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Ke Lyu

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Social Capital and Self-Employment Dynamics in China

Ke Lyu 

Department of Economics, University of Nevada, Reno, NV, USA

ABSTRACT

Opportunity-driven entrepreneurship can stimulate economic growth and foster technology innovation, while subsistence-driven self-employment can have the opposite effect. In China, a country with a typical relational society and a middle-income status, the nature of nonagricultural self-employment remains contentious. Examining the influence of social capital on entrepreneurial activities can provide insight into the nature of entrepreneurial activities in China, although this issue has received relatively little attention in the literature. To address this gap, this study employs multivariate discrete choice modeling on national representative samples from the China Family Panel Studies dataset to assess the relationship between social capital and entrepreneurship dynamics. The results indicate that relational, structural, and cognitive social capital all affect entrepreneurial dynamics, and these effects vary between urban and rural areas. Individuals who are less likely to be members of an organization, who are less conscientious, and who have low levels of trust and gift expenses are more likely to become self-employed. Conversely, people with high trust, strong conscientiousness, and low social status are more likely to exit self-employment. In addition, individuals with lower levels of human capital are more likely to both enter and exit self-employment. These findings suggest that self-employment tends to be subsistence-driven in China, which has implications for policymakers seeking to promote opportunity-driven entrepreneurial activities.

KEYWORDS

Social capital; subsistence-driven self-employment; China; regional entrepreneurship

Introduction

Self-employment is acknowledged as a vital driver of economic development, contributing to job creation and fostering innovation. However, the dynamics of self-employment can diverge markedly, contingent upon the institutional landscape and the degree of economic advancement. A substantial variation in entrepreneurial orientations can be observed across nations, with opportunity-driven entrepreneurs establishing businesses in response to perceived opportunities and subsistence-driven entrepreneurs compelled to initiate enterprises out of necessity.¹ Opportunity-driven entrepreneurship predominates in high-income nations, such as the United States and Germany. Conversely, the nature of entrepreneurship in low- and middle-income countries remains a subject of discussion.²

Social capital refers to the networks, relationships, and shared norms among individuals and groups that facilitate cooperation and trust for mutual benefit in a society. The impact of social capital on entrepreneurial pursuits is contingent upon its type. By enabling individuals to interact with various stakeholders through networks, opportunity entrepreneurship helps overcome resource constraints and access information (Amini Sedeh et al., 2021; Shang et al., 2020). In the

process of building these networks, intangible connections can be transformed into intrinsic social capital, which can be crucial for establishing and maintaining a successful business. However, the relationship between social capital and self-employment may be inverted in cases where self-employment is driven by subsistence rather than opportunity, which can have negative consequences for the economy of low-income countries (Acs et al., 2008). In these situations, social capital may encourage wage employment rather than self-employment among the labor force. Understanding the dominant nature of self-employment and its determinants is therefore essential.

According to Nahapiet and Ghoshal (1998), social capital encompasses relational (e.g., trust and obligations), structural (e.g., ties and relationships), and cognitive (e.g., shared values and common languages) aspects. Evidence from high-income countries suggests that social capital can have a positive influence on an individual's decision to become an entrepreneur (Caliendo et al., 2012). As a determinant of entrepreneurship, obtaining social capital is a crucial skill for starting and maintaining a new business. However, few studies have explored the relationship between social capital and entrepreneurial dynamics in low- and middle-income countries with diverse cultural and economic contexts. China's strong economic growth and transition from a centrally planned to a market-oriented economy is sometimes seen as a model for other middle-income countries (Y. Huang, 2008; Naughton, 2018). Additionally, China shares similar challenges faced by other middle-income countries in terms of fostering entrepreneurship, such as the need for innovation, human capital development, and institutional reform (Yusuf & Nabeshima, 2009). This study aims to address the existing gap in the literature by examining the determinants of the dynamic of self-employment in China, a typical relational society and developing country. Specifically, the study aims to determine whether self-employment among the labor force in middle-income countries is driven by subsistence or opportunity and whether social capital incentivizes or inhibits self-employment.

To examine the relationship between social capital and self-employment in China, this study uses the China Family Panel Studies (CFPS), covering the years 2012 to 2020. The CFPS data are representative for China, as it is a comprehensive, large-scale, and nationally representative longitudinal survey covering diverse social, economic, and demographic topics (Xie & Hu, 2014). Using a multistage sampling strategy, CFPS ensures broad representation across geographic regions and socioeconomic backgrounds, making it suitable for analyzing various aspects of Chinese society, including entrepreneurial dynamics. In this study, relational social capital (i.e., networks and connections between individuals within a society) is measured using trust and reciprocity as key indicators. Cognitive social capital (i.e., shared values and common language) is measured using conscientiousness and language deviation (Judge et al., 1999; Yang & Ai, 2019). Structural social capital (i.e., formal and informal institutions, norms, and networks that shape relationships within a society) is measured using indicators such as membership in appropriable organizations, gift expenses, and subjective social status. By analyzing these data, the study investigates the impact of social capital on the probability of entering or exiting self-employment while controlling for characteristics that have been shown to be significant in previous research (Caliendo et al., 2012). The analysis also controls for household and demographic characteristics.

The study begins by comparing the social capital and other characteristics of self-employed and wage-employed groups. As self-employment tends to have lower levels of social and human capital compared to wage employment, this analysis provides insights into whether self-employment is predominantly a pursuit of opportunities or a refuge for disadvantaged laborers in China. Next, the study identifies entrants and quitters in self-employment using data on the dynamic progress of self-employment and estimates the effect of three dimensions of social capital (i.e., structural, relational, and cognitive social capital) on the startup and survival of nonagricultural businesses. The results show that relational, structural, and cognitive dimensions of social capital negatively affect the probability of entry into self-employment, and relational and cognitive social

capital positively affect the probability of quitting. Additionally, human capital significantly influences self-employment dynamics. Younger and less educated individuals are more likely to enter and exit self-employment, while a stable family tends to encourage individuals to remain self-employed.

This study makes several contributions to the existing literature on self-employment in developing countries. First, the nature of self-employment in these countries is a topic of debate, with some studies suggesting that it is opportunity-driven (Huang et al., 2016; Zhang et al., 2021), while others identify it as subsistence-driven (Bruton et al., 2015; Viswanathan et al., 2014). This study presents a comprehensive analysis of the characteristics of self-employed and wage-employed laborers, as well as dynamic self-employment decisions, using national representative micro-survey panel data from 2012 to 2020 in China. The results suggest that the majority of self-employed laborers in China are a disadvantaged group in the labor force, implying that the dominant nature of self-employment is driven by subsistence. Second, this study systematically and quantitatively measures social capital from relational, structural, and cognitive perspectives and examines its effect on the probability of entry into or exit from self-employment. The findings show that social and human capital decrease the probability of entry into self-employment and encourage self-employed individuals to quit.

The structure of this study is as follows. The concept of social capital and relevant literature on the relationship between social capital and self-employment are reviewed, and hypotheses are developed. Then, the data and variables used in this study are introduced. The following section outlines the empirical methods employed to analyze the relationship between social capital and self-employment. The empirical results are then presented, the study's findings are discussed, and conclusions are drawn.

Literature review

Social capital

Social capital refers to intangible assets characterized by social resources derived from networks (Paldam, 2000). It allows individuals to benefit from their social structures, networks, and memberships (Lin et al., 1981). Similar to financial and human capital, micro-level social capital relates to individual behaviors (Bourdieu, 1985). The network's scale, density, and the degree of centralization are the key indicators of social capital (Burt, 2002). Compared with the indirect method, the direct method measures these dimensions considering the available resources used in entrepreneurial activities, and the relationships with different stakeholders, such as shareholders, suppliers, customers, competitors, and government, are quantified. However, in most cases, these data are difficult to obtain; thus, these dimensions are measured indirectly by adopting indexes, such as expenses for social relationships, degree of trust, and social frequency, to reflect social stock. By combining indexes from the direct and indirect methods, Nahapiet and Ghoshal (1998) created three dimensions from the relational, structural, and cognitive perspectives that have been applied in many studies. Relational social capital includes trust and reciprocity, which promotes cooperation, and support from others within the network. Structural social capital focuses on the benefits derived from interrelationships and ties. Cognitive social capital includes shared values and common languages (Parker, 2018).

In China, where personal relationships and networks are highly valued and can be key to accessing opportunities and resources, understanding the dynamics of social capital can provide insights into how individuals and organizations navigate the complex social and economic landscape (Zhang et al., 2021). By using the indirect methods to measure social capital, a more comprehensive understanding of its various dimensions, including relational, structural, and cognitive perspectives, can be gained.

Social capital and self-employment

Entry into and quitting self-employment involve more than just a change in employment status; it also requires different abilities and personal characteristics (Gartner, 1989). The effect of social capital on the dynamics of self-employment depends on its nature, opportunity, or subsistence. For opportunity-driven entrepreneurial activity, social capital helps people to seize opportunities and overcome limited resources through social networks. Individuals with high social capital can acquire resources, influence, and sponsorship for entrepreneurship, thus increasing their possibility of running a successful business (Cai et al., 2021). Some scholars have found evidence for a positive causal relationship between social capital and self-employment (Y. Luo & Chan, 2021). Individuals, including farmers, had a higher entry probability if they are endowed with higher human and social capital (Luo & Chong, 2019; Xiao & Wu, 2021). In contrast, being part of a wide network with similar thought processes may lead individuals to become overconfident and have an illusion of control (De Carolis & Saparito, 2006). Additionally, entrepreneurs investing time and energy in maintaining social networks or trusting others blindly would result in losses. Several empirical studies have verified that social capital facilitates entrepreneurship. However, researchers have tended to ignore the drawbacks of investing in social networks and the real possibility of costly but unproductive social capital. Some studies have suggested that there exists a curvilinear relationship between corporate performance and that social capital and firms could enhance their performance by configuring their social relationships (Maurer & Ebers, 2006), while Liao and Welsch (2005) found no significant relationship between social capital and nascent entrepreneurship. Most studies have focused on social capital and entrepreneurship in high-income countries. The developing economy may experience flawed institutions that lead to information asymmetry and misguided regulations (Khanna & Palepu, 1997). Under these circumstances, social networks should be developed to deal with uncertainty (Nooteboom, 2007). In China, the presence of distinct cultural and traditional factors may suggest that social capital is disproportionately valued and has become a necessary requirement for individuals seeking to engage in self-employment. Interpersonal relationships, known as *Guanxi* in China, are critical to new business opportunities and performance (Adithipyangkul & Leung, 2015). Before starting a new business, potential entrepreneurs weigh the possible cost and benefits of investing in social capital, and those equipped with a high level of social capital are more likely to succeed in their careers.

Subsistence-driven self-employment describes a situation in which disadvantaged workers are unable to find a proper job in the job market and are compelled to be self-employed. Once they are equipped with a high level of social capital, they tend to enter wage employment in the dominant distributive sector. Subsistence-driven entrepreneurs are more common in developing countries, such as India and China (Tamvada et al., 2022). In China, three features indicate that self-employment is largely driven by subsistence. The first is the high proportion of self-employment among the workforce. The second is the continuously decreasing self-employment rate, and the third is the characteristics of the self-employment group identified by some scholars (Gong et al., 2004; Liu et al., 2019; Li & Zhao, 2011). First, as shown in Figure 1, the World Bank estimated China's self-employment rate to be 44.66% in 2019, which is significantly higher than rates in most developed countries, such as the United States (6.09%), the United Kingdom (15.57%), and Japan (10.05%). This high level of self-employment is generally associated with less developed economies, where many workers lack the skills, education, or access to capital needed to work for larger firms. This point is supported by reports from the International Labor Organization (ILO) and the World Bank (Bonnet et al., 2019; Ohnsorge & Yu, 2022). Second, the ILO estimated that the overall self-employment rate in China had dropped from 62.2% in 2000 to 46.5% in 2020. According to China Statistical Yearbook, the Chinese government confirmed that the proportion of self-employment in total nonagricultural employment has been steadily declining since 1999. Self-employed business in China is largely subsistence-driven and shows no signs of growth (Gustafsson & Zhang, 2022). In this case, self-employment could be part of a less productive

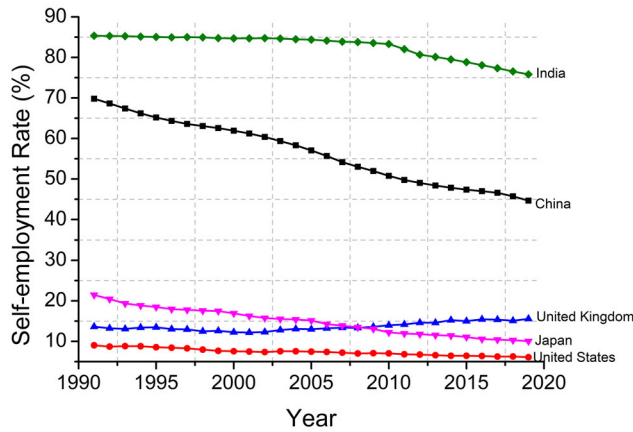


Figure 1. Self-employment rate in China, United States, United Kingdom, Japan, and India (2000–2019).

sector and may overlap with the informal economy. Third, in contrast to Western countries, China's self-employed group was characterized by lower levels of education and fewer skills, as well as a lack of wage job opportunities (Kim et al., 2006). This suggests that individuals with more favorable opportunities, including those derived from high levels of social capital, may be more likely to pursue wage employment rather than self-employment in China. The necessary financial and moral cost of social capital might deter people from starting their own business. The definitive conclusion on whether social capital has a positive or negative impact on the persistence of self-employment has not been reached. Some scholars have concluded the negative side of social capital on self-employment (Li et al., 2013; Williams et al., 2020).

To summarize, social capital could facilitate entrepreneurship, but its effect on subsistence-driven self-employment is not conclusive. Moreover, the current literature on this topic in China has three disadvantages. First, most studies have treated social capital as a control variable and have used simple, single indicators such as trust, gift expenses, and the number of friends to represent total social capital (Dou et al., 2019; Xiang et al., 2021; Zhang & Li, 2018). This study, however, adopts systematic factors to measure social capital in three dimensions. Second, non-agricultural self-employment has received relatively little attention in the literature. While large-scale self-employment has been a part of rural development when considering farmer entrepreneurship (Zhang et al., 2006), the dominant nature of self-employment in the nonagricultural sector is unclear. This study therefore excludes the agricultural sector and focuses on the nonagricultural laborers. Third, most studies have used cross-sectional data, which do not capture individual characteristics before their entry decision. To address this gap, this study uses systematic measurements for social capital and panel data to examine the effect of social capital on non-agricultural self-employment. Moreover, an endogeneity problem arises if there is a reverse relationship between social capital and entrepreneurial decisions in the current period. This study adopts labor decision-making with a one-period lag to overcome the possible endogeneity problem.

Hypotheses

Social capital is expected to facilitate opportunity-driven entrepreneurial activities and impede subsistence-driven self-employment. As China has a continuously decreasing self-employment rate along with its economic development and because the characteristics of the self-employed group show its vulnerability, the negative effects of social capital on entry into self-employment and the positive effects on exit are stated as the primary hypotheses and the opposite effects as

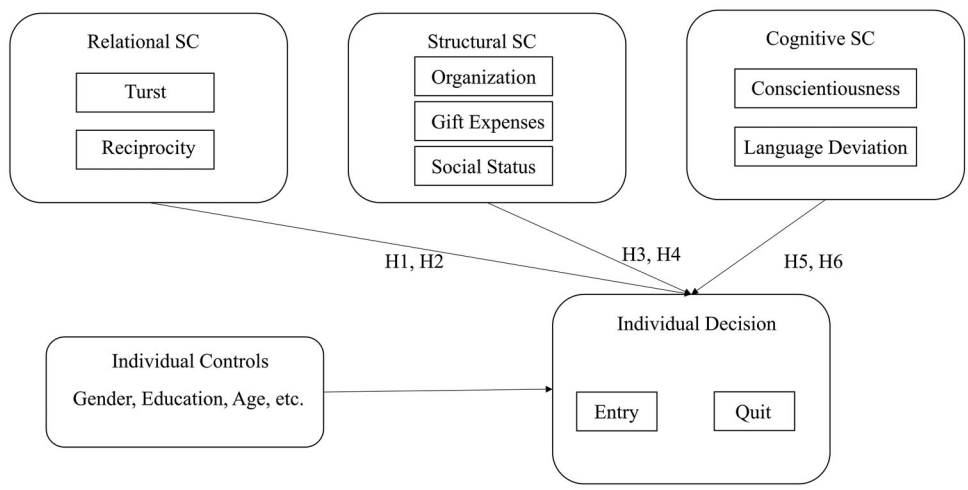


Figure 2. Conceptual framework.

the alternative hypotheses. All hypotheses, which examine the impact of three-dimensional social capital on entry and exit decisions, are depicted in Figure 2. Specifically, H1, H3, and H5 evaluate the influence of relational, structural, and cognitive social capital on entry into self-employment, whereas H2, H4, and H6 examine their impact on exit from self-employment.

Relational social capital

Relational social capital includes trust and obligations. From a personality perspective, the ability to build relational social capital is crucial for establishing and maintaining a successful business. With regard to entrepreneurs, relational social capital influences their decision to enter entrepreneurship and their survival rate (Caliendo et al., 2012; Nieto & González-Álvarez, 2016).

Trust is an attitude that a person expresses when they depend on another to achieve their objectives (Bialaszewski & Giallourakis, 1985). For new entrants, trust can lead entrepreneurs to form positive expectations and psychological security, thereby improving the ability to identify entrepreneurial opportunities. Further, trust could enhance the exchange and sharing of experiences and knowledge. Thus, those who tend to trust others are more likely to start an opportunity-driven business because of their personality trait. For existing entrepreneurs, mutual trust could reduce bias, empower trusted subordinates, and increase negotiation efficiency. Authorizing subordinates is an essential part of being a successful entrepreneur. Suspicious entrepreneurs tend to incur higher communication costs and consume more time to make decisions. Despite their subordinates, entrepreneurs must trust stakeholders, such as partners, suppliers, and customers. They should strike a balance and grant proper trust to different related parties. However, trust comes with risks and not all stakeholders are trustworthy (Bohnet & Zeckhauser, 2004). In particular, disadvantaged laborers, who may be particularly vulnerable in self-employment, may be at risk of losses resulting from blindly granting authorization, such as conflicts in the supply chain and missed profit opportunities, particularly in a relational society. Those who enter non-farm self-employment out of subsistence are likely to be more vulnerable and less trusting of others due to the increased uncertainty and risk associated with credulity. If the disadvantaged group in the labor market has sufficient capital, they may be more inclined to seek stability through wage employment rather than self-employment.

Embedded in the personal relationship, reciprocity is the response to the behavior of other related people. It is a process of exchanging things with others and the embodiment to undertaking obligations. Positive reciprocity means mutual support after receiving help from others. For

opportunity-driven choices, entrants with a spirit of reciprocity are more likely to have extensive connections, increasing the likelihood of identifying entrepreneurial opportunities (Baron & Markman, 2003; Caliendo et al., 2012). Meanwhile, in business activities, reciprocity has been shown to be helpful to survival when contracts are not or only partially enforceable. When the interaction between an enterprise and its stakeholders enters a virtuous circle, the enterprise could receive positive feedback and achieve sustainable operation. However, those who lack reciprocity cannot exchange resources and may find it difficult to be hired. Therefore, this vulnerable group, endowed with low social capital, might be compelled to be self-employed. Individuals who have high reciprocity might be more likely to be paid employed.

Therefore, the primary and alternative hypotheses concerning the relational social capital factor are as follows:

H1: The higher an individual's relational social capital (trust, reciprocity), the lower the probability of them entering self-employment. The alternative hypothesis has the opposite direction.

H2: Individuals who have higher relational social capital (trust, reciprocity) are more likely to exit self-employment. The alternative hypothesis has the opposite direction.

Structural social capital

Structural social capital refers to ties and relationships. For entrepreneurs, the tighter and wider the social networks, the more likely they are to become successful businesspeople. Social ties include “bonding” and “bridging” networks (Leonard, 2004). Bonding ties refer to dense networks with a homogeneous group, such as friends and relatives, whereas bridging refers to loose networks with a heterogeneous group. In this study, combined with CFPS data, organization membership and gift expenses measure the degree of bonding ties, and social status is related to confidence in dealing with a heterogeneous group.

Social status refers to an individual's position in the system of social relationships. Social status is high if laborers have wide social connections with those occupying high-status occupations (Kim & Lee, 2021). Higher perception of status could make entrepreneurs more confident in interpersonal communication and help them to actively seek entrepreneurial opportunities. Their high social status also indicates that they have a high degree of recognition of their career, so it is expected that they rarely quit self-employment. However, for the disadvantaged group, high social status encourages them to interact with others and find and maintain a steady job in paid employment.

Belonging to an organization could strengthen and expand the network ties. Through rational selection, individuals eventually choose an organization and develop a sense of belonging and identity. Obtaining resources from one's social circle can be an important characteristic of a successful business, as it increases the chances of being a successful entrepreneur. However, for disadvantaged groups who may be more risk-averse, a sense of belonging can make them hesitant to step outside their comfort zone and change their employment status. As a result, belonging to an organization may discourage them from starting or closing their own businesses.

Gift expense for relationships is a measurement of the household-level network density and representative of structural social capital. In China, where interpersonal relationships are valued, spending on maintaining networks with relatives and friends accounts for a certain proportion of total household expenditures (Lee et al., 2001). With the exchange of gifts comes the exchange of information and resources that help individuals find business opportunities. Strong and dense networks could lead to positive financial performance for enterprises and a high survival rate of businesses, as supported by Li and Atuahene-Gima (2001). However, if the entrepreneurial activity is a “refuge,” entrepreneurs should satisfy the physiological and safety requirements. The requirements for love and belonging are minor according to Maslow's hierarchy of needs. Being self-employed is a risky employment status, and one has no stable income and insurance. Thus,

those spending more on gifts tend to be employed for wages, not self-employed as a survival choice. Moreover, the disadvantaged labor force may increase spending on gifts to escape self-employment.

Therefore, the null and alternative hypotheses for the structural social capital factor are as follows:

H3: The higher the structural social capital, the lower the probability of entering self-employed. The alternative hypothesis has the opposite direction.

H4: The higher the structural social capital, the higher the probability of exiting self-employment. The alternative hypothesis has the opposite direction.

Cognitive social capital

Cognitive social capital highlights shared values and common language (Yang & Ai, 2019). It has a marginally positive effect on entrepreneurship, according to Zhao et al. (2011). In this study, conscientiousness and common language deviation are measurements of cognitive social capital.

Conscientious individuals, both self-employed and employed, can succeed in their jobs. Excellent past work performance allows entrants to accumulate experience and subsequently explore the opportunity of starting a business in the same industry. Nevertheless, conscientious employees also have greater opportunities for appreciation and higher salary levels, which may prevent them from entering self-employment. Careless laborers in the disadvantaged group have a low probability of being employed, so they are forced to become self-employed. If endowed with diligence, they could become wage employees.

Social identity is one of the determinants of entrepreneurial activities, which is established and maintained through a common language (Eastman, 1985; Falck et al., 2012). If laborers use the common language (Mandarin or dialects) within the community, they could effectively negotiate with other members. With regard to entrepreneurship, Wei et al. (2019) summarized three mechanisms through which language positively impacted the entry decision: obtaining entrepreneurial resources, discovering opportunities, and promoting transactions. However, for survival-based self-employment, those who speak languages other than the common language in the local area are recognized as not socially integrated enough to find formal jobs in the labor market. Once they improve their language skills and proficiency, they will leave self-employment and better integrate into society.

Therefore, the null and alternative hypotheses for the cognitive social capital factor are as follows:

H5: Cognitive social capital has a negative effect on entering self-employment. The alternative hypothesis has the opposite direction.

H6: Cognitive social capital has a positive effect on quitting self-employment. The alternative hypothesis has the opposite direction.

Data

3.1. National representative individual panel data

This study uses data from 2012, 2014, 2016, 2018, and 2020 rounds of the CFPS, a longitudinal dataset at individual, household, and community levels (Xie & Hu, 2014). Starting in 2010, CFPS comprises information related to economic activity, health, and population migration. More than 30,000 individuals within nearly 16,000 households have been surveyed through implicit stratification based on location, population, and GDP. CFPS defined participants in 2010 as “genetic members” and added children of these genetic members in the following waves into a genetic

group, but companions who marry genetic members are not included the genetic group. In principle, these genetic members are permanently tracked by CFPS. They also provided weights for each genetic member to construct a national representative dataset.

Starting from the definition of self-employment, additional sample restrictions are proposed. First, this study excludes individuals younger than 16 years or older than 55 years for women and older than 60 for men in order to focus on the working-age population. In China, the retirement age for women is 55 years and for men it is 60. Second, agricultural workers are excluded because the primary industry differs from secondary and tertiary industries. Third, 5,608 observations with missing values are excluded. The final sample includes 24,626 observations.

Key variables

Self-employment

The CFPS categorized labor force into five groups: unemployment, nonagricultural self-employment, farming, agricultural employees, and nonagricultural employees. Entrepreneurial activity and employment growth demonstrate different tendencies between the primary and the secondary/tertiary sectors; therefore, all workers in the agricultural sector are excluded from the sample. This study focuses on the switch between wage employment and self-employment; thus, unemployment is excluded. Only nonagricultural self-employment and employees are retained in the sample as key classifications. Self-employment is used as a measurable proxy for the concept of entrepreneurship. Entry into and exit from self-employment are generated by comparing employment status during two adjacent survey waves. Entry is coded 1 if the individual changes employment status from employment to self-employment in the next wave. Quit is coded 1 if the individual quits self-employment to switch to wage employment in the next wave. The yearly probability of entry into self-employment among paid employees decreased from 8.40% in 2014 to 5.43% in 2020, while the probability of exit among the self-employed fluctuated between 24.82% and 28.38%.

Social capital

Although CFPS does not include a specific part for social capital, this study refers to Nahapiet and Ghoshal (1998), who proposed three dimensions of social capital: relational, structural, and cognitive. Specifically, questions are selected from the CFPS based on the definition of the three dimensions. Questions designed by the CFPS on the three dimensions of social capital are described in Table A1 in the Appendix.

Structural social capital was measured using gift expenses for maintaining networks, subjective social status in the local area, and appropriate organization (Zhang et al., 2017). Gift expense at the household level is comparable after dividing by the total expenses. Social status is self-reported and ranges between 1 and 5. A dummy variable was used to indicate whether the individual belongs to an organization, such as political parties, labor unions, informal networking organizations, and associations.

Relational social capital was measured by trust and positive reciprocity. Respondents rated their level of trust in parents, neighbors, strangers, Americans, and officials on a scale from 1 (strongly distrust) to 10 (strongly trust). Factor analysis results showed that these six degrees of trust had similar weights and same signs in the first factor; thus, the trust index is the average of these six dimensions (Table A2). Positive reciprocity is measured by social donation at the household level divided by the household's total expense (Liu & Zhang, 2021). Unlike a direct question for reciprocity, this measurement reflects the individual's reciprocal behaviors in society supported by Khadjavi (2017).

Table 1. Summary statistics.

| Variable | Description | Mean | Std. Dev. | Min. | Max. | N |
|--------------------|---|--------|-----------|------|-------|-------|
| self-employed | 1 if self-employed; otherwise, 0 | 0.206 | 0.404 | 0 | 1 | 39641 |
| entry | 1 if becoming self-employed; otherwise, 0 | 0.068 | 0.251 | 0 | 1 | 19504 |
| quit | 1 if quitting from self-employment; otherwise, 0 | 0.264 | 0.441 | 0 | 1 | 5137 |
| trust | Average trust score to parents, neighbors, strangers, officials and Americans | 5.099 | 1.328 | 0 | 10 | 39641 |
| reciprocity | Personal donation expense as a percentage of total expenses | 0.001 | 0.005 | 0 | 0.238 | 39641 |
| organization | 1 if belonging to at least one organization; otherwise, 0 | 0.282 | 0.450 | 0 | 1 | 39641 |
| gift expenses | Personal gift expense as a percentage of total expenses | 0.051 | 0.076 | 0 | 2 | 39641 |
| conscientiousness | The degree of urgency to end the investigation | 5.851 | 1.512 | 1 | 7 | 39641 |
| social status | Self-reported social status | 2.731 | 0.959 | 1 | 5 | 39641 |
| language deviation | Deviation from common language in the community | 0.252 | 0.249 | 0 | 0.989 | 39641 |
| middle school | 1 if having completed education in middle school; otherwise, 0 | 0.739 | 0.439 | 0 | 1 | 39641 |
| high school | 1 if having completed education in high school; otherwise, 0 | 0.400 | 0.490 | 0 | 1 | 39641 |
| age | Age of a person in the sample | 37.845 | 10.722 | 16 | 60 | 39641 |
| health status | Health Status of a person in the sample | 3.104 | 1.287 | 1 | 5 | 39641 |
| female | 1 if female; otherwise, 0 | 0.393 | 0.488 | 0 | 1 | 39641 |
| married | 1 if married; otherwise, 0 | 0.806 | 0.396 | 0 | 1 | 39641 |
| No. of children | number of children | 1.077 | 0.926 | 0 | 10 | 39641 |
| urban | 1 if lives in the urban area; otherwise, 0 | 0.620 | 0.486 | 0 | 1 | 39032 |

Table 2. Summary statistics for self-employed and not self-employed.

| Variable | Self-employment | | | | | Not Self-employment | | | | |
|--------------------|-----------------|-----------|-----|-------|------|---------------------|-----------|-----|-------|-------|
| | Mean | Std. Dev. | Min | Max | N | Mean | Std. Dev. | Min | Max | N |
| trust | 4.987*** | 1.307 | 0 | 10 | 8171 | 5.128 | 1.332 | 0 | 10 | 31517 |
| reciprocity | 0.001 | 0.007 | 0 | 0.238 | 8171 | 0.001 | 0.005 | 0 | 0.226 | 31517 |
| social status | 2.789*** | 0.940 | 1 | 5 | 8171 | 2.716 | 0.963 | 1 | 5 | 31517 |
| organization | 0.202*** | 0.402 | 0 | 1 | 8171 | 0.303 | 0.459 | 0 | 1 | 31517 |
| gift expenses | 0.050 | 0.073 | 0 | 1 | 8171 | 0.051 | 0.077 | 0 | 2 | 31517 |
| conscientiousness | 5.795*** | 1.52 | 1 | 7 | 8171 | 5.865 | 1.509 | 1 | 7 | 31517 |
| language deviation | 0.265*** | 0.245 | 0 | 0.987 | 8171 | 0.249 | 0.25 | 0 | 0.989 | 31517 |
| middle school | 0.697*** | 0.459 | 0 | 1 | 8171 | 0.750 | 0.433 | 0 | 1 | 31517 |
| high school | 0.278*** | 0.448 | 0 | 1 | 8171 | 0.432 | 0.495 | 0 | 1 | 31517 |
| age | 39.533*** | 9.831 | 16 | 60 | 8171 | 37.407 | 10.899 | 16 | 60 | 31517 |
| health status | 3.065*** | 1.316 | 1 | 5 | 8171 | 3.114 | 1.279 | 1 | 5 | 31517 |
| female | 0.380*** | 0.485 | 0 | 1 | 8171 | 0.396 | 0.489 | 0 | 1 | 31517 |
| married | 0.903*** | 0.296 | 0 | 1 | 8171 | 0.780 | 0.414 | 0 | 1 | 31517 |
| No. of children | 1.367*** | 0.932 | 0 | 7 | 8171 | 1.002 | 0.910 | 0 | 10 | 31517 |
| urban | 0.605*** | 0.489 | 0 | 1 | 8060 | 0.623 | 0.485 | 0 | 1 | 30972 |

Asterisks show the results of tests of equal means between the self-employed and those who are not.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Cognitive social capital includes shared values and a common language. Common language is measured by the deviation between own language (Mandarin or dialect) and the language commonly used within the local community. In the CFPS, most questions on shared values are not continuously tracked. Respondents' conscientiousness is rated by the interviewer during the interview and measured on a scale ranging from 1 (strongly not conscientious) to 7 (strongly conscientious). In addition to social capital, this study also uses personal demographic characteristics, such as age, gender, education level, health status, marital status, and the number of children.

Descriptive statistics

This section describes the key variables among the self-employed and not self-employed groups in Tables 1 and 2 and Figures 3, 4, and A1. These summary statistics could help identify two characteristics indicating that China's self-employment is dominated by individuals who are subsistence-driven, rather than opportunity-driven. First, significant disadvantages in social and human capital could indicate the vulnerability of the self-employed in the labor market. Table 2 shows the results of a t test of equal means between these two groups. The self-employment

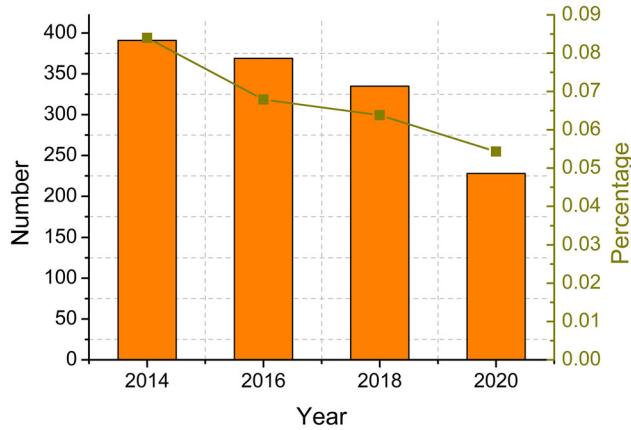


Figure 3. Entry into self-employment.

group has significantly lower social capital in all three dimensions than the alternative group. They are less likely to trust others, be part of an organization, be conscientious, and speak a common language within the community. However, human capital characteristics show that they are less well-educated, older, and in poorer health and have a heavier family burden (more likely to marry and have more children). However, their self-reported social status is slightly higher. [Figure A1](#) shows that the annual before-tax income distribution of self-employment is predominantly skewed toward lower income levels, in contrast to the wage employed group, which peaks at around ¥10,000 (US \$1451.38). Overall, these characteristics indicate that self-employment may be a “refuge” for disadvantaged laborers with lower social and human capital (Gong et al., 2004). Most of these entrants and incumbents operate extremely small, labor-intensive family firms and use little capital (Wang et al., 2011). The inability to find a stable job may have thrust them into self-employment. Hence, their businesses have lower survival rates, and they create low-quality businesses. Second, entry rates decreased annually, from 8.40% in 2012 to 5.43% in 2020 ([Figure 3](#)), while exit rates fluctuated between 24.82% and 28.38% ([Figure 4](#)). The total number of entries is 1,323, while the total number of exits is slightly higher at 1,354. The decreasing rate of entry indicates that as China’s economic development grows, labor-intensive industries are creating more off-farm paid employment opportunities, and few people are pushed into self-employment (Wang et al., 2011).

Correlation coefficients between the relational, cognitive, and structural social capital are reported in [Table 3](#). Language deviation and some variables are negatively correlated. Language deviation measures the deviation between own language and the common language in the local area. A higher language deviation means lower social capital, whereas the other variables positively indicate social capital. Except for language deviation, other indexes for all dimensions are either positively correlated or noncorrelated. Relational social capital, including trust and reciprocity, is positively correlated with structural and cognitive social capital; structural social capital is positively correlated with cognitive social capital. This is consistent with previous findings by Lee et al. (2019).

Empirical strategy

The logit model has been applied as a baseline regression because entry into and exit from self-employment are both binary variables. An analysis is conducted based on the full sample of paid employees in the estimation of the entry probability and the sample of self-employed in the estimation of the probability of exit, respectively. The baseline regression is separately run, based on

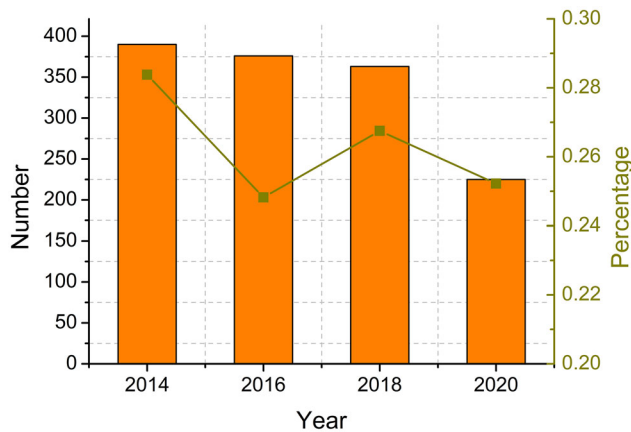


Figure 4. Exit from self-employment.

the urban and rural areas, because of the disparity in the regional culture and self-employment characteristics.

The baseline entry regression model has been listed below and the exit model has the same independent variables.

$$entry_{i,t+1}^* = \beta_0 + \beta_1 Relational_{i,t} + \beta_2 Structural_{i,t} + \beta_3 Cognitive_{i,t} + \beta_4 X_{i,t} + \mu_t + \eta_p + \varepsilon_{i,t}$$

$$quit_{i,t+1}^* = \beta_0 + \beta_1 Relational_{i,t} + \beta_2 Structural_{i,t} + \beta_3 Cognitive_{i,t} + \beta_4 X_{i,t} + \mu_t + \eta_p + \varepsilon_{i,t}$$

$entry_{i,t+1}^*$ is the latent index pertaining to the binary dependent variable which indicates whether the individual is employed in t period and decides to be an entrepreneur in $t + 1$ period. $quit_{i,t+1}^*$ is the latent index pertaining to the binary dependent variable indicating whether the individual is self-employed in t period and decides to exit out of self-employment in $t + 1$ period. $Relational_{i,t}$ is relational social capital vector including two variables, $trust_{i,t}$ and $reciprocity_{i,t}$. $Structural_{i,t}$ is the structural social capital vector including three variables, $socialstatus_{i,t}$, $giftexpenses_{i,t}$ and $organization_{i,t}$. $Cognitive_{i,t}$ is the cognitive social capital vector including $conscientiousness_{i,t}$ and $language deviation_{i,t}$. $X_{i,t}$ are personal demographic characteristics as control variables, such as education, age, health status, gender, marital status, and number of children. μ_t is the year fixed effect, η_p is the province fixed effect, and $\varepsilon_{i,t}$ is the random error term.

Results

Baseline results

The probability of entry into and exit from self-employment is first estimated based on the full sample of paid employees and the self-employed, respectively. Table 4 reports the average marginal effects. Columns 1 and 2 show the probability of entry and exit affected by all three social

Table 3. Cross-correlation of social capital.

| Dimensions | Variables | trust | reciprocity | social status | organization | gift expenses | conscientiousness | language deviation |
|------------|--------------------|--------|-------------|---------------|--------------|---------------|-------------------|--------------------|
| Relational | trust | 1.000 | | | | | | |
| | reciprocity | 0.033* | 1.000 | | | | | |
| Structural | social status | 0.198* | 0.025 | 1.000 | | | | |
| | organization | 0.133* | 0.067* | 0.069* | 1.000 | | | |
| | gift expenses | -0.000 | 0.027* | 0.051* | 0.030* | 1.000 | | |
| Cognitive | conscientiousness | 0.026* | -0.000 | -0.004 | 0.014* | 0.013* | 1.000 | |
| | language deviation | 0.017* | -0.012* | 0.058* | -0.041* | -0.033* | -0.028* | 1.000 |

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

capital dimensions. Trust, appropriable organization, gift expenses, and conscientiousness decrease the entry probability. Trust and conscientiousness increase the exit probability, whereas subjective social status decreases it.

Specifically, for relational social capital, consistent with H1 and H2, an increase in the trust score by one unit decreases the entry probability by 0.3 percentage points, which translates into a relative effect of approximately 4.43% given the yearly entry probability into self-employment of 6.77%. Meanwhile, trust increases the quit probability by 1.3 percentage points with a relative effect of 4.93% given the yearly quit probability of 26.35% (Table 4). This effect has economic significance and indicates that trust in others helps them to transition from self-employment to employed status. Reciprocity has no significant impact on entry and exit. Because the measurement for reciprocity has a small mean and variance, it does not significantly affect the employment decision. To summarize, higher relational social capital discourages individuals to from creating business and encourages them to exit from self-employment.

For structural social capital, people belonging to an organization have a lower probability of being self-employed, which confirms H3; this dummy variable decreases entry probability by 2.8 percentage points, corresponding to a 41.36% relative effect. An organization may bring a sense of belonging and individuals prefer to stay in their soft circle, which impedes self-employment. A 10-percentage point increase in gift expenses decreases the entry probability by 0.47 percentage points, with a 69.42% relative effect, which confirms H3. For quit probability, inconsistent with H4, a 1-standard deviation increase in subjective social status decreases it by 2.1 percentage points. Thus, structural social capital adversely affects both entry and quitting.

Cognitive social capital has significant effects on entrepreneurial dynamics, in contrast to the findings reported by (Yang & Ai, 2019). Consistent with H5, conscientious people are less likely to enter self-employment, decreasing the entry probability by 0.2 percentage points. The conscientiousness perspectives of achievement and hard work could help individuals achieve success in their workplace; thus, they are less likely to change their current employment status. In contrast, H6 is supported by the finding that conscientiousness has a positive effect of 1.0 percentage points on the transition of entrepreneurs to employed status. Conscientious individuals are more likely to find stable jobs and get rid of subsistence-driven self-employment. Language deviation does not have a significant effect on entry and exit. However, for language deviation, a significant difference is observed between the self-employed and not self-employed groups. The self-employed have a higher degree of language deviation (Table 2).

After social capital, the focus shifts to demographic characteristics. Consistent with research by Zhang and Pan (2012), male, younger persons with a greater number of children are more likely to start their own businesses. The male group is 2.2 percentage points and 7.8 percentage points more likely than the female group to enter and exit from entrepreneurship, respectively. As the coefficient for squared age is 0 significantly, the relationship between age and entrepreneurial probability is linear. An additional year in age decreases the entry probability by 0.5 percentage points and the exit by 1.7 percentage points. One thing noted is that well-educated people who graduate from high school are less likely to enter entrepreneurship and more likely to exit self-employment, which is consistent with previous research (Zhang et al., 2021); meanwhile, those who just finish compulsory education (middle school) are more engaged in self-employment. People graduating from middle school have a lower exit possibility by 4.6 percentage points. Meanwhile, people with family burden are more likely to become self-employed and less likely to quit this status. The married group's entry probability is 1.1 percentage points higher than the unmarried group. The addition of one more child in the family increases the probability of the entry decision by 0.8 percentage points. Workers who need to support their families are seen as a group with low human capital, which is consistent with the sign of other human capital indicators. This indicates that the self-employed are predominantly disadvantaged laborers with lower

Table 4. Baseline model regression results: marginal effects.

| | (1) | (2) |
|----------------------------------|----------------------------|---------------------------|
| | Entry into self-employment | Quit from self-employment |
| Relational Social Capital | | |
| trust | −0.003** (0.001) | 0.013*** (0.005) |
| reciprocity | 0.043 (0.381) | 0.050 (0.809) |
| Structural Social Capital | | |
| social status | 0.002 (0.002) | −0.021*** (0.007) |
| organization | −0.028*** (0.005) | −0.009 (0.016) |
| gift expenses | −0.047* (0.027) | 0.045 (0.099) |
| Cognitive Social Capital | | |
| conscientiousness | −0.002** (0.001) | 0.010** (0.004) |
| language deviation | −0.004 (0.008) | 0.026 (0.028) |
| Human Capital | | |
| middle school | 0.004 (0.005) | −0.046*** (0.016) |
| high school | −0.026*** (0.005) | 0.028* (0.016) |
| age | −0.005*** (0.001) | −0.017*** (0.005) |
| age ² | 0.000** (0.000) | 0.000*** (0.000) |
| health status | 0.002 (0.002) | 0.007 (0.005) |
| female | −0.022*** (0.004) | −0.078*** (0.014) |
| married | 0.011* (0.006) | −0.106*** (0.024) |
| No. of children | 0.008*** (0.003) | −0.009 (0.009) |
| Year fixed effects | Yes | Yes |
| Province fixed effects | Yes | Yes |
| No. of observations | 19,489 | 5,137 |

Results are estimated by the binary logistic regression.

Robust standard errors in parentheses, clustered at the individual level.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

social and human capital. Once they are endowed with higher capital, they shift to employed status.

Heterogeneous effects

China has significant differences between urban and rural areas, and entrepreneurial behaviors are no exception (Yueh, 2009). As individuals' behavior is affected by regional culture and economic development, the samples are subdivided into urban and rural areas. Table 5 reports the marginal effects on the probability of self-employment dynamics in the subsamples. People in economically developed areas are more sensitive to social capital when deciding to enter self-employment. In urban areas, trust, organization membership, and gift expenses negatively influence entry probability. A 1-unit change in trust decreases the entry possibility by 0.4 percentage points, or a relative effect of 6.43% given the entry probability in urban areas of 6.22% as shown in column 1. Trust is less relevant in the decision to start a business in rural areas than in urban areas, where more formal relationships and institutions may play a greater role, as shown in columns 1 and 2. One possible explanation for this difference is that social relationships in rural

Table 5. Baseline model based on the urban and rural area subsamples: marginal effects.

| | (1) | (2) | (3) | (4) |
|----------------------------------|----------------------|----------------------|----------------------|----------------------|
| | Entry-Urban Area | Entry-Rural Area | Quit-Urban Area | Quit-Rural Area |
| Relational Social Capital | | | | |
| trust | −0.004*** (0.002) | −0.001 (0.003) | 0.012*** (0.006) | 0.020** (0.005) |
| reciprocity | 0.371 (0.463) | −0.670 (0.831) | 0.435 (0.962) | −1.138 (1.320) |
| Structural Social Capital | | | | |
| social status | 0.002 (0.002) | 0.005 (0.004) | −0.021*** (0.009) | −0.024** (0.012) |
| organization | −0.035*** (0.006) | −0.015 (0.009) | 0.003 (0.020) | −0.024 (0.028) |
| gift expenses | −0.071* (0.038) | −0.018 (0.042) | 0.083 (0.121) | −0.040 (0.195) |
| Cognitive Social Capital | | | | |
| conscientiousness | −0.000 (0.001) | −0.006*** (0.002) | 0.012* (0.005) | 0.005 (0.007) |
| language deviation | −0.001 (0.009) | 0.002 (0.016) | 0.053 (0.035) | −0.040 (0.049) |
| Human Capital | | | | |
| middle school | −0.005 (0.006) | 0.013 (0.008) | −0.019 (0.021) | −0.082*** (0.025) |
| high school | −0.021*** (0.005) | −0.031*** (0.009) | 0.040** (0.019) | −0.002 (0.029) |
| age | −0.006*** (0.002) | −0.003 (0.003) | −0.018** (0.007) | −0.019** (0.009) |
| age ² | 0.000*** (0.000) | 0.000 (0.000) | 0.000** (0.000) | 0.000* (0.000) |
| health status | 0.002 (0.002) | 0.000 (0.003) | 0.007 (0.006) | 0.007 (0.008) |
| female | −0.022*** (0.005) | −0.024*** (0.008) | −0.066*** (0.017) | −0.104*** (0.024) |
| married | 0.010 (0.007) | 0.015* (0.011) | −0.125*** (0.030) | −0.075* (0.040) |
| No. of children | 0.011*** (0.003) | 0.005 (0.004) | −0.006 (0.012) | −0.008 (0.015) |
| Year fixed effects | Yes | Yes | Yes | Yes |
| Province fixed effects | Yes | Yes | Yes | Yes |
| No. of observations | 12,648 | 6,373 | 3,168 | 1,880 |
| Annual entry/quit rate | 6.21 | 8.03 | 24.64 | 27.53 |

The sample in this table is divided into urban and rural residents according to their location.

Results are estimated by the binary logistic regression.

Robust standard errors in parentheses, clustered at the individual level.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

areas are more informal and based on kinship ties rather than trust, so trust may not play a significant role in facilitating entry into self-employment in rural areas. Being an organization member decreases the entry probability by 3.5 percentage points in urban areas, corresponding to a relative effect of 56.27%, which is economically considerable. In rural areas, conscientiousness is the only significant social capital variable and has a relative effect of 7.60%.

For quitters, trust and social status positively influence self-employment exit decisions for both urban and rural residents. Self-employment in rural areas with a high degree of trust tends to end. A 1-unit change in trust increases exit probability by 1.2 percentage points in urban areas and by 2.0 percentage points in rural areas. The impact sizes of a 1-standard deviation change in social status are −2.1 and −2.4 percentage points for urban and rural areas, respectively. It is possible that those with higher social status have better access to resources and opportunities for entrepreneurship, leading to a lower likelihood of quitting self-employment. The only difference is in conscientiousness. Self-employed individuals in urban areas endowed with a sense of duty find a stable job much easier, while no impact on rural residents is detected.

In contrast to the differential effects of social capital, the effects of demographic characteristics are similar in urban and rural areas. Male, younger, and less educated laborers are more likely to become self-employed, and younger, male, and single groups are more likely to quit self-employment, in both rural and urban areas.

Robustness checks

After presenting the negative effect of social capital on self-employment, the robustness of the empirical results is checked with respect to specification choices. There are three robustness checks. First, to mitigate the possible collinearity problems within social capital indicators, one social capital indicator is excluded every time and the coefficient variation compared. Columns 1 to 7 in [Table 6](#) show the results for entry into entrepreneurship, and columns 8 to 14 show the results for exiting from entrepreneurship. The coefficients do not have significant variation after excluding any one indicator.

Second, the samples in 2020 are omitted to avoid the COVID-19 pandemic shock. The outbreak and some lockdown policies implemented in China at the end of 2019 led to a lower desire to change jobs and lower self-employment turnover. The lockdown policies may decrease the impact of individual social capital by restricting the offline communication channels and may inhibit entrepreneurship by increasing risk and uncertainty. In rural areas, the study data show that the entry rate decreased from 8% in 2018 to 6.15% in 2020 and the quit rate increased from 28.03% to 29.67%. To avoid endogenous bias resulting from unobservable variables, participants in 2020 were excluded, while those from 2012 to 2018 were retained. [Table 7](#) reports the determinants for entry and exit after excluding the 2020 data. The signs of coefficients are the same as the results of the baseline regressions, but the effect sizes are slightly different. For new entrants, relational social capital has no significant marginal effect on entry decision in this smaller sample. This could be due to the decreased statistical power of the analysis resulting from the smaller sample size. However, the other two components of social capital still have negative and significant impacts on entry decision. This indicates that the negative impact of social capital does not change significantly over time.

Third, weights are added to regression models to assess whether the results are influenced by differences in the sample composition. CFPS uses a multi-stage, unequal probability, systematic probability proportional to size (PPS) cluster sampling design. Therefore, the weights can address that the sample of genetic members in the CFPS is a stratified sample based on population size. The weights are added for all genetic members to construct the national representative data, and the results are reported in [Table 8](#). The term “genetic members” refers to all family members who have blood/marriage/adoptive relationship with the family, as defined by the baseline survey in 2010, and the children of these genetic members in the future are also regarded as genetic members. The CFPS permanently tracks these genetic members and gives weights to construct national representative survey data. After adding weights, the coefficients show similar signs but different levels of significance. Structural and cognitive social capital still have negative and significant impacts on entry, and cognitive social capital encourages laborers to quit self-employment.

Discussion and limitations

This study uses 2012–2020 CFPS data to identify the relationship between social capital and entrepreneurial decisions among the mainland Chinese labor force. This study contributes to research on social capital and self-employment in two ways. First, a complete, systematic index system of social capital measurement in relational, structural, and cognitive aspects is adopted and linked to negative spillovers to individual entrepreneurial activities. The relational and

Table 6. Collinearity: robustness check.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) |
|----------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Relational Social Capital | | | | | | | | | | | | | | |
| trust | | Entry | Entry | Entry | Entry | Entry | Entry | Quit | Quit | Quit | Quit | Quit | Quit | Quit |
| | | -0.003** (0.001) | -0.003** (0.001) | -0.004** (0.001) | -0.003** (0.001) | -0.003** (0.001) | -0.003** (0.001) | | 0.014*** (0.005) | 0.012*** (0.005) | 0.014*** (0.005) | 0.014*** (0.005) | 0.014*** (0.005) | 0.014*** (0.005) |
| reciprocity | 0.100 (0.377) | | 0.105 (0.962) | -0.001 (1.320) | 0.069 (0.377) | 0.100 (0.375) | 0.099 (0.375) | 0.176 (0.780) | | 0.144 (0.776) | 0.140 (0.784) | 0.158 (0.782) | 0.196 (0.776) | 0.143 (0.783) |
| Structural Social Capital | | | | | | | | | | | | | | |
| social status | 0.001 (0.002) | 0.002 (0.002) | 0.001 (0.002) | 0.001 (0.002) | 0.002 (0.002) | 0.002 (0.002) | 0.002 (0.002) | -0.016** (0.007) | -0.019*** (0.007) | | -0.020*** (0.007) | -0.019*** (0.007) | -0.020*** (0.007) | -0.019*** (0.007) |
| organization | -0.028*** (0.005) | -0.027*** (0.005) | -0.027*** (0.005) | -0.027*** (0.005) | -0.027*** (0.005) | -0.028*** (0.005) | -0.027*** (0.005) | -0.003 (0.016) | -0.005 (0.016) | -0.007 (0.016) | -0.004 (0.016) | -0.004 (0.016) | -0.004 (0.016) | -0.005 (0.016) |
| gift expenses | -0.047* (0.028) | -0.047* (0.028) | -0.046* (0.028) | -0.047* (0.028) | -0.048* (0.028) | -0.048* (0.028) | -0.047* (0.028) | 0.057 (0.099) | 0.065 (0.099) | 0.062 (0.099) | 0.063 (0.099) | 0.071 (0.098) | 0.071 (0.098) | 0.064 (0.099) |
| Cognitive Social Capital | | | | | | | | | | | | | | |
| conscientiousness | -0.003** (0.001) | -0.002** (0.001) | -0.002** (0.001) | -0.003** (0.001) | -0.003** (0.001) | -0.003** (0.001) | -0.002** (0.001) | 0.010** (0.004) | 0.010** (0.004) | 0.010** (0.004) | 0.010** (0.004) | 0.010** (0.004) | 0.010** (0.004) | 0.010** (0.004) |
| language deviation | -0.005 (0.008) | -0.005 (0.008) | -0.005 (0.008) | -0.005 (0.008) | -0.005 (0.008) | -0.005 (0.008) | -0.005 (0.008) | 0.022 (0.028) | 0.024 (0.028) | 0.021 (0.028) | 0.024 (0.028) | 0.024 (0.028) | 0.022 (0.028) | |
| Human Capital | | | | | | | | | | | | | | |
| middle school | 0.005 (0.005) | 0.006 (0.005) | 0.006 (0.005) | 0.004 (0.005) | 0.006 (0.005) | 0.006 (0.005) | 0.006 (0.005) | -0.049*** (0.016) | -0.049*** (0.016) | -0.050*** (0.016) | -0.049*** (0.016) | -0.049*** (0.016) | -0.048*** (0.016) | -0.049*** (0.016) |
| high school | -0.023*** (0.005) | -0.022*** (0.005) | -0.022*** (0.005) | -0.023*** (0.005) | -0.022*** (0.005) | -0.022*** (0.005) | -0.022*** (0.005) | 0.030* (0.016) | 0.026 (0.016) | 0.026 (0.016) | 0.026 (0.016) | 0.026 (0.016) | 0.026 (0.016) | 0.026 (0.016) |
| age | -0.005*** (0.002) | -0.005*** (0.002) | -0.005*** (0.002) | -0.005*** (0.002) | -0.005*** (0.002) | -0.005*** (0.002) | -0.005*** (0.002) | -0.016*** (0.005) | -0.016*** (0.005) | -0.017*** (0.005) | -0.016*** (0.005) | -0.016*** (0.005) | -0.016*** (0.005) | -0.016*** (0.005) |
| age ² | 0.000** (0.000) | 0.000** (0.000) | 0.000** (0.000) | 0.000** (0.000) | 0.000** (0.000) | 0.000** (0.000) | 0.000** (0.000) | 0.000** (0.000) | 0.000** (0.000) | 0.000** (0.000) | 0.000** (0.000) | 0.000** (0.000) | 0.000** (0.000) | 0.000** (0.000) |
| health status | 0.002 (0.002) | 0.002 (0.002) | 0.002 (0.002) | 0.002 (0.002) | 0.002 (0.002) | 0.002 (0.002) | 0.002 (0.002) | 0.010** (0.005) | 0.009* (0.005) | 0.008 (0.005) | 0.009* (0.005) | 0.009* (0.005) | 0.009* (0.005) | 0.009* (0.005) |
| female | -0.023*** (0.004) | -0.023*** (0.004) | -0.023*** (0.004) | -0.023*** (0.004) | -0.023*** (0.004) | -0.023*** (0.004) | -0.023*** (0.004) | -0.083*** (0.014) | -0.082*** (0.014) | -0.081*** (0.014) | -0.082*** (0.014) | -0.082*** (0.014) | -0.082*** (0.014) | -0.082*** (0.014) |
| married | 0.015** (0.006) | 0.014** (0.006) | 0.015** (0.006) | 0.016** (0.006) | 0.015** (0.006) | 0.014** (0.006) | 0.014** (0.006) | -0.108*** (0.023) | -0.109*** (0.023) | -0.112*** (0.023) | -0.108*** (0.023) | -0.109*** (0.023) | -0.109*** (0.023) | -0.108*** (0.023) |
| No. of children | 0.007*** (0.003) | 0.007*** (0.003) | 0.007*** (0.003) | 0.007*** (0.003) | 0.007*** (0.003) | 0.007*** (0.003) | 0.007*** (0.003) | -0.006 (0.009) | -0.006 (0.009) | -0.006 (0.009) | -0.006 (0.009) | -0.006 (0.009) | -0.006 (0.009) | -0.006 (0.009) |
| Year fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Province fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of observations | 19,489 | 19,489 | 19,489 | 19,489 | 19,489 | 19,489 | 19,489 | 5,095 | 5,095 | 5,095 | 5,095 | 5,095 | 5,095 | 5,095 |

Only one social capital indicator is dropped for each column.

Results are estimated by the binary logistic regression.

Robust standard errors in parentheses, clustered at the individual level.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 7. Baseline model from 2012 to 2018: robustness checks.

| | (1) | (2) |
|----------------------------------|----------------------------|---------------------------|
| | Entry into self-employment | Quit from self-employment |
| Relational Social Capital | | |
| trust | −0.002 (0.002) | 0.015*** (0.005) |
| reciprocity | 0.010 (0.433) | 0.247 (0.848) |
| Structural Social Capital | | |
| social status | 0.003 (0.002) | −0.028*** (0.008) |
| organization | −0.027*** (0.006) | −0.012 (0.018) |
| gift expenses | −0.018 (0.029) | 0.030 (0.115) |
| Cognitive Social Capital | | |
| conscientiousness | −0.004*** (0.001) | 0.010** (0.017) |
| language deviation | 0.000 (0.009) | 0.046*** (0.018) |
| Human Capital | | |
| middle school | 0.003 (0.005) | −0.051*** (0.017) |
| high school | −0.029*** (0.005) | 0.046*** (0.018) |
| age | −0.006*** (0.002) | −0.015*** (0.006) |
| age ² | 0.000** (0.000) | 0.000* (0.000) |
| health status | 0.001 (0.002) | 0.008 (0.005) |
| female | −0.022*** (0.005) | −0.073*** (0.015) |
| married | 0.014* (0.007) | −0.087*** (0.027) |
| No. of children | 0.009*** (0.003) | −0.005 (0.010) |
| Year fixed effects | Yes | Yes |
| Province fixed effects | Yes | Yes |
| No. of observations | 15,312 | 4,243 |

Sample in this table is restricted to participants during 2012–2018.

Results are estimated by the binary logistic regression.

Robust standard errors in parentheses, clustered at the individual level.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

cognitive social capital have a negative impact on entry and survival probability, and structural dimension only decreases the entry rate. Second, the empirical results suggest that subsistence-driven self-employment is dominant in China. Disadvantaged groups are more likely to flow in and out of self-employment, and laborers in urban areas are more sensitive to social capital when making entrepreneurial decisions. This study also provides insights for policymaking aimed at promoting self-employment rates by identifying the targeted group in developing countries.

Social capital and self-employment

The empirical results indicate that individuals with higher social capital have lower entry and higher exit entrepreneurial probability. Over the past 40 years, since the Reform and Opening Up, China has experienced the process of marketization. Market-oriented reforms undoubtedly increase market competitiveness in wage employment, necessarily increasing the social capital needed in the workplace (Li & Guo, 2022).

Table 8. Baseline model from 2012 to 2018: robustness checks.

| | (1) | (2) |
|----------------------------------|----------------------------|---------------------------|
| | Entry into self-employment | Quit from self-employment |
| Relational Social Capital | | |
| trust | −0.004 (0.002) | 0.006 (0.007) |
| reciprocity | 0.240 (0.439) | −1.053 (0.828) |
| Structural Social Capital | | |
| social status | 0.002 (0.003) | −0.006 (0.010) |
| organization | −0.031*** (0.008) | −0.011 (0.022) |
| gift expenses | −0.049 (0.039) | −0.074 (0.130) |
| Cognitive Social Capital | | |
| conscientiousness | −0.003* (0.002) | 0.012** (0.006) |
| language deviation | −0.05 (0.014) | −0.062 (0.038) |
| Human Capital | | |
| middle school | 0.005 (0.007) | −0.040* (0.021) |
| high school | −0.020*** (0.007) | 0.048** (0.023) |
| age | −0.007*** (0.002) | −0.018* (0.009) |
| age ² | 0.000** (0.000) | 0.000 (0.000) |
| health status | 0.001 (0.002) | 0.011* (0.007) |
| female | −0.024*** (0.007) | −0.082*** (0.020) |
| married | 0.027** (0.011) | −0.097*** (0.037) |
| No. of children | 0.004 (0.004) | −0.004 (0.013) |
| Year fixed effects | Yes | Yes |
| Province fixed effects | Yes | Yes |
| No. of observations | 17,275 | 4,622 |

The sample in this table is restricted to genetic members with weights to construct a national representative data.

Results are estimated by the binary logistic regression.

Robust standard errors in parentheses, clustered at the individual level.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

High levels of relational social capital led individuals to pursue paid employment rather than self-employment. For subsistence-driven self-employment, the higher the level of trust, the lower the entry and survival possibilities, and this is confirmed by this study and consistent with earlier studies. Gu et al. (2008) contended the negative impact of social capital, such as collective blindness to the market, which, in turn, may compromise the ability to react to market dynamism. Dou et al. (2019) found that the local government's trustworthiness discouraged self-employment choices, especially for provinces with less-developed institutions in China. Moreover, workers with higher reciprocity are more likely to be employed rather than enter or stay in self-employment. Earlier evidence in this direction is found by Gu et al. (2008).

High levels of structural social capital discourage individuals to become self-employed. The effect of structural social capital on entrepreneurship in China is under debate, and earlier papers show disparities. Some scholars have argued that social capital benefits entrepreneurship. For instance, individuals with a larger network were more likely to be entrepreneurs and acquire private equity in China (Batjargal & Liu, 2004; Li & Zhao, 2011; Yueh, 2009). Valdez (2008) proved that primacy among group membership facilitated entrepreneurial participation. Luo and Chong

(2019) verified that gift expenses facilitated entrepreneurial participation. However, these studies focus on opportunity-driven entrepreneurship. In contrast, several studies proved the negative impact of structural social capital. Individuals with dense and close ties with others are more likely to find stable paid employment in the job market. Cheng and Smyth (2021) found that social assimilation and engagement were useless for solo entrepreneurs, compared with employer entrepreneurs. Kong et al. (2019) found that good relationships with superiors discouraged farmers from being self-employed. Xiang et al. (2021), Zhang et al. (2021), and Zhu et al. (2019) found the proportion of party members was lower in self-employment, consistent with Huang et al.'s (2016) perspective that being party members decreased the entry probability. Moreover, they tend to leave the “refuge” once they find proper opportunities through the organization. Being a party member encouraged laborers to exit self-employment (Zhang et al., 2021). There are several reasons for disparities in results. First is different sample restrictions in the literature. In this study, samples are restricted to the nonagricultural labor force, identifying dynamics between self-employment and paid employment. Some studies have mixed farmland workers and paid employment (Luo & Chong, 2019; Xiao & Wu, 2021) or excluded rural laborers working in the informal sector (Yueh, 2009). Second, some studies have used simple indicators to represent social capital, such as number of friends, gift expenses, and party membership (Luo & Chong, 2019; Zhang & Zhao, 2015). Those measurements are not representative of social capital.

High levels of cognitive social capital decrease the entry and survival rates. Language consistency had a positive but insignificant effect on entrepreneurial entry and survival, consistent with the study by Wei et al. (2019). They concluded that migrants with proficient language skills were more likely to be entrepreneurs. These results are consistent with the findings of previous work in high-income countries (Doh & Zolnik, 2011). Moreover, staying conscientious could encourage individuals to be paid workers. Li et al. (2013) also concluded that a negative relationship exists between shared cognition and business development in China.

In terms of heterogeneity analysis, the disparity between urban and rural areas may be due to the uneven regional economic development in China, which may lead to a great difference in social resources and individual behaviors. People in urban areas have a lower trust score than those in rural areas. Citizens have more chances to be a part of an organization, as most workers regulated by their employers tend to join the labor union. Additionally, the urban area is endowed with sufficient social resources generating various informal networking organizations and associations. The sense of belonging discourages people in urban areas to break the soft circle by becoming self-employed.

Subsistence-driven self-employment

Some evidence supports that self-employment in China is subsistence-driven, which is consistent with the findings by Ma and Li (2022). Three facts indicate subsistence-driven self-employment. First, declining entry rates from 8.40% to 5.43% and high exit rates between 24.82% and 28.38% confirm that in China's developing economy, an increasing percentage of laborers are willing to be wage-employed, rather than self-employed. Decline in the rate of self-employment is consistent line with ILO findings. Wang et al. (2011) also confirmed that the number of wage-earning migrants in 2008 was greater than those in the self-employed subsector. Second, the average level of human capital in the self-employed group is lower than that in paid employment, except for gender. Females, as the minority group, have a lower probability of entry into and exit from self-employment, perhaps because entrepreneurship is often a family activity and women may play an important role in running small firms “owned” by their male relatives (Clark & Drinkwater, 2010). Despite factors such as gender, older age, poorer health, less educated individuals, households with a heavier family burden, and people living in rural areas are more likely to be self-employed. The regression results also confirm that vulnerable laborers are more likely to flow in

and out of self-employment. Third, relational, structural, and cognitive social capital impede entry probability, and most of them positively affect exit probability. In case of opportunity-driven entrepreneurship, high levels of social capital help businesses seize resources and explore opportunities through social networks. In the case of subsistence-driven self-employment, high levels of social capital help in finding stable paid employment and leaving the “refuge.” The nature of self-employment determines whether social capital plays a positive or negative role. In this study, the significant negative effect on entry and survival probability indicates that the negative impact of social capital outweighs the positive impact. These three points support the dominance of subsistence-driven self-employment.

A possible reason for subsistence-driven self-employment is that most self-employed individuals in China run small businesses. The CFPS provided the occupation code in their 2010 baseline survey but did not provide such information in the following waves. As the CFPS permanently tracked their genetic members and the genetic group occupied 88.92% of the whole sample, this occupation is representative. In case of genetic members in 2010, the self-employed group usually works in the form of vendors, agencies, individual industrial and commercial households (such as street hairdressers and shoe shiners), folk artists, and technical consultants. Their financial capital, knowledge and skills, and social status are relatively poor in society (Zhang & Zhao, 2015). As social capital is a high-level demand in Maslow’s hierarchy of needs, those at the low end may not seize maximum social capital. Table A3 shows the number of entries and exits in each industry for self-employment in the sample from 2012 to 2020. The tertiary industry, which includes services such as finance, transportation, education, healthcare, tourism, and other forms of service-related industries, has the largest number of entries and exits, indicating that self-employment in the service sector is relatively unstable. This may be due to the fact that self-employment in the tertiary industry is more likely to be subsistence-driven rather than opportunity-driven, as workers lack the skills, education, or access to capital needed to start or work for larger firms. The low percentage of entries and exits in the primary and secondary industries also suggests that self-employment in these industries is less common and may be driven more by opportunity than by necessity. Overall, Table A3 supports that the dynamics of self-employment in China are largely subsistence-driven. Another reason is that China’s transition to a market structure thrust a structurally disadvantaged labor force into fragile self-employment. In the urban area, most self-employed and private business owners are from marginalized groups, such as migrant workers, unemployed youth, and laid-off workers. For these people, they have nothing to lose but can gain more by participating in the private economy.

Furthermore, it is worth noting that this study combined private enterprises and individual businesses. While subsistence-driven self-employment is present in the Chinese economy, it is important to acknowledge that there is also a significant portion of self-employment that is driven by opportunity, such as pursuing a promising business idea or the potential of higher income. The opportunity-driven self-employment increased innovation and development in China (Cortés et al., 2022). Therefore, subsistence-driven self-employment is not the only type of self-employment in China.

Limitations

This study has two limitations that should be acknowledged. First, the questionnaire used in the CFPS survey does not include a specific section on social capital, and the responses to most questions are self-reported data, which may introduce measurement error. Future research should aim to utilize more comprehensive data sources. Second, due to data constraints, it was not possible to distinguish between solo entrepreneurs and business owners or to determine the incorporation status of the businesses in this study. The 2010 CFPS data indicate that the proportion of solo entrepreneurs was 8.50%, while the proportion of employer entrepreneurs was 2.85%. However,

in subsequent waves of the data, business scale was not specified. To enhance our understanding of the nature and dynamics of self-employment in China further, future research should collect data that allow distinguishing between private enterprises and individual businesses. These limitations of the current analysis should be considered when interpreting the results.

Conclusion

Entrepreneurial activity has the potential to stimulate economic growth and innovation, although a large self-employment sector driven primarily by the need for survival may not be a positive indicator of economic health (Acs et al., 2008; Fairlie & Woodruff, 2010). Previous literature has demonstrated that the extent to which social capital influences self-employment dynamics in China is unclear. This study aims to investigate the effects of social capital on the entry into and exit from self-employment in China using data from the CFPS survey. Findings indicate that self-employed individuals in China tend to have declining entry rates and lower levels of social and human capital compared to those in wage employment. Regression analysis reveals that structural, cognitive, and relational social capital all decrease the probability of entry into self-employment and cognitive and relational social capital increases the probability of exit. These results suggest that the dominant nature of self-employment in China is largely driven by necessity rather than opportunity.

Given that economic development and cultural differences can influence individual behavior, the sample in this study was divided into urban and rural areas. The results show that urbanization affects the relationship between social capital and entrepreneurial activity. In comparison to rural areas, disadvantaged groups in urban areas are more dependent on social capital, and therefore, social capital has a greater impact on entry decisions. Further, urban residents are more likely to be persistent in self-employment compared with rural residents. Three robustness checks do not significantly change the sign and size of the estimator, which supports the validity of the results.

This study has important implications for policy. The findings suggest that social capital may encourage people to enter wage employment rather than self-employment and support the vulnerability of the self-employed group in China. These insights provide policymakers with additional motivation to provide support to self-employed individuals. Policymakers could leverage these findings by identifying survival-driven self-employed individuals and supporting them through the creation of networks and other opportunities. This could help to promote the growth of more opportunity-driven entrepreneurship and enhance the economic well-being of self-employed individuals.

Notes

1. The opportunity entrepreneurship has a positive impact on economic growth (Amoró et al., 2019; Boudreaux & Nikolaev, 2019; Dheer & Treviño, 2022; Galindo-Martín et al., 2019; Wong et al., 2005). On the other hand, the effect of necessity entrepreneurship on economic growth is more nuanced, with some studies indicating it can contribute positively in certain contexts (Ivanović-Dukić et al., 2018; Khyareh & Amini, 2021; Puente et al., 2019), but not consistently across all situations.
2. Research on entrepreneurship in middle-income countries shows mixed evidence, with both subsistence-driven and opportunity-driven entrepreneurship present (Amorós, 2019; Puente et al., 2019). The prevalence of each type of entrepreneurship depends on various factors, such as the stage of economic development, institutional quality, and cultural context (Dheer & Treviño, 2022).

ORCID

Ke Lyu  <http://orcid.org/0000-0002-0072-2383>

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Appendix

Table A1. Questions in the CFPS.

| Social Capital | Questions | Variables |
|---------------------------|---|--------------------|
| Structural Social Capital | Respondent: In the past 12 months, how do you rate your social status? (Scale 1–5) | social status |
| | Respondent: In the past 12 months, what was the total amount of money your family spent on gifts for social relations because of events of your relatives/friends? | gift expenses |
| | Respondent: Are you a member of organizations (political parties, labor union, federation of industry and commerce, informal networking organizations, religious group, association of private enterprises, association of individual workers)? | organization |
| Relational Social Capital | Respondent: In the past 12 months, how much social donation did your family make in cash and in kind (e.g., food and clothes)? | reciprocity |
| | Respondent: How much do you trust strangers/neighborhood/parents/Americans? (Scale 1–10) | trust |
| Cognitive Social Capital | Interviewer: Is the respondent anxious to end the investigation? (Scale 1–7) | conscientiousness |
| | Respondent: What was the main language used during interview, Mandarin or dialect? | language deviation |

Table A2. Factor analysis for trust.

| Variable | Factor 1 | Factor 2 | Uniqueness |
|--------------------|----------|----------|------------|
| Trust Parents | 0.3088 | 0.5535 | 0.5983 |
| Trust American | 0.5883 | –0.5885 | 0.3075 |
| Trust Neighborhood | 0.6563 | 0.2142 | 0.5234 |
| Trust Strangers | 0.6264 | –0.5486 | 0.3067 |
| Trust Officials | 0.7193 | 0.1664 | 0.4549 |
| Trust Doctor | 0.6265 | 0.4130 | 0.4369 |

Table A3. Number of entries and exits by industry in China.

| Industry Code | Industry Name | Number of Entries | Percentage of Entries | Number of Exits | Percentage of Exits |
|--------------------|--|-------------------|-----------------------|-----------------|---------------------|
| Primary Industry | Agriculture, Forestry, Animal Husbandry, Fishing | 4 | 8.89% | 33 | 2.51% |
| Secondary Industry | Mining | 332 | 42.19% | 405 | 30.80% |
| | Manufacturing | | | | |
| | Electricity, Heat, Gas and Water Production and Supply | | | | |
| | Construction | | | | |
| Tertiary Industry | Wholesale and Retail Trade | 451 | 57.30% | 877 | 66.69% |
| | Transportation, Warehousing and Postal Services | | | | |
| | Accommodation and Catering Services | | | | |
| | Information Transmission, Software and Information Technology Services | | | | |
| | Financial Industry | | | | |
| | Real Estate Industry | | | | |
| | Leasing and Business Services | | | | |
| | Scientific Research and Technical Services | | | | |
| | Water Conservancy, Environmental and Public Facility Management | | | | |
| | Residential Services, Repair and Other Services | | | | |
| | Education | | | | |
| | Health and Social Work | | | | |
| | Culture, Sports and Entertainment | | | | |
| | Comprehensive | | | | |
| Total | | 787 | 100% | 1,315 | 100% |

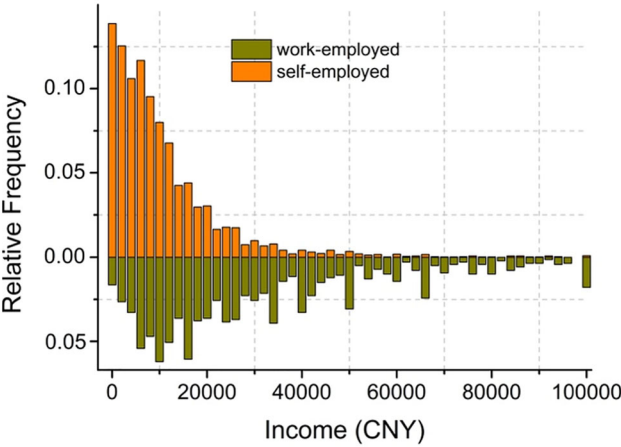


Figure A1. Annual before-tax income distribution for the self-employed and not self-employed groups.