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Abstract

This paper examines how social relations and norms contribute to the emergence of generalized trust in economic action. Our core proposition is that the more positive the local social exchange relationship, the greater an actor's propensity to place trust in strangers. Our research design integrates behavioral measures elicited by incentivized experimental trust games with survey data using a random sample of 540 founding CEOs of manufacturing firms in the Yangzi delta region of China. Our analysis shows that characteristics of repeated social exchange—depth, prosociality and control—are positively associated with an economic actor's proclivity for generalized trust. Founder CEOs with deeper and more valued exchange relations are more likely to trust strangers. Likewise, we find robust evidence of a positive association between beliefs in the effectiveness of community social control and trust in strangers.

Keywords: Generalized Trust; Networks; Social Exchange; Norms; CEOs.

JEL: D85; C90; L26

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Social Exchange and Generalized Trust in China

In globalized markets where economic transactions are no longer confined to close-knit communities, generalized trust is an important predictor of socioeconomic development (Putnam 1993; Fukuyama 1993). Generalized trust—the belief in the benign nature of humans in general (Yamagishi and Yamagishi 1994)—motivates economic transaction between strangers by enabling calculative assessment of the reliability of credible commitments to formal agreements (Zucker 1986). In developed economies where political and economic institutions back the security of property right and confidence in contractual agreements (Gambetta 1988; Williamson 1993), the grounds for such trust are readily understood. But where does generalized trust come from when formal institutions and organizations do not reliably and predictably perform these functions? Many developing and medium-income countries lack the inclusive political and economic institutions assumed as a necessary condition for generalized trust (Acemoglu and Robinson 2012)); yet there too, and throughout the global economy, transactions contingent on generalized trust are not uncommon.

To explain the inclination to place trust in a stranger when formal institutions lack predictability, we examine informal interpersonal commitment embedded in social exchange (Homans 1961; Blau 1964; Emerson 1976; Lawler 2001). Frequent social exchange reduces uncertainties in interpersonal relations. It offers benefits that render exchange activities rewarding by fostering affect, cohesion and commitment so that eventually the relationship itself becomes an object of awareness and appreciation (Lawler and Yoon 1993, 1996; Thye, Yoon and Lawler 2002). Research on the frequency of social exchange, the duration of exchange relations and the form of social exchange have broadly confirmed the view that repeated social exchange provides a robust micro-foundation for interpersonal trust (Whitener, Brodt, Korsgaard, and Werner 1998;

Molm, Takahashi, and Petersen 2000; Barrera 2007; Xiao and Tsui 2007; Lai, Singh, Alshwer, and Shaffer 2014; Seymor, Welch, Gregg, and Collett 2014).

However, if social exchange were conducive only to interpersonal trust, exchange networks would quickly be at risk of closure, since ongoing relationships would always be preferred over reaching out to new exchange partners. Clearly, this is not the case. Social exchange provides the foundation for more complex social structures by enabling indirect exchange coordinated by common values and beliefs (Blau 1964; Ekeh 1974; Cook and Whitmeyer 1992). Building on this micro-macro link, we argue that experiences of social exchange extend beyond the local production of personalized trust insofar as they involve abstract learning not embedded only in the particular concrete relationships. Classic behavioral learning theory underscores that positive experience in social interaction lays the basis for repeated social exchange. When circumstances replicate or appear similar to the context of past success, the person is more likely to perform similarly (Homans 1970). This suggests that the same micro-mechanisms that help to reliably explain the association between exchange relations and personalized trust can also extend trust to strangers. Our core proposition is this: *the more positive an individual's experience in personalized exchange relations the greater the propensity to place trust in strangers to secure opportunities for gain in economic transactions.*

In our empirical analysis examining the link between social exchange and generalized trust, we focus on economic actors—founding CEOs of private manufacturing firms in the Yangzi delta region of China—who are routinely engaged in domestic and global economic transactions. Our research design combines behavioral data elicited by survey questions about patterns of social exchange in everyday business transactions and measures of interpersonal trust elicited by incentivized lab-in-the-field experiments. By bringing together the behavioral survey data and these experimental measures, we are able to focus on the potential spillover effects

stemming from past experience in social exchange and an individual's propensity for transacting with strangers through generalized trust.

Our study is novel in several respects. First, we use a sample of entrepreneurs who are founding CEOs of manufacturing firms, rather than a student population. This allows us to combine experimental results with real world social behavior elicited in a firm-level survey. Second, participants of this study were randomly sampled and do not represent a convenience sample as is often employed in laboratory experiments. Third, our sample of 540 CEOs of manufacturing firms is large relative to prior studies exploring trust in lab-in-the-field experiments.¹ Finally, the incentivized experiments use sizeable financial rewards, providing greater real-world standing to the experiment. The size of our study population and the amount of monetary rewards offered to the participants lend confidence to the reliability of our findings.

Our analysis shows a positive association between past experience in social exchange and generalized trust. Likewise we find that CEOs who perceive local norms of community-level exchange as relatively effective are more likely to trust strangers. These positive associations are robust with regard to a broad range of control variables, including gender, education, socioeconomic background and perceived reliability of formal institutions.

SOCIAL FOUNDATION OF GENERALIZED TRUST

The mechanisms that embed trust in social exchange are well delineated in the social capital literature. Coleman (1990) framed the problem of trust as purposive action on the part of both the trustor and the trustee. There is always a vulnerability to risk and uncertainty, because “trust involves putting resources in the hands of parties who will use them to their own benefit, to

¹ Fehr and List (2004) for instance employ a non-random sample of only 74 CEOs working in the Costa Rican coffee industry.

the trustor's benefit, or both" (p. 99). If the trustee is trustworthy, the trustor will likely be better off than if trust was not bestowed, but if the trustee is not trustworthy the trustor will be worse off. Unlike a contractual agreement, trust does not involve a binding commitment from the other party. And uncertainty is built into a time lag where future action decides on the outcome of trust bestowed. Consequently, trust is a bet on the prospect of winning against the chance of losing.

The *depth* of social exchange shapes the stock and quality of information a person can draw on to form a judgment about the expected action of a stranger. The *experience* of prosocial behavior based on past exchange shapes an individual's expectation and outlook. Through social exchange a person also learns what type of behavior will trigger sanctions or rewards from others (Buskens and Raub 2002). We argue that this normative component, or *social control* function, embedded in social exchange is likely to inform a person's action and also expectations of other's likely response. When relevant information is lacking, one draws on past experiences of social exchange within one's social group behavior in predicting likely responses of strangers who are similar—as analogously, a traveler will tacitly (rather than in a calculative way) rely on her at-home rules of the game whenever information on local behavior is not known or readily available. We should note, that we do not claim that this mechanism necessarily extends beyond the larger societal or national affiliation. Rather, we assume that this effect will be most prominent in those cases, where individuals assume broad similarities (in terms of language, religion, and ethnicity) between “strangers” and those individuals they frequently interact with locally.

Depth of social exchange

Personalized trust develops through repeated social exchange and is guided by norms of fairness and reciprocity (Whitener et al. 1998). With a two-person trust game, Glaeser et.al. (2000) show

that the extent of social ties—number of mutual friends and the length of relationships—predicts the levels of trust and trustworthiness exhibited by participants: “These results support the idea that repeated play in dense social networks facilitates trust” (p. 814).² Past successes or failures in trust and cooperation shape a person’s propensity to trust others (Axelrod 1984; Hardin 1991). In this perspective, cooperation and repeated social exchange are prerequisites of trust and trustworthiness (Gambetta 1988).

Social exchange within close-knit communities, we argue, may also contribute to the emergence of generalized trust. First, the frequency and intensity of relational social exchange determines the stock of experience an individual can draw on when assessing likely responses from strangers. The longer and more intense ongoing social exchange relations, the more likely that an individual will appreciate and value these relations (Lawler and Yoon 1996). Extending this proposition, we argue that positive social exchange experience will cast a positive light on new encounters under similar conditions. Second, repeat and intense exposure to situations involving decisions made by others may also carry an abstract learning effect as a person accepts vulnerability to someone else’s decision and thereby develops a higher proclivity to shoulder this type of uncertainty. Our conjecture is that individuals with frequent and intense exposure to social exchange learn to trust and get accustomed to a “trusting mode,” which in turn makes it easier also to trust strangers. Therefore we hypothesize:

H1: The depth of personalized exchange is positively associated with generalized trust.

² Survey questions elicited the number of mutual friends and duration of relationships for a sample of 258 Harvard undergraduates. A subsample of students participated in a two-person trust game conducted three to four weeks later.

Prosocial exchange experience

While social exchange in itself is assumed to be self-rewarding (Lawler and Yoon 1996; Lawler 2001), certain patterns of prosocial behavior are particularly effective in trust building. These include exchange relations that involve a one-sided favor received without the expectation of direct reciprocation (Molm 2010; Molm, Takahashi, and Peterson 2010). The type and nature of such unilateral exchanges can vary greatly, stretching from private loans to the extension of business advice, or other forms of personal help or attention. The common nature of prosocial exchange is that others extend a voluntary favor without the explicit expectation of direct reciprocity on the part of the beneficiary. While gift-givers may expect return favors at some point in the future, reciprocity is not an explicit condition. In prosocial exchange, beneficiaries learn that they are trusted by others. Kollock (1994: 319) emphasizes this type of unilateral exchange as a critical “*test of trust*”, which reinforces interpersonal trust between recipient (trustee) and benefactor (trustor).

Recipients of special favors or gifts are likely to place higher value on relationships with their benefactor. There is also a likely spillover effect influencing an individual’s worldview, as recipients of prosocial behavior learn that mutual trust and cooperation can generate tangible value advantages and rewards. Through this form of operant conditioning they are likely to form a mirror image of other people’s trustworthiness. *That is because I was trusted myself, I should trust others!* This experience may increase a person’s willingness to engage in exchanges outside of one’s immediate circle of family, friends and acquaintances. In a similar vein, Uzzi’s (1996) study of the New York garment industry emphasizes the importance of joint problem solving in business communities for trusting behavior extending beyond the period of active cooperation.

The reverse also holds. Just as positive rewards in social exchange reinforce trust and cooperation, withholding support, sanctions and punishment will undermine trust. Those who feel

that they have been let down by others are less likely to extend trust to strangers (Hardin 1996). Empirical studies using large-scale cross-sectional survey data have shown that a traumatizing personal experience encountered in social (such as a divorce) or economic exchange (such as financial misfortune) limits an individual's inclination to trust strangers (Alesina and La Ferrara 2002; Rahn et al. 2009). Members of minority groups experiencing frequent discrimination are less likely to trust others. The observed importance of prosocial interpersonal experience leads us to hypothesize:

H2: Beneficiaries of prosocial behavior in past exchange relations are more likely to place trust in strangers.

Control in social exchange

The emergence of trust would not be a stable outcome without self-enforcing social control mechanisms in place (Blau 1964; Buskens and Raub 2002). The evolution of social control as a byproduct of repeated social exchange is therefore a key element in explaining how interpersonal trust can extend to larger structures and communities. What solidifies trust is the presence of sanctioning mechanisms (which can range from negative gossip to economic penalties and ostracism), sufficiently strong and effectively enforced, so that untrustworthy behavior is not paying off. Norms of mutual help and contract compliance, for instance, are at the heart of informal commercial codes, which in cases of non-compliance trigger sanctions directed at the violators in the form of negative reputation effects and loss of business (Macaulay 1963; Stringham 2003; Mokyr 2010; Nee and Oppen 2012).

In a two-decade study of regional political institutions and civic life in Italy, Putnam (1993: 15) uncovered systematic regional variation in generalized trust: "Some regions of Italy, we discover, are blessed with vibrant networks and norms of civic engagement, while others are

cursed with vertically structured politics, a social life of fragmentation and isolation, and a culture of distrust.” Putnam attributed the difference to contrasting civic traditions in northern and southern regions of Italy. In the northern regions, dense networks of civic engagement enable effective community sanctions, which increase the cost of untrustworthy behavior, reinforce norms of reciprocity, and facilitate the information flow on the trustworthiness of individuals (1993: 173-174). Civic engagement—in neighborhood associations, choral societies, cooperatives, sports clubs, and mass-based parties—furnishes the social mechanisms driving self-enforcing trust and cooperation in northern Italian communities. The absence of civic engagement in the southern region of Italy, Putnam suggests, is the cause of pervasive distrust and lack of cooperation that has locked these regions into the poverty and underdevelopment described in Banfield’s (1967) ethnography of extreme household individualism in a Sicilian village.

Although his civic-engagement hypothesis has produced inconclusive empirical results outside of the Italian context (see, for instance, Delhey and Newton 2003), the connection Putnam pointed to between civic engagement as a determinant of social exchange and control mechanisms, on the one hand, and the level of generalized trust, on the other, has gained broad acceptance. Subsequent research has fine-tuned the link between social exchange, norm enforcement and trusting behavior (Fehr and Fischbacher 2004; Paxton 2007; Glanville and Paxton 2007). Importantly, internalized norms not only shape an agent’s within group behavior, but also form expectations regarding the likely intentions and behavioral responses of others. While this form of trust is rooted in a person’s local experiences, it shapes confidence in norms of reciprocity and exchange in more general terms (Ekeh 1974; Yamagishi and Cook 1993; Bearman 1997; Cook 2005). We therefore hypothesize:

H3: Confidence in the presence of social control exercised within the local community corresponds with a greater proclivity for trust in strangers.

THE RESEARCH CONTEXT AND METHODOLOGY

China's Yangzi delta region offers an ideal context for studying the sources of generalized trust where formal institutions are unlikely to support trust in strangers. The region is one of the most competitive manufacturing centers in China, with close to 30 percent of the country's private firms locating in the three bordering provinces of Zhejiang, Jiangsu and Shanghai (*Annual Report of Non-State-Owned Economy* 2012: 37). Since the launch of economic reforms, more than 2 million private firms located in the region, including many of China's most powerful private companies: by 2010, more than 54 percent of the revenue for China's top 500 private firms was generated here (*Annual Report of Non-State-Owned Economy* 2012: 129). Even so, formal institutions still provide only limited protection for private property rights. Local courts are subordinate to the political interests and priorities of local government. Oftentimes law enforcement is ineffective, leading many entrepreneurs to rely on private ordering rather than formal institutions.

Background of this study

This study is embedded in a multiyear survey effort initiated in 2005, following a stratified random sample of 700 entrepreneurs located in seven municipalities (Nanjing, Changzhou, and Nantong in Jiangsu province; Hangzhou, Wenzhou and Ningbo in Zhejiang province; and Shanghai municipality) in China's Yangzi delta region. The industrial sectors included in our sample of firms range from labor intensive to knowledge intensive (ordinary machinery, automobile and vehicle parts, textile, pharmaceutical, and electronic and communication appliances), and represent the Yangzi delta region's most important manufacturing industries.

The recruitment of participants into the original 2006 sample followed a two-stage procedure. The sample frame came from local private firm registers provided by China's Bureau of Industry and Commerce. With a focal interest on studying entrepreneurial activity in manufacturing, we excluded small-scale household companies and fly-by-night businesses—illegitimate informal economy firms that have a short life span—from the sampling pool. We further excluded companies in business for less than 3 years and companies with less than 10 salaried workers. In addition, we over-sampled medium and large-scale firms in order to secure established business ventures for our study. Our follow-up survey in 2009 included 76 percent of the initial 2006 sample. To maintain the original sample size, we included new participants, following the same random sampling procedure. In association with the second survey, we also invited respondents to participate in a series of experimental games, which all 700 survey interviewees accepted.³

The sample and procedure

For this study of the sources of generalized trust, we focus on the entrepreneurs in our sample who are company founders (n=544). First and foremost, founders provide an entrepreneurial focal group that is naturally reliant on generalized trust. Moreover, the focus on founders provides homogeneity in the sample (excluding professional managers and non-founding owners and investors), which reduces the need to include a whole battery of control variables to avoid unwanted confounding effects.

³ A meta-analysis of 162 standard trust-game replications (following Berg, Dickhaut and McCabe 1995) shows that only 45 studies used mixed populations; none of these studies focused on managers or entrepreneurs (Johnson and Mislin 2011). Though these experiments use strong behavioral indicators of trust, Levitt and List's (2007) assessment of the reliability of experimental results underscores a discrepancy between the pro-social behavior of undergraduates employed in laboratory-based experiments and real-world actors.

After excluding incomplete or incorrect questionnaires, we were left with a sample of 540 founders.⁴ Table 1 presents the breakdown of our sample by city and sector. The personal and firm information collected in 2009 covers the years from 2006 to 2008. Personal background information reflects contemporary and historical experiences. The trust data reflects the individuals' preferences in 2009.

Insert table 1 about here

All experimental and survey data were collected in face-to-face interviews conducted by teams of two professional local interviewers (one interviewer responsible for the survey, and one responsible for conducting the experiment) at the company's premises, typically in the manager's office, without additional persons present. The interviewers had previously undergone intense multi-day training workshops we conducted in Shanghai. Detailed manuals and instructions were taken to the field, where senior members of the research teams were in charge of continuous quality control during the data collection period. Pre-tests of the experiment and the survey were conducted with a group of 70 entrepreneurs randomly sampled for this purpose from the same cities and industrial sectors as the main survey and were also used to monitor and ascertain the consistent quality of interviews and interviewers.

Measuring generalized trust: The experimental design

As Coleman (1990, p. 91) observed, "Situations involving trust constitute a subclass of those involving risk. They are situations in which the risk one takes depends on the performance of another actor." Clearly, willingness or aversion to exposing oneself to the discretion of another

⁴ Two questionnaires lacked information on the entrepreneur's previous income before becoming an entrepreneur. Two questionnaires had to be excluded because the trust game was incorrectly conducted (showing multiple switching points).

person (the trustee) involves both a component of risk (in the sense that more than one outcome is possible) and a belief component (the trustor's subjective belief that the trustee's action will be advantageous to him, or not). Although these components are seldom separated in the literature on trust behavior, it is important to not confound trust with an individual's general proclivity to accept risk. Our elicitation methods sought to separate social risk (involving trust in others) from an alternative form of risk where the outcome is not affected by the discretion of another individual.

In our experimental trust game, respondents face two alternative payment distributions:

Payment I gives the trustor 580 CNY (USD 92) and the trustee 50 CNY (USD 7.94);

Payment II gives the trustor 15 CNY (USD 2.38) and the trustee 55 CNY (USD 8.73).

We ask respondents to make the following decision: whether they wish to entrust another individual (the trustee) to decide about the payment distribution (option A), or rather let a standard lottery with given probabilities decide (option B). To capture the essence of generalized trust, the instructions characterize the trustee in general terms as someone “who was born and lives in China.”

We use a multiple price list format presenting each respondent with 10 separate choices (see Appendix I). For each successive decision, the given lottery probability for Payment I (initially 0%) increases by 10 percentage points, while the given lottery probability for Payment II (initially 100%) decreases by 10 percentage points. For the first decision, option A (i.e., reliance on the trustee's decision) is expected to be the most attractive option, as there is zero probability of Payment I through the lottery. With each decision further down the list, the relative attractiveness of option B (i.e., reliance on a random lottery outcome) increases. A person's level of trust is revealed by the switching point from option A to option B—that is, where along this list the trustor prefers to leave the decision to a random lottery rather than to another person. In

the experiment, staff members of the Shanghai Academy of Social Sciences served as trustees. Using the strategy method proposed by Selten (1967), we recorded decisions from this group for all conceivable contingencies.⁵

The experimental game simulates situations where one person can make a big difference (of nearly USD 90) to another person at a low personal cost (in this case the equivalent of 79 cents). Situations like this are widespread in the business world. For instance, an entrepreneur can inform others about ongoing malfeasance in the business community, which may save others from loss of business and substantial financial losses. Similarly, entrepreneurs who for some reason are not able to accept a business proposition by a new client can make an effort to pass on the request to someone else, instead of just declining. Likewise, employees can alert their supervisors to faulty product parts that would otherwise lead to warranty claims.

Overall, for all the participants in our experimental trust game, the mean value of the switching point from the social risk option to the lottery option is 5.16. That is, the average individual switches to the lottery option once payment I has a probability of slightly more than 40 percent. The largest group of entrepreneurs (n=126) shifts to the lottery option when the probability of receiving payment I is 50 percent. Those who switch earlier display lower levels of trust in strangers, and those who switch later display higher levels. Close to 5 percent of the respondents would under no circumstances entrust a stranger to make the payment decision, and 0.9 percent would under no circumstances leave the decision to a random lottery.⁶ The observed trust levels do not vary much between different industrial sectors. This may indicate that different sector norms and levels of competition do not influence behavioral responses. We do, however,

⁵ In addition to the trust decisions, each subject participated in three other experimental tasks, designed to elicit risk aversion, ambiguity aversion and willingness to compete, respectively. All tasks used the multiple price list format to reduce cognitive load and fatigue among subjects.

⁶ The latter may for instance reflect an individual's general rejection of any type of gambling.

observe some regional variation. The city displaying the highest level of generalized trust is Shanghai (5.89), whereas respondents in Nantong (in Jiangsu province) reveal the lowest trust levels (4.43).

Reliance on a random sample of entrepreneurs limits doubts concerning external validity often associated with experimental research. Importantly, all randomly sampled survey participants agreed to participate in the trust game. Nonetheless, we still have to acknowledge that results generated in standard experimental settings may not extend into real-life situations. First of all, the absence of anonymity may influence an individual's behavioral choices (Ermisch, Gambetta, Laure, Siedler, and Uhrig 2009). While interviewers were instructed not to directly observe the choices made by the interviewee, the presence of the interviewer may for instance increase prosocial behavior, so that revealed trust levels may be inflated. Secondly, critics claim that experimental tasks rarely offer sufficiently large monetary rewards to reveal real-life behavioral choices (Levitt and List 2007). Here, however, the maximum reward of 92 USD offers a very competitive wage rate given the short amount of time (approximately 25 minutes) needed to conduct the experiment.⁷ Finally, experimental results are known to correspond closely with an individual's personal experience (Harrison, List, and Towe 2007). To minimize such influence, we have stripped our scenarios of any concrete settings and employ "abstract" instead of "natural" frames. This strategy minimizes the risk that entrepreneurs associate differently with the task at hand. Briefly, while we obviously cannot guarantee external validity, we have done our best to mitigate the most common problems associated with standard experimental designs.

⁷ The average subject earned 289 CNY on the experimental tasks (USD 42). The median of the entrepreneur's self-reported daily personal income (if he works 300 days a year) was CNY 583. Thus, average experimental earning from decision-making in 25 minutes would equate to half a day's earnings.

Measurement of explanatory variables

Our set of variables describing individuals' social exchange experience captures the distinct dimensions previously discussed in our hypotheses: the *depth* of exchange relations (H1), the experience of *prosocial* exchange (H2) and *control* in social exchange (H3).

Depth: We assess this with three measures: the percentage of return customers; the percentage of customers the entrepreneur knows in person; and the entrepreneur's reliance on *guanxi* (personal relations) in dealings with customers using a Likert scale from 1 to 7.

Experience of prosocial behavior: To proxy perceived social exchange benefits, we include two benchmark events that entrepreneurs easily recall and typically regard as important advantages to be gained from their social ties. First, we asked entrepreneurs to what extent their friends provided start-up capital for the firm at the founding stage. In a country where private firms are virtually excluded from bank lending (particularly at the start-up stage), loans from friends are an important and highly appreciated source of finance. Often these loans come at a low interest rate or even interest free, and the repayment scheme can be handled flexibly. Second, we asked whether the company's currently most important customer was introduced through the entrepreneur's social network or through impersonal market mechanisms. Introduction of new customers is a common form of favor, with members of the social network often serving as brokers, introducing one another to new business opportunities they might otherwise miss out on. While such introductions are fairly common and not dependent on the size of the company,⁸ not all are economically important. Our focus is therefore on the question, whether a company's key customer was secured through this type of favor.

⁸ Standard mean comparison tests show no significant difference in sales volume between those companies relying on network-recruited main customers, and those who found their most important customer through market exchange.

Local norms and social control: The measurement of norms involves particular challenges and is not part of standard survey modules. To identify the existence or absence of certain business norms, we employ the definition that “the total absence of enforcement actions against detected violators of a guideline is conclusive evidence that the guideline is not a rule” (Ellickson 1991: 128). This in turn is consistent with Fehr and Fischbacher’s (2004:185) methodological recommendation that “the explicit study of sanctioning behavior provides instruments for measuring social norms.”

Based on our qualitative field interviews in the region, we designed a set of seven different scenarios describing standard business conflicts. These scenarios address 1) informal lending agreements, 2) mutual help within business networks, 3) repayment of loans, 4) late deliveries of orders, 5) delivery of sub-standard quality products, 6) late payment for goods and services, and 7) unfair competition. (See Appendix II).

For each scenario, the interviewees were asked to identify the most likely consequence: a) nothing will happen; or there will be b) gossip about the incident, c) a bilateral tit-for-tat response, d) a general change in the quality of the business relation between the protagonists, or finally, e) community sanctions by those who learn about the incident. Following our definition, choice a) signals the absence of norm-based sanctions, whereas choice e) signals the strongest sanction, involving not only bilateral but also multilateral punishment for the violator.

These scenarios were distributed at various points in the questionnaire, so as to reduce the risk of a method response bias; that is, to minimize any possibility that respondents might simply repeat earlier assessments in an effort to reduce the cognitive load. Each scenario was described in a personalized style using a naturalistic narrative frame familiar to all entrepreneurs. The use of common Chinese family names (in nickname formats) and the explicit invitation to think about the likely responses in their local business community encourages respondents to choose their

answers based on their personal experience with local norms. The overall reliability of scale was satisfactory, with a scale reliability coefficient of 0.88 if no sanctions were expected (choice a), and 0.76 for community sanctions (choice e).

To establish the extent to which entrepreneurs can rely on social control, we created two different indices. ‘Absence of local norms’ sums up how often the respondent chose alternative a) as a likely outcome in the seven scenarios. The resulting index value ranges from 0 to 7, with high values reflecting the absence or weakness of local business norms regulating standard cases of malfeasance. In our sample, 43.5 percent of the respondents expected some form of sanction in each of the seven scenarios. The mean value of 1.4 suggests a relatively strong reliance on local business norms when it comes to standard business conflicts. Seven percent of the interviewees do not expect any response in any of the seven scenarios, indicating a relatively strong divide when it comes to the enforcement of informal local business norms. ‘Strength of community sanctions’, the second index, sums up how often the interviewees expected that there would be some such community responses to bilateral business conflicts. In our sample, 41 percent of the interviewees never expect any community sanctions, whereas 9 percent are confident that contract breach or malfeasance will reliably be sanctioned by the local community in at least five of the seven scenarios. The mean value is 1.6 with relatively strong city variation, ranging from 0.9 in Shanghai to 2.3 in Ningbo.

Control variables

To mitigate the potential influence of confounding effects, we have included a set of personal characteristics, covering gender, age (and age squared), and years of education, that have in prior work been confirmed as predictors of generalized trust. In addition, we aim to proxy the interviewee’s social background with a set of ten dummy variables reflecting the father’s last

position before retirement: technical personnel, sales and marketing staff, accounting and finance, administrative officer, enterprise director, ordinary worker, retail service staff, farmer, military personnel, or unemployed. The professional background of the father provides a relatively reliable measure of the respondent's upbringing and socioeconomic background. Further, we include the household status of the respondent at birth. In China's segmented social order, the difference between rural and urban household registration continues to describe not only geographical origin, but also life chances. Rural household registration continues to be decisive in determining job mobility, access to education and access to social security.⁹ We also include the respondent's last income level before becoming an entrepreneur. Using prior income instead of current income levels lowers the risk of reverse causality, since higher trust in strangers may influence an individual's investment decisions and could thereby influence income streams generated from entrepreneurial activities. To control for non-linear income effects, we also include the squared term of income. A set of dummy variables controls for manufacturing sector and municipality. Finally, we include controls for potential treatment effects and the different teams of interviewers. While we have made an effort to standardize the execution of the experiment and survey, subtle interpersonal differences in style and appearance may still influence respondents' behavioral choices. Table 2 provides the correlation matrix and Table 3 presents summary statistics of all variables of interest.

Insert table 2 about here

Insert table 3 about here

⁹ In a similar vein, Alesina and La Ferrara (2002) have shown that belonging to groups that historically have been discriminated against (blacks in particular) lowers generalized trust in the US.

RESULTS

We use ordered probit estimations to test our hypotheses as to the sources of generalized trust (see Table 4). Model 1 includes only the control variables reflecting an individual's personal background. While in conflict with earlier studies explaining individual trust (Alesina and La Ferrara 2002), Model 1 does not indicate significant association between trust and personal characteristics such as age, gender, and education. This is probably attributable to the use of a homogenous sample consisting only of one professional group: founding CEOs of private manufacturing firms.¹⁰ In line with our expectations, however, there is a fairly significant association between trust and an individual's previous income before starting the business, and also personal background reflected by the father's last position.¹¹

Models 2, 3a and 3b separately include measures of depth, experience of prosocial behavior and social control. Models 4a and 4b test for joint association between characteristics of social exchange and trust. Results for all models are in line with Hypothesis 1, that *depth of personalized exchange is positively associated with trust in strangers*. The intensity of reliance on *guanxi* within customer relations shows the strongest positive association with generalized trust ($p < .01$). Support for Hypothesis 2, predicting that *prosociality in social exchange (i.e. substantial gains from network exchange) will be positively associated with trust in strangers*, is somewhat weaker. While personal introduction of key customers is not significant at conventional levels, entrepreneurs who received loans from friends at the founding stage are more trusting than others ($p < .10$). In comparison with the consistent and strong support for Hypothesis 1, these results invite some tentative conclusions. Individuals in our sample are not

¹⁰ It can however be noted that gender differences in a relatively homogenous group of founding entrepreneurs in an experimental study of market entry games have recently been reported (Artinger and Schade 2013).

¹¹ Closer examination shows that individuals with a farming background are significantly less likely to trust strangers. Perhaps this is because farmers may experience less contact with strangers and may therefore develop a more reserved attitude towards complete strangers. Also, individuals with a military background are more likely to trust than others.

aiming to be hyper-rational (or utility maximizing) in forming generalized trust. Just because select benchmark events in their immediate network have created tangible benefits, individuals are not generally more likely to trust strangers. What seems to matter more for generalized trust is the experience of community-based social interaction, irrespective of any tangible value stemming from distinct bilateral transactions.

Hypothesis 3, predicting that *confidence in the presence of social control exercised within the local community corresponds with a greater proclivity for trust in strangers*, is also strongly confirmed. Under exclusion of variables capturing depth and prosociality (Model 3a and 3b), the absence of local norms is negative and highly significant ($p < .01$), and the intensity of community sanctions is positive and significant ($p < .01$). Under inclusion of all variables of interest (Models 4a and 4b), the size of the norm effect drops somewhat, but remains significant ($p < .05$). The lower levels of significance are due to a modest interaction between *guanxi* reliance and *social control*. Not unexpectedly, the strength of local norms is not independent of personalized exchange in the business community. However, exploration of direct interaction effects—between various measures of social exchange and control—shows no significant moderating effect.¹² Norms and individual experience in social exchange operate as separate channels contributing to generalized trust.

Insert table 4 about here

The positive association between generalized trust and the experience of having had friends help out financially has two different interpretations. On the one hand, generalized trust may increase purely from the fact that one received financial support at a crucial career stage; on the other hand, the source of financial support (perceived network benevolence) could matter more than the fact of receiving a loan per se. To determine which interpretation most applies—

¹² Regression results are available from the authors upon request.

that is, whether our positive result is likely to support Hypothesis 2, or instead indicates a financial effect that runs independent of the social structure—we explore different avenues of financial help that entrepreneurs may have received, including the individual’s family (Model 4c) and formal banking institutions (Model 4d). We also explore whether financial independence at the founding stage is associated with similar effects (Model 4e). The results (see Table 5) undermine the idea that financial support per se or even financial independence increases generalized trust. For family loans and bank loans, we identify no significant effect on generalized trust; for financial independence we even identify a significantly negative association. Hence, financial independence seems to limit rather than increase a person’s trust level. Thus—in line with Hypothesis 2—there is more likely to be a positive trust effect from a favor from one’s network than from financial support per se.

Insert table 5 about here

Robustness

Skeptics may question our measure of social control, as responses might be reflecting the local quality of formal institutions, which are better in the Yangzi delta than other regions of China. One could argue that community sanctions are more pronounced in places where reliance on formal rules is higher than elsewhere. If underlying formal mechanisms in fact work to support private ordering, our coefficient estimates for norms would partly capture institutional trust (Zucker 1986; Tabellini 2008).

To rule this out, we have conducted a series of robustness tests. Two different sets of survey measures aim to capture individuals’ reliance on formal institutions. In an effort to measure the perceived quality of formal mechanisms, we asked individuals to indicate their trust in the police and in the legal system, on a Likert scale ranging from 1 to 7. In light of potential

measurement problems associated with survey-based assessments of trust (Glaeser et al. 2000), we also include measures reflecting the extent individual entrepreneurs actually rely on formal institutions in their daily business operations. Since use of binding contractual agreements has been identified as a source of trust (Zucker 1986)¹³, we include the percentages of written contracts in sales and supplier relations. We also ask whether the company has acquired any ISO international standard. Given the complicated and often cumbersome procedure that this involves, only CEOs who believe in the utility of institutional standardization are currently inclined to apply.

Separate estimations of both sets of formal institutional measures (Models 5 and 7) as well as model specifications including the two different indices of social control (Models 6a, 6b, 8a, 8b) show no robust association between the perception of formal institutions and generalized trust (see Table 6). Only models 8a and 8b show a modest significant relation between the percentage of written contracts with suppliers and generalized trust. However, the inclusion of measures of formal institutions does not challenge any of our baseline findings. Throughout, the coefficient estimates as well as significance levels for our variables of interest are confirmed, lending robust support for our hypotheses linking social exchange with generalized trust. Further exploration of potential moderating effects between formal institutions and norms confirm insignificant interaction effects.¹⁴

Insert Table 6 about here

In a similar spirit, we examine whether positive associations between social exchange and generalized trust reflect instead the presence of civic associations supportive of local business

¹³ Confirmatory evidence comes from a laboratory experiment conducted by Malhotra and Murnighan (2002) using a small sample of students enrolled at a midwestern university in the US.

¹⁴ Estimation results are available from the authors.

affairs. It is possible to argue that a higher level of generalized trust is not directly associated with personalized exchange in local business networks, but rather reflects civic involvement in such associations. Putnam's (1993) work on community social capital underscores that positive interaction with less-close community members is instrumental in advancing generalized trust. This involves larger community gatherings and interaction with broader and more diverse networks, as typically found in voluntary associations where membership extends beyond the confines of one's immediate network. To examine whether our results are driven by such civic involvement, we include a set of three control variables, each indicating membership in one of the key business associations in communities in the Yangzi delta region (the All-Commerce Association, the Association of Private Entrepreneurs, and various industrial associations). A third of the respondents participate in at least one of these groups. Table 7 summarizes the estimation results confirming our previous findings. Importantly, formal membership in local civic associations is not associated with greater generalized trust. Inclusion of these controls also does not suggest any substantive interaction between measures of social exchange and generalized trust.¹⁵ These findings do not confirm Putnam's hypothesis that community social capital requires civic associational activity. Formality of social organization, in our case, seems not to advance generalized trust. Instead, it is the substance of social exchange as measured by the extent and quality of personal relations that helps to extend trust beyond the circle of immediate business contacts.

Insert Table 7 about here

¹⁵ We have also explored whether multiple membership in different associations is a decisive determinant of generalized trust. Here we followed Paxton (2007), who suggests that membership in overlapping, or cross-cutting associations may be better able to capture the production of generalized trust.

Finally, we have explored a whole range of potentially missing variables. A possible concern is that we have insufficient controls for the prior professional experience of the founding CEO, which might confound the perception of the quality of local control. To determine whether our results are indeed driven by the individual's prior experience, we included a set of ten dummy variables using the same professional categories as we used for the father's last occupation. We find that all estimation results are consistently confirmed (both under inclusion and exclusion of controls for formal institutional quality).¹⁶ Further, we have explored whether higher socioeconomic status (stemming from income, political affiliations, or self-perceived social status) may have led to overoptimistic behavioral choices and at the same time could be correlated with an individual's social ties. However, we did not identify any confounding effects that would modify our benchmark results. In sum, the presented evidence is robust with regard to a broad array of modifications with additional control variables, as well as modified samples, lending strong support for the hypothesized link between social exchange and generalized trust.

Finally, we wish to acknowledge that our focus on medium and large-scale private companies may have an unintended evolutionary selection effect. We cannot rule out that entrepreneurs who are too trusting or who trust for different reasons do not successfully grow their companies into sizeable operations, or are even eliminated from the market. To some extent, our robustness considerations have touched upon this issue, as we have controlled for socioeconomic status measured by personal income, albeit within the limitations of our sampling frame. To confirm the general validity of our findings, future research will need to include different entrepreneurial groups, such as micro-enterprises, household firms and only recently founded start-ups with less than 10 employees.

¹⁶ Estimation results are available from the authors.

DISCUSSION AND CONCLUSION

By building on social exchange theory, our study offers a novel explanation of how cultivation of local trust relations contributes to the production of generalized trust and social order without the introduction of third-party mediation. We highlight depth, prosociality and social control as transmission mechanisms establishing a robust link between experience in local cooperation and trust elicited in one-shot transactions with strangers. We report findings from a large-scale study exploring the link between various dimensions in social exchange and generalized trust for a randomly sampled population of 540 company founders. Based on a novel trust game that allows us to separate between non-strategic and social risk, along with fine-grained survey data that captures individuals' assessment of the quality of their social exchange experience, we show that generalized trust is linked to cumulative experiences of social exchange.

Our results confirm a positive association between depth and prosociality in exchange and generalized trust. CEOs who relied more on social relationships (*guanxi*) to build their customer base are more likely to extend trust to strangers in financial transactions. Entrepreneurs who received loans from friends at the founding stage tend to be more trusting than others in financial transactions with strangers, as predicted by our prosociality hypothesis. Trust associated with confidence in community-level informal sanctions is another crucial factor in the production of generalized trust. In communities where social control is weak, entrepreneurs are less likely to trust strangers, and in communities where actors have confidence in the reliability of community sanctions, they are more likely to engage in trusting behavior with a stranger.

We show that micro-level interactions embedded in repeated exchange are crucial not only in the emergence of within-group trust, but extend to explain generalized trust in larger

social structures. Hence, we underscore Blau's interpretation of social exchange in local communities as a crucial micro-foundation of generalized exchange and trust in larger social systems. The demonstrated micro-macro link between experience in personalized exchange and generalized trust is an extension of empirical trust research that suggests further implications. Most importantly, our findings offer a novel interpretation for why long-distance trade and globalization may evolve without *ex ante* provision of formal institutions safeguarding contract enforcement and property rights. It also tackles the puzzle as to why production and trading in clustered and often close-knit community networks in China did not lead to network closure, but rather served as a training ground for participating in interprovincial and even international trading networks (Nee and Opper 2012).

A possible limitation of our study is that our research site is located in a region with a long historical tradition of neo-Confucian cultural belief. Neo-Confucian collectivist morality and ethnical practices underscored trust and trustworthiness as a core value in social life (de Bary 1999). In other words, we are not able to rule out that our findings are context specific to the Yangzi delta region. Similarly, the distinct political environment shaping entrepreneurial decision-making in China may invite some skepticism. Reliance on personalized exchange and community sanctions, for instance, could theoretically provide a more norm-conforming entrepreneurial strategy in such a highly politicized environment than in established market economies.

Without parallel studies using a similar design to explore the link between social exchange and generalized trust in a different setting, we cannot fully ascertain the general validity of the observed mechanics. However, we note that our findings are consistent with Macaulay's (1963) study, which documented the importance of social ties and norms in shaping trust between principals and agents in Chicago. Even in institutional environments where formal rules and their

enforcement enable calculable assessment of risks, the informal institutional elements of social exchange and norms are still critical for generalized trust. This suggests a direction for future research in probing the nature of the relationship between informal and formal elements of generalized trust to study its emergence and decline.

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Table 1: The 2009 sample by sector and city

	Textile	Medical	Ordinary machinery	Transport and auto-parts	Electronics	Total
Shanghai	17	11	10	37	4	79
Nanjing	8	6	20	25	10	69
Nantong	21	9	24	15	11	80
Changzhou	17	18	12	14	22	83
Hangzhou	28	7	20	3	5	63
Wenzhou	22	3	24	19	13	81
Ningbo	29	7	25	16	8	85
Total	142	61	135	129	73	540

Table 2: Correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12
1 Male	1.000											
2 Age	.145	1.000										
3 Rural	.082	-.066	1.000									
4 Years of education	.032	-.146	-.392	1.000								
5 Last income	.064	-.060	-.077	.188	1.000							
6 Percentage of return customers	.047	-.023	.154	-.237	-.028	1.000						
7 Percentage of customers known in person	.073	-.031	.132	-.241	.022	.446	1.000					
8 Reliance on guanxi	.024	-.001	-.021	.015	-.022	.040	.045	1.000				
9 Firm found most important customers through network	.076	-.040	-.018	.130	.105	.025	.084	.040	1.000			
10 Loans from friends	-.050	-.029	-.025	.015	.062	.068	.073	.060	.046	1.000		
11 Absence of local norms	-.034	.010	-.029	-.027	-.082	-.053	-.030	-.146	-.065	-.085	1.000	
12 Strength of community sanctions	.065	-.031	.181	.079	.027	.142	.112	.218	.0162	.0597	-.250	1.00

Table 3: Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Male	540	.852	.356	0	1
Age	540	43.787	7.880	27	71
Rural Hukou status at birth	540	.485	.500	0	1
Years of formal education	540	12.698	2.901	5	23
Last annual income before becoming an entrepreneur (in 10,000 CNY)	540	3.343	3.737	.05	30
Absence of local business norms (0-7)	540	1.430	2.123	0	7
Strength of community sanctions	540	1.639	1.861	0	7
Trust in police (1-7)	540	3.657	.653	2	5
Trust in judges and court (1-7)	540	4.056	.610	2	5
Percentage of sales based on written contracts	540	89.219	19.064	0	100
Percentage of supplies based on written contracts	540	85.859	20.872	0	100
International certification	540	.346	.476	0	1
Percentage of return customers	540	68.252	16.939	0	100
Percentage of customers known in person	540	52.452	26.056	0	100
Reliance on guanxi in buyers relations	540	4.661	1.087	1	7
Share of loans from friends at founding stage	540	3.271	10.282	0	100
Firm found most important customer through network	540	.241	.428	0	1

Table 4: Ordered probit analysis of entrepreneurs social ties and norms on generalized trust

	Model 1	Model 2	Model 3a	Model 3b	Model 4a	Model 4b
Depth						
Percentage of return customers		.007** (.003)			.007** (.003)	.007** (.003)
Percentage of customers known in person		.004* (.002)			.004* (.002)	.004* (.002)
Reliance on Guanxi in buyers relations		.183*** (.046)			.170*** (.046)	.160*** (.047)
Prosociality						
Firm found most important customer through network		.145 (.118)			.149 (.119)	.144 (.118)
Loans from friends at founding stage		.012* (.007)			.011* (.007)	.012* (.007)
Control						
Absence of local norms (0-7)			-.087*** (.023)		-.066*** (.023)	
Community sanctions (0-7)				.093*** (.026)		.060** (.027)
Personal background						
Male	.051 (.142)	.028 (.133)	.031 (.143)	.021 (.143)	.009 (.134)	.007 (.134)
Age	.014 (.053)	-.011 (.054)	.016 (.053)	.012 (.053)	-.009 (.053)	-.011 (.053)
Age squared	-.0001 (.0006)	.0002 (.0006)	-.0002 (.0006)	-.0001 (.0006)	.0001 (.001)	.0002 (.001)
Rural household	.102 (.110)	.087 (.110)	.066 (.111)	.055 (.111)	.060 (.111)	.058 (.111)
Years of education	.008 (.020)	.029 (.020)	.011 (.020)	.008 (.019)	.031 (.020)	.029 (.020)
Father's last position	YES***	YES***	YES**	YES**	YES***	YES***
Income before becoming an entrepreneur	.071** (.030)	.056* (.030)	.062** (.030)	.070** (.030)	.050* (.030)	.056* (.030)
Income squared	-.001 (.001)	-.001 (.001)	-.001 (.001)	-.001 (.001)	-.001 (.001)	-.001 (.001)
Observations	540	540	540	540	540	540
Log pseudolikelihood	-1058.483	-1035.156	-1051.155	-1051.95	-1030.83	-1032.43
Pseudo R2	.038	.059	.044	.044	.063	.061

*p < .10; ** p < .05; *** p < .01. Robust standard errors are in parentheses. For dummy variables, the level of significance reflects highest level of significance found for at least one dummy variable.

Coefficient estimates for dummy variables are available from the authors. Controls for sector, city, treatment, and interviewer are included in all model specifications but not reported.

Table 5: Ordered probit analysis of entrepreneurs' social ties, modes of start-up loans and norms on generalized trust

	Model 4b	Model 4c	Model 4d	Model 4e
<i>Depth</i>				
Percentage of return customers	.007** (.003)	.007** (.003)	.007** (.003)	.007** (.003)
Percentage of customers known in person	.004* (.002)	.004* (.002)	.004* (.002)	.004* (.002)
Reliance on Guanxi in buyers relations	.160*** (.047)	.169*** (.047)	.167*** (.046)	.168*** (.046)
<i>Prosociality</i>				
Firm found most important customer through network	.144 (.118)	.147 (.117)	.143 (.117)	.142 (.117)
Loans from friends at founding stage	.012* (.007)			
Loans from family at founding stage		.005 (.006)		
Loans from bank at founding stage			.0002 (.002)	
Trade credit offered by key supplier				-.055* (.110)
<i>Control</i>				
Community sanctions (0-7)	.060** (.027)	.061** (.002)	.063** (.023)	.064** (.027)
<i>Personal background</i>				
Male	.007 (.134)	-.018 (.139)	-.026 (.140)	-.028 (.141)
Age	-.011 (.053)	-.006 (.053)	-.004 (.053)	-.003 (.053)
Age squared	.0001 (.001)	.0001 (.0006)	.0000 (.0006)	.0001 (.0006)
Rural household	.058 (.111)	.063 (.110)	.059 (.111)	.058 (.110)
Years of education	.029 (.020)	.027 (.020)	.026 (.020)	.027 (.020)
Father's last position	YES***	YES***	YES***	YES***
Income before becoming an entrepreneur	.056* (.030)	.059** (.030)	.054* (.030)	.053* (.030)
Income squared	-.001 (.001)	-.001 (.001)	-.001 (.001)	-.001 (.001)
Observations	540	540	540	540
Log pseudo likelihood	-1032.43	-1035.12	-1035.69	-1035.57
Pseudo R2	.061	.059	.058	.059

*p < .10; ** p < .05; *** p < .01. Robust standard errors are in parentheses. Controls for sector, city, treatment, and interviewer are included in all model specifications but not reported.

Table 6: Ordered probit estimations controlling for formal institutions

	Model 5	Model6a	Model 6b	Model 7	Model 8a	Model 8b
Depth						
Percentage of return customers	.007** (.003)	.007** (.003)	.007** (.003)	.008** (.003)	.007** (.003)	.007** (.003)
Percentage of customers known in person	.004* (.002)	.004* (.002)	.004* (.002)	.004* (.002)	.004* (.002)	.004* (.002)
Reliance on guanxi in buyers relations	.179*** (.047)	.164*** (.047)	.155*** (.047)	.181*** (.046)	.168*** (.047)	.155*** (.047).
Prosociality						
Loans from friends at founding stage	.012* (.006)	.011* (.006)	.012* (.005)	.012* (.006)	.011* (.006)	.011* (.006)
Firm found most important customer through network	.139 (.119)	.142 (.120)	.140 (.119)	.167 (.118)	.173 (.119)	.169 (.118)
Control						
Absence of norms (0 – 7)		-.069*** (.023)			-.069*** (.023)	
Community sanctions (0-7)			.060** (.026)			.065** (.027)
State institutions						
Trust in police (1- 7)	.091 (.075)	.104 (.076)	.088 (.075)			
Trust in judges and courts (1-7)	-.039 (.084)	-.049 (.084)	-.031 (.084)			
Percentage of written contracts in sales				-.0001 (.003)	-.001 (.003)	-.0003 (.003)
Percentage of written contracts for supplies				.004 (.003)	.005* (.003)	.005* (.003)
International standardization (ISO)				-.017 (.106)	-.024 (.105)	-.013 (.106)
Personal background						
Male	.014 (.135)	-.004 (.136)	-.0004 (.136)	.021 (.132)	.005 (.136)	.002 (.133)
Age	-.011 (.054)	-.009 (.054)	-.011 (.053)	-.014 (.055)	-.012 (.055)	-.014 (.054)
Age squared	.0002 (.001)	.0001 (.001)	.0001 (.0006)	.0002 (.0006)	.0002 (.001)	.0002 (.001)
Rural household	.091 (.111)	.063 (.111)	.062 (.111)	.096 (.111)	.071 (.111)	.066 (.111)
Years of education	.030 (.020)	.031 (.020)	.029 (.019)	.024 (.020)	.025 (.020)	.023 (.020)
Father's last position	YES***	YES***	YES***	YES***	YES***	YES***
Income before becoming an entrepreneur	.055* (.030)	.049 (.030)	.056* (.030)	.055* (.030)	.050 (.030)	.056* (.030)
Income squared	-.001 (.001)	-.001 (.001)	-.001 (.001)	-.001 (.001)	-.001 (.001)	-.001 (.001)
Observations	540	540	540	540	540	540
Log pseudolikelihood	-1034.25	-1029.83	-1031.72	-1033.31	-1028.87	-1030.34
Pseudo R2	.060	.064	.062	.060	.065	.063

*p < .10; ** p < .05; *** p < .01. Robust standard errors are in parentheses. Controls for sector, city, treatment, and interviewer are included in all model specifications but not reported.

Table 7: Ordered probit estimations controlling for formal institutions

	Model 9a	Model 9b	Model 10a	Model 10b	Model 11a	Model 11b
Depth						
Percentage of return customers	.006* (.003)	.007** (.003)	.006* (.003)	.007** (.003)	.007** (.003)	.007** (.003)
Percentage of customers known in person	.004* (.002)	.004* (.002)	.004* (.002)	.004* (.002)	.004* (.002)	.004* (.002)
Reliance on guanxi in buyers relations	.173*** (.046)	.162*** (.046)	.169*** (.046)	.160*** (.047)	.169*** (.046)	.159*** (.047)
Prosociality						
Loans from friends at founding stage	.011* (.007)	.012* (.007)	.011* (.007)	.012* (.007)	.011* (.007)	.012* (.007)
Firm found most important customer through network	.155 (.119)	.151 (.118)	.153 (.119)	.147 (.118)	.153 (.120)	.147 (.119)
Control						
Absence of norms (0 – 7)	-.067*** (.023)		-.069*** (.023)		-.068*** (.023)	
Community sanctions (0-7)		.061** (.027)		.060** (.027)		.060** (.027)
Membership in associations ¹⁾²⁾						
All-Commerce Association	.256 (.199)	.258 (.198)				
Association of private entrepreneurs			-.130 (.107)	-.102 (.106)		
Industrial association (guild)					-.070 (.151)	-.039 (.151)
Personal background						
Male	-.001 (.135)	-.003 (.134)	.012 (.135)	.011 (.134)	.012 (.135)	.009 (.134)
Age	-.012 (.054)	-.014 (.054)	-.003 (.054)	-.007 (.054)	-.008 (.054)	-.011 (.053)
Age squared	.0002 (.001)	.0002 (.001)	.000 (.000)	.0001 (.001)	.0001 (.001)	.0001 (.001)
Rural household	.054 (.110)	.052 (.110)	.063 (.110)	.061 (.111)	.062 (.111)	.059 (.111)
Years of education	.029 (.020)	.028 (.020)	.032 (.020)	.030 (.020)	.031 (.020)	.029 (.020)
Father's last position	YES***	YES***	YES***	YES***	YES***	YES***
Income before becoming an entrepreneur	.049 (.030)	.056* (.030)	.047 (.030)	.055* (.030)	.050* (.030)	.056* (.030)
Income squared	-.001 (.001)	-.001 (.001)	-.001 (.001)	-.001 (.001)	-.001 (.001)	-.001 (.001)
Observations	540	540	540	540	540	540
Log pseudolikelihood	-1030.09	-1031.68	-1030.15	-1032.01	-1030.74	-1032.40
Pseudo R2	.064	.062	.063	.062	.063	.061

*p < .10; ** p < .05; *** p < .01. Robust standard errors are in parentheses. Controls for sector, city, treatment, and interviewer are included in all model specifications but not reported.

1) Estimations results for membership in civic associations are confirmed under exclusion of all five measures of social structure.

2) Construction of a dummy variable signaling membership in any of the three associations under review yields the same results suggesting no significant effect of formal association membership.

APPENDIX I

Decision	Option A	Option B (Lottery with different payment probabilities)	Circle your choice of option
1	X decides between Payment I and II.	100% for Payment II	A B
2	X decides between Payment I and II.	10 % for Payment I 90 % for Payment II	A B
3	X decides between Payment I and II.	20 % for Payment I 80 % for Payment II	A B
4	X decides between Payment I and II.	30 % for Payment I 70 % for Payment II	A B
5	X decides between Payment I and II.	40 % for Payment I 60 % for Payment II	A B
6	X decides between Payment I and II.	50 % for Payment I 50 % for Payment II	A B
7	X decides between Payment I and II.	60 % for Payment I 40 % for Payment II	A B
8	X decides between Payment I and II.	70 % for Payment I 30 % for Payment II	A B
9	X decides between Payment I and II.	80 % for Payment I 20 % for Payment II	A B
10	X decides between Payment I and II.	90 % for Payment I 10% for Payment II	A B

APPENDIX II

A 20 Informal lending

Assume Lao Zhang in your local business community is approached by a business acquaintance Lao Li to help him out with a short-term loan for an investment. Lao Li knows that the company of Lao Zhang is doing fine, and that Lao Zhang could afford to lend. Knowing your local business community, what would happen, if Lao Zhang would still not grant Lao Li the requested loan? **[Please show card; Interviewer please note: if the respondent has chosen option a and also chosen another option, please remind him/her that option a means nothing will happen and cross out option a and mark X on this question]**

- a) Nothing will happen
- b) Lao Li would tell others about his experience
- c) Lao Li would in the future also not lend to Lao Zhang
- d) There will be a material change in the business relations between Lao Zhang and Lao Li (for instance less trading etc.)
- e) Other people than Lao Li, would also treat Lao Zhang differently.

A 21 Helping others to start a firm

Assume a longtime employee Lao Li wants to start his own firm and asks his employer Lao Zhang for advice and assistance. Lao Zhang was always content with Lao Li and appreciated Lao Li's work. In spite of their good relationship Lao Zhang refuses to assist and support Lao Li's decision in any way. Knowing your local business community, what would happen? **[Please show card; Interviewer please note: if the respondent has chosen option a and also chosen another option, please remind him/her that option a means nothing will happen and cross out option a and mark X on this question]**

- a) Nothing will happen
- b) Lao Li would tell others about Lao Zhang's strict position.
- c) Lao Li would seek to hurt Lao Zhang's business (for instance, lure away customers etc.)
- d) There would be a material change in the personal relationship between Lao Zhang and Lao Li (no future business, information sharing etc.)
- e) Other people than Lao Li, would also treat Lao Zhang differently.

B11 Repaying loans

Assume Lao Li gives Lao Zhang an informal loan to finance further investment in Lao Zhang's company. When the repayment of the loan is due, Lao Zhang fails to pay the money back to Lao Li. Assume further that Lao Zhang refuses to repay Lao Li "in kind". In your local business community, what would you expect to happen? **[Please show card; Interviewer please note: if the respondent has chosen option a and also chosen another option, please remind him/her that option1 means nothing will happen and cross out option 1 and mark X on this question]**

- a) Nothing will happen.
- b) Lao Li would tell others (business friends, customers, suppliers) about this experience.
- c) Lao Li would try to cover his losses (for instance, take away materials or goods from Lao Zhang)
- d) There will be a material change in the quality of business relations between Lao Li and Lao Zhang (no further business, information sharing, etc.)
- e) Other people besides Lao Li would also respond to Lao Zhang's behavior (for instance, no future lending, only cash transactions or no more business transactions)

D12 Delivery on time

Assume Lao Zhang delivers supplies to Lao Li with a substantial delay. As a consequence, Lao Li is losing a contract with one of his customers. Assume further Lao Zhang refuses to cover Lao Li's losses. In your local business community, what would you expect to happen? **[Please show card; Interviewer please note: if the respondent has chosen option a and also chosen another option, please remind him/her that option a means nothing will happen and cross out option a and mark X on this question]**

- a) Nothing will happen.
- b) Lao Li would tell others (business friends, customers, suppliers) about this experience.
- c) Lao Li would try to cover his losses in future transactions with Lao Zhang (for instance, get a better price on future deals)
- d) There will be a material change in the quality of business relations between Lao Zhang and Lao Li (no further business, information sharing, etc.)
- e) Other people besides Lao Li would also respond to Lao Zhang's business practice (for instance, reduce or cut business with Lao Zhang)

D13 Maintaining quality

Assume Lao Zhang has delivered (knowingly) supplies of inferior quality to Lao Li and refuses to fix the problem. In your local business community, what would you expect to happen? **[Please show card; Interviewer please note: if the respondent has chosen option a and also chosen another option, please remind him/her that option a means nothing will happen and cross out option a and mark X on this question]**

- a) Nothing will happen.
- b) Lao Li would tell others (business friends, customers, suppliers) about this experience.
- c) Lao Li would try to cover his losses in future transactions with Lao Zhang (for instance, no payment on future deals).
- d) There will be a material change in the quality of business relations between Lao Zhang and Lao Li (no further business, etc.).
- e) Other people besides Lao Li would also treat Lao Zhang differently (for instance, reduce or cut business with Lao Zhang).

D14 Timely payment (multiple choices)

Assume Lao Li has delivered goods to Lao Zhang according to the specifications of a contract in a timely manner, but after a reasonable period Lao Zhang still has not paid for the goods. In your local business community, what would you expect to happen? **[Please show card; Interviewer please note: if the respondent has chosen option a and also chosen another option, please remind him/her that option a means nothing will happen and cross out option a and mark X on this question]**

- a) Nothing will happen.
- b) Lao Li would tell others (business friends, customers, suppliers) about this experience.
- c) There will be a material change in the quality of business relations between Lao Zhang and Lao Li (no further business, etc.).
- d) Other people besides Lao Li would also treat Lao Zhang differently (for instance, reduce or cut business with Lao Zhang).

E17 Fair Competition

Assume there are two persons, Lao Zhang and Lao Li, who have maintained a trusting business relationship over years. Suddenly, Lao Zhang actively tries to lure away clients of Lao Li. In your local business community, what consequences would you expect? (multiple choices) **[Please show card; Interviewer please note: if the respondent has chosen option a and also chosen another option, please remind him/her that option a means nothing will happen and cross out option a and mark X on this question]**

- a) Nothing will happen.
- b) Lao Li would tell others (clients and others) about his experience.
- c) Lao Li would try to also lure clients away from Lao Zhang to cover the loss.
- d) There will be a material change in the quality of the business relation between Lao Zhang and Lao Li (for instance. less information sharing).
- e) Others would also treat Lao Zhang differently.