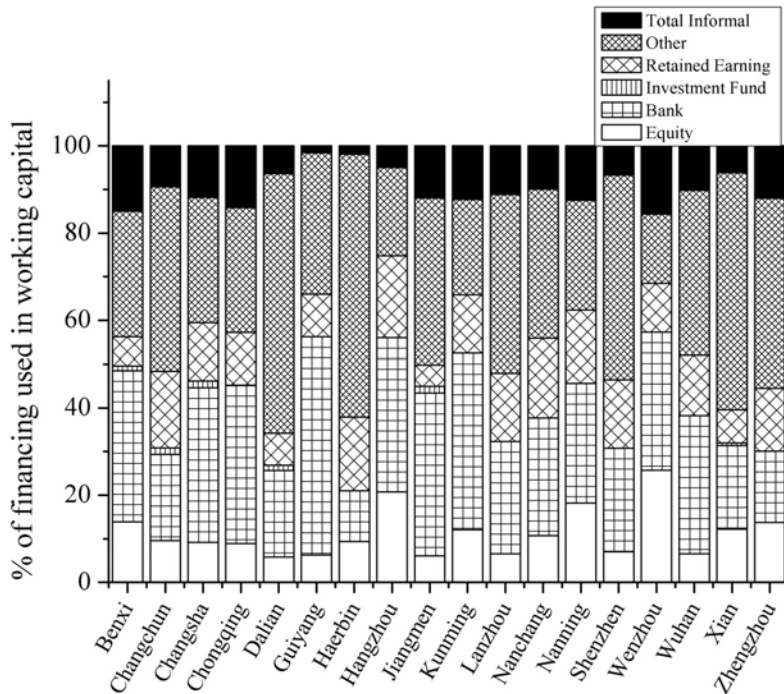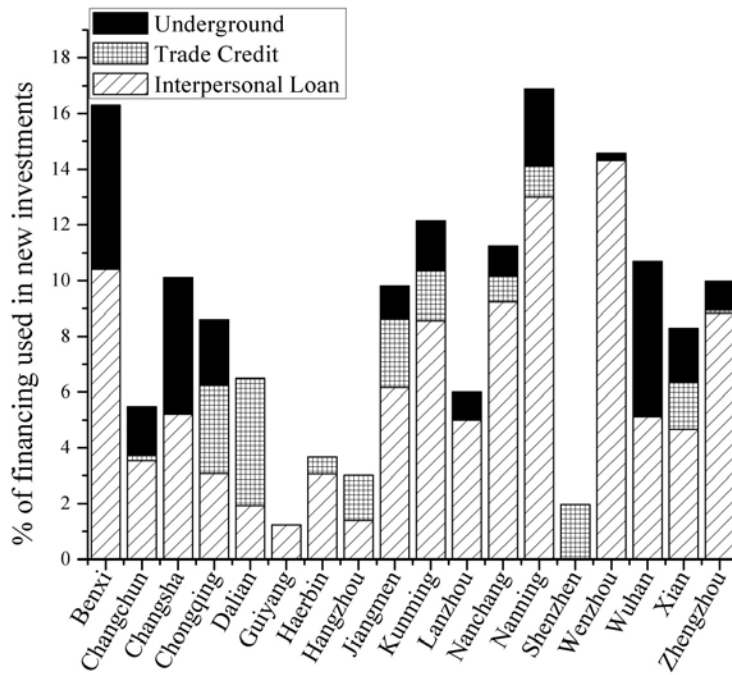Panel B: Composition of Financing for Working Capital Funds

Figure 2: Composition of Informal Financing: by Cities

This figure plots the percentage of each informal source in firms' total financing for new investment (panel A) and working capital (panel B). The height of each column represents the percentage of total informal financing in firms' total financing for each city. The different patterns of the shadow in the column represent the percentage of different informal sources.

Panel A: Informal Financing for New Investment

Panel B: Informal Financing for Working Capital