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Analyzing the influence of social capital on self-employment: a study of Chinese immigrants

Isidoro Romero[1] · **Zhikun Yu**[1]

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Abstract This paper studies the influence of social capital on immigrants' self-employment, differentiating between structural, relational and cognitive social capital. The paper has a particular focus on Chinese immigrants and explores the effects of the so-called guanxi, a specific form of social capital for Chinese communities. The empirical research is based on a survey conducted in 2012 among Chinese immigrants in Andalusia (Spain) in which both business owners and paid employees were interviewed. A logistic regression specification was employed to test the hypotheses. The results show that the Chinese immigrants with greater structural and relational social capital and better 'guanxi' are more likely to become business owners. On the contrary, cognitive social capital seems to favor the option for paid employment versus the option for self-employment among Chinese immigrants. However, in the specific case of the Chinese immigrants who have a business owner in their family, the cognitive social capital also has positive effects on self-employment.

JEL Classification   R23 · J15 · M13 · Z10

1 Introduction

When analyzing the role of social capital in migrant self-employment, two aspects have to be considered. On the one hand, migrants usually have weak social links with the native population in the host region, which crucially influences their personal and professional life after the migration process. On the other hand, they often have

✉ Isidoro Romero
    isidoro@us.es

1   Department of Applied Economics, Faculty of Economics and Business Sciences, University of Seville, Av. Ramón y Cajal, 41018 Seville, Spain

⚛ Springer

preexisting links with other migrants in their destination area and this conditions their migration decision. Furthermore, they tend to develop strong ties with other migrants in their own ethnic community within the host region after the migration process.

Besides, immigrants face particular obstacles when trying to create a new business due to their insufficient language skills, the difficulty that they experience accessing to the formal financial sector or, sometimes, due to their irregular legal or administrative status. Immigrants use their social capital resources—often concentrated in their immigrant community—in order to overcome some of those limitations. For these reasons, they represent an especially interesting target group when studying the effect of social capital on self-employment.

Social capital is very heterogeneous and can exist in different forms. This paper, following Nahapiet and Ghoshal (1998), differentiates between the structural, relational and cognitive dimensions of social capital. Our results show that these forms of social capital might exert different types of influences on immigrants' self-employment, even some that are opposed.

The focus of this paper is Chinese immigrants' self-employment in Andalusia, a large region in southern Spain. Chinese immigration in Andalusia, as in the whole country, has been attracting considerably attention in recent times for two reasons. On the one hand, this is due to its fast growth. In the period 1995–2011, the number of Chinese immigrants in the region increased by about 15 times (Saiz 2004 and OPAM 2012). On the second hand, Chinese migrants have stood out due to their intense orientation toward self-employment. Thus, 43.4 % of Chinese people registered in the Social Security System in Spain in 2012 had a self-employed status. This was the highest ratio among all the immigrant groups according to their origin (OPAM 2012).

Chinese migrants benefit from a type of social capital, called 'guanxi,' which is specific to Chinese culture and has very strong historical roots in the Chinese society. 'Guanxi' represents a sociocultural institution consisting in personal ties—delimited by implicit moral contracts—which establish the bases for long-term relationships of mutual commitment and loyalty. The recent literature has stressed the significance of 'guanxi' in Chinese society, as a discipline in life with profound influences on commercial activities, business ethics and organizational behaviors (Lin 2011; Troilo and Zhang 2012; Chen et al. 2013). This ancient system based on personal relationships implies a different approach to business management than the traditional Western paradigm based on discrete transactions and formal agreements (Lovett et al. 1999). These particularities could be a significant factor in explaining the high self-employment rate of Chinese immigrants.

In this paper, we defend the thesis that social capital, particularly 'guanxi', plays a crucial role in the Chinese migrants' start-up decision and their option for self-employment. Our results confirm this hypothesis and further contribute to the literature by exploring the mechanisms through which cultural identity conditions the formation of social capital and its impact on immigrant self-employment. To the best of our knowledge, this is the first work addressing the influence of 'guanxi' on Chinese immigrants' self-employment.

The paper is organized as follows. The second section reviews the literature on migrant entrepreneurship and social capital, and introduces the concept of 'guanxi'. Furthermore, this section presents the theoretical framework and proposes the research

hypotheses to be tested. The empirical part of the paper is based on a survey of 288 Chinese immigrants in Andalusia (Spain). The third section presents our data and some descriptive results. In the fourth section, the research methodology is described and the research hypotheses are tested using logistic regression models. The paper ends by presenting some final conclusions.

2 The literature review and theoretical framework

In this section, we will point out some particular characteristics of immigrant self-employment and discuss how the immigrants' social capital influences them. Next, we will introduce the concept of 'guanxi.' Finally, we will propose our research hypotheses to be tested in the empirical section.

2.1 Characteristics of migrant self-employment

Recent studies suggest that immigrants tend to be a collective with a high entrepreneurial spirit, though differences exist according to their origin and the host country (see Levie 2007 for the UK, Collins 2003 for Australia, Fairlie and Robb 2008 for the USA and Constant and Zimmermann 2006 for Germany). A number of studies have observed a higher propensity to self-employment in immigrant population in EU countries compared to the native residents (ONS 2001; Coduras-Martínez 2008; Clark and Drinkwater 2010). In the case of Spain, both EU and non-EU immigrants presented higher Total Entrepreneurial Activity (TEA) rates than native Spaniards. Among immigrant groups, Asian immigrants have been observed to have higher self-employment rates (Collins 2002; Vinogradov and Kolvereid 2007), and in particular, Chinese migrants are the ones who contribute the most to self-employment in Spain.

According to the literature, there are several key elements that influence the immigrants' decision to start up new businesses and, consequently, their option for self-employment.

Firstly, cultural differences explain the contrast between native and immigrant self-employment and also between different ethnic groups of immigrants (Light and Gold 2000; Vinogradov and Kolvereid 2007). This cultural perspective emphasizes the role of values and ethnic resources, referring to all the sociocultural elements that surround immigrants in the creation and development of their businesses (Ram and Smallbone 2003; Smallbone et al. 2005).

Secondly, we should pay attention to the serious difficulties that immigrants often experience in accessing the labor market (though these depend on the characteristics of the immigrant group and the host country). These obstacles operate as 'push' factors that positively affect the immigrants' decision to become self-employed workers, creating their own jobs (Light and Gold 2000; Toledano et al. 2009).[1] Besides the difficulties in finding employment, low wages are also a factor that can encourage

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[1] Low language skills or cultural differences represent obstacles for immigrants not only to find a job, but also to carry out a business activity. However, local business owners very often prefer native employees, so immigrants—more frequently than locals—have to create their own jobs.

immigrants to start their own businesses. The major difficulties are experienced by the immigrants with a more distant background to the culture of the host countries. Thus, for example, the difficulties associated with the different languages, values, customs and personal habits determine that Spanish firms usually have a weak tendency to recruit Chinese immigrants. In the case of other immigrant groups, such difficulties may be lower, for example, for Latin American immigrants.

Thirdly, immigrants often have a strong desire to improve their quality of life, obtain higher incomes and achieve a better development of their careers. In this respect, the immigration process can imply a source of self-selection when it is a voluntary process (excluding the case of refugees or displaced populations due to natural disasters). Immigrants are frequent people with strong motivations and a high capacity to assume risks. In this sense, to start a new business has been considered by immigrants as a viable and efficient alternative to achieve social and economic ascent (Toledano et al. 2009).

Finally, the structural perspective emphasizes the importance of the context of the host society to explain self-employment among the immigrant population (Ram and Jones 1998). The economic, social, institutional and regulatory conditions in the host country and in the local environment determine the opportunities and threats which influence the decision and process of business creation by immigrants (Light and Gold 2000; Ndoen et al. 2002; Andersson et al. 2013).

2.2 Social capital and self-employment

Though many authors have addressed the definition of social capital (Bourdieu 1977; Coleman 1988; Putnam 1993), the precise delimitation of this concept is still a complicated issue. Among other reasons, this is due to the fact that social capital exists in different forms or dimensions (Koka and Prescott 2002; Landry et al. 2002).

In this respect, Burt (1992, 2000) focuses on the structure of the social connections with special attention to the 'structural holes' that shape the social networks' characteristics. The presence of structural holes between two groups implies that as people are focused on their own activities, they do not have contact with the activities of people in the other group. As a result, people on either side of a structural hole have access to different flows of information. Consequently, an individual who establishes relationships across the hole can benefit from the opportunity to undertake projects bringing together people or information coming from both sides (Burt 2000). In this sense, structural holes separate nonredundant sources of information and facilitate the access to different type of resources. Granovetter (1973) also stressed the importance of weak social ties that bridge disconnected groups.

In this paper, we will follow Nahapiet and Ghoshal (1998) who classified social capital into three dimensions: the structural, the relational and the cognitive dimensions:

a) Structural social capital refers to the relationships between the actors materialized in network ties and in different configurations of the social network (in terms of features such as density, connectivity, stability or ties).
b) Relational social capital refers to the personal relationships developed through a history of interactions (Granovetter 1973) and taking the form of trust, norms,

obligations and identification with other individuals, among other aspects. Among these interpersonal factors, trust is the element that has received much attention in the literature (i.e., Fukuyama 1995).

c) Cognitive social capital refers to resources such as shared codes, common languages, narratives and interpretations, or shared visions and values, frequently derived from a common cultural background.

Nahapiet and Ghoshal's delimitation captures the complex nature of social capital and particularly allows us to explore the role of cultural values as a constituent element of social capital. Cultural differences and the degree of identification with the predominant values in the social network are highly relevant issues to be considered when studying immigrant populations. Furthermore, the extensive literature has paid attention to cognitive and cultural factors as determinants of entrepreneurship and self-employment (Davidsson and Wiklund 1997; Krueger 2000; Hofstede et al. 2004; Liñán et al. 2013).

Previous research has emphasized the influence of social networks in the process of business creation, survival and growth (Johannisson 1995; Greve and Salaf 2003). Particularly, the literature argues that social capital plays an important role by facilitating the acquisition of knowledge, information and other resources for individuals and organizations (Davidsson and Honig 2003; Gedajlovic et al. 2013). In this respect, we can identify four main sources through which social capital can foster self-employment:

a) Social capital can act as a potential source of information and ideas leading to the detection of business opportunities (Davidsson and Honig 2003; Doh and Zolnik 2011). For example, the individuals who have business owners in their family or among their friends can have access to new business ideas or the practical information to start up a venture in the same or related sectors. In this respect, Ramos-Rodríguez et al. (2010) have shown that social capital is more important than intellectual capital for developing the capacity to recognize new business opportunities. Moreover, through social relationships, the self-employed can get access to potential clients, distribution and supply channels and obtain useful information and knowledge to make reasonable business decisions based on others' experiences or advice (Davidsson and Honig 2003; Greve and Salaf 2003).

b) Social capital can facilitate the access to production factors— capital and labor— to create a business, keep it going and make it grow. Difficulties in financing often hinder business creation and development. Network ties and mutual trust can facilitate the access to informal finance, a resource widely used by immigrants (funding from family, friends and fools -FFF- or other members of the ethnic community, even from suppliers). Social relationships can be also helpful in the process of the recruitment and selection of workers (Coleman 1988; Davidsson and Honig 2003; Greve and Salaf 2003).

c) Social capital can reduce the transaction costs and may favor collective action facilitating the process of business creation and development (Lovett et al. 1999; Landry et al. 2002). A high level of social capital can increase efficiency by means of reducing the costs associated with the development of formal transactions (contract negotiation, formalization and monitoring), both in the market—i.e., client–supplier relationships—and within organizations. Interpersonal trust—based on

previous interactions or reputation—is crucial in this respect, lowering the costs associated with interfirm relationships and facilitating cooperation among individuals (Coleman 1988; Granovetter 1985). For instance, social capital can act as a factor increasing work commitment through personal relationships, mutual trust, common values and a common vision shared by the business owner and the staff (Davidsson and Honig 2003).

d) Social capital allows sharing risks and minimizing them from an individual perspective. Therefore, it might stimulate members of a social network to start up, engage in innovations and assume higher risk levels (Macke and Dilly 2010). Members of a social network might expect to have some support from other individuals in the case of experiencing problems or failing in their business ventures. For the same reason, entrepreneurs can be positively signaled as members of social networks from which they can gain credibility for their projects.

However, social capital also has its "dark side." It can bind groups together to defend their common interest damaging society as whole (nepotism, ethnic hatred, mafias or corruption networks) (Tonoyan 2005). These possible negative effects have also been documented in the case of 'guanxi' and might affect political institutions and business activities (Schramm and Taube 2003).

2.3 'Guanxi' as a form of social capital

In recent years, 'guanxi' has often appeared in Western scientific literature on cultural anthropology, sociology, psychology, political science and management and business administration (Hwang 1987; Xin and Pearce 1996; Lovett et al. 1999; Lin 2011; Chen et al. 2013). Furthermore, several works have explored the influence of 'guanxi' on business creation and firm performance (Tsang 1998; Troilo and Zhang 2012).

'Guanxi' can be defined at different levels and from different perspectives. In this paper, we follow Chen and Chen (2004) who define it as a casual and unique personal connection between two individuals that is delimited by an implicit psychological contract. This contract implies complying with social norms and maintaining a long-term relationship based on a mutual commitment of loyalty associated with certain obligations. A good quality 'guanxi' is also characterized by mutual trust between individuals derived from numerous interactions within a framework of reciprocity. Hwang (1987) and Xin and Pearce (1996) noted that 'guanxi' is a form of social capital since it implies an exchange of favors and obligations.

Gu et al. (2008) present 'guanxi' as a country-specific form of relational exchange that is shaped by China's institutions, being a historical result of the Chinese collectivist culture (Hwang 1987; Xin and Pearce 1996). 'Guanxi' is present in daily life and business activity in China, operating as a mechanism of governance. Immigrants reproduce this model within their ethnical community in their host countries and with their business networks in China.

There are different typologies of 'guanxi' with different features. Family, personal, and informal 'guanxi' are characterized by a more affective nature, whereas nonfamily, impersonal, and contractual 'guanxi' are relatively more instrumental. Friends, colleagues, and acquaintances fall in-between, although close friendship can be family-

like. In the workplace and in business relationships, 'guanxi' presents a mixture of family and nonfamily, personal and impersonal characteristics (Chen et al. 2013). In this respect, 'guanxi' works in concentric circles: The closer and stronger relationships, such as those with relatives, are situated at the center of the circle. Other relationships, such as with colleagues, friends or other acquaintances, are distributed in other circles with distances to the center that indicate the strength of relationships and the confidence level (Yang 1994).

A combination of different 'guanxi' is designated by the Chinese term 'guanxiwang,' which refers to a network of 'guanxi'. Thus, the 'guanxiwang' of an individual is formed by his/her network of social relations including all the direct and indirect 'guanxi.' 'Guanxi' is manifested by 'renqing' and 'mianzi.' 'Mianzi' is an intangible asset that represents the power and personal status determined by the individual's social position and material wealth (Park and Luo 2001). Though 'mianzi' is actually a concept generally existing in all cultures, its external performance and its criteria for judgment between Western and Eastern societies are very different. In Chinese society, 'mianzi' deeply influences Chinese social life, so that if one loses 'mianzi,' one cannot have a foothold or even live in society (see Lin 2011). When an individual has a high level of 'mianzi,' he/she can get multiple favors within the 'guanxiwang' and can also provide significant help to other members of the 'guanxiwang,' thanks to his/her sound socioeconomic position.

'Renqing' is another Chinese cultural institution related to 'guanxi' (Park and Luo 2001). 'Renqing' can be defined as an informal social obligation derived from the use of 'guanxi,' representing a private advantage of a member within 'guanxiwang.' 'Renqing' is a resource that an individual can present to another person as a gift in the course of social exchange (Hwang 1987). The rules of reciprocity regulate 'renqing' (Tsui and Farh 1997). Those who do not follow these rules lose their position in the 'guanxiwang' and thus lose the benefits that derive from it. 'Renqing' also implies a set of social norms that individuals must respect in order to get along well with other people in Chinese society. For instance, the behavior of recipients is regulated by a social norm, which is expressed by the following proverb: "If you have received a drop of beneficence from other people, you should return to them a fountain of beneficence" (Hwang 1987).

There are specific characteristics that differentiate 'guanxi' from other forms of social capital and justify its particular study. We will highlight the particular interpretation of reciprocity and the level of transferability.[2]

The idea of reciprocity is significantly different in 'guanxi' that in other forms of social capital in Western societies. The concept of reciprocal favors in the framework of 'guanxi' lies in the consistency in 'quality,' but not in 'quantity' (Lin 2011), depending on the social position of each of the individuals involved in the relationship. Moreover, differences also exist regarding the time of reciprocity. In Western society, reciprocity is generally considered to be short-term or discharged within a certain period of time (Tsui and Farh 1997). However, in Chinese society, reciprocity is lifetime, or "even implies reciprocity in afterlife, if one thinks favors are too great to be discharged in

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[2] See Gu et al. (2008:14) for a more detailed differentiation between 'guanxi' and other forms of relational exchange in Western societies.

this life" (Lin 2011). Moreover, paying a debt with a larger favor than the original debt allows the cultivating and escalating of 'guanxi' (Lovett et al. 1999).

Another particular characteristic of 'guanxi' as a form of social capital is its high level of transferability: When person A introduces person B to person C, person A transfers trust and relational ties to "endorse" the relationship between person B and person C (Gu et al. 2008). In this way, 'guanxi' contains a mechanism of reproduction which expands itself into a wide network of shared ties and obligations. This process of organic expansion of 'guanxi' is especially useful for immigrants, who often lack social ties in their host area.

Due to its particular characteristics, 'guanxi' originates dense social networks with very high 'closure,' that is, "networks in which everyone is connected such that no one can escape the notice of others" (Burt 2000). Closure facilitates social sanctions that make it less risky for people in the network to trust one another (Coleman 1988). These network conditions facilitate cooperation. Furthermore, closure has effects on the configuration of social networks affecting the transmission of information and can improve the communication between producers.

2.4 Social capital and immigrant self-employment: some research hypotheses

The mechanisms through which social capital can influence immigrant self-employment are generally the same as in the case of other groups. However, the influence of social capital on self-employment could be especially relevant in the case of the migrant population. Immigrants frequently have serious problems in the use of the local language, and they might not know the local values, customs and culture sufficiently. In addition, they might be in an illegal or not-completely regular administrative situation. These factors limit their access to formal procedures, institutions and resources.

Immigrants, especially the first and more recent comers, naturally lack social relationships with the locals in their destination societies. However, this lack of integration in the local society may also come together with a strong social cohesion within the migrant population of specific ethnic groups. Hence, social capital could play a crucial role within these groups as a mechanism to compensate for the deficiency of integration in the rest of the society.

Social capital can be a very valuable resource for those immigrants with high entrepreneurial intentions. Particularly, ethnic resources can represent a very important comparative advantage, especially for business activities oriented to the immigrant population as a target market. 'Ethnic' social capital could be especially significant for those immigrants who have substantial cultural differences with respect to the local society. This would be the case of Chinese immigrants who can take advantage of 'guanxi' as a particular sociocultural institution in the Chinese tradition.

Social capital resources can help immigrants to get a paid job and also start up their own businesses. Nevertheless, we hypothesize in this paper that the requirements of social capital are higher in the case of the self-employment option, at least, in the specific context of Chinese immigrants in Spain. These immigrants can find a job easily in other Chinese businesses using their 'guanxi', but the obstacles to start up their own businesses are more important. Therefore, Chinese immigrants need a higher stock of social capital and better 'guanxi' if they want to opt for self-employment.

In this respect, we proposed the following four core hypotheses:

H1 A high level of structural social capital stimulates the Chinese immigrants' self-employment.

Immigrants' social networks can act as a source for getting information and other resources to carry out a business activity. Characteristics of this network, such as its density and the individual's position in it, can condition self-employment among immigrants.

H2 A high level of relational social capital stimulates the Chinese immigrants' self-employment.

The nature of personal relationships within the social network (history of interactions, interpersonal trust, obligations and identification with other individuals, mutual commitment, etc.) conditions the role of network links as a channel to accessing resources for self-employment.

H3 A high-level cognitive social capital stimulates the Chinese immigrants' self-employment.

Common languages, narratives and interpretations, or shared visions and values facilitate interaction in the social network. Therefore, cognitive social capital can strengthen the role of the social network as a source for getting resources to carry out a business activity.

H4 A better 'guanxi' stimulates the Chinese immigrants' self-employment.

Given the fact that Chinese immigrants are frequently not well integrated into the host society, the importance of social ties within the Chinese immigrant community is crucial for their business activity and their whole life. The access and use of these specific social capital resources are ruled by the norms of 'guanxi'.

3 Data and descriptive results

Our empirical research is based on a survey conducted in August and September of 2012 through personal interviews of 288 Chinese immigrants in Andalusia (Spain). Among them, 130 were business owners and 158 were paid employees. For the purposes of this research, Chinese people who had lived in Spain for at least 3 months were considered immigrants to differentiate them from mere tourists. First-generation Chinese immigrants between 15 and 65 years old were included in our target population regardless of their administrative status in Spain (even if they had obtained the Spanish nationality). However, Chinese people with a student visa and immigrants coming from Hong Kong, Taiwan or other South Asian countries—but ethnically Chinese—were excluded from our survey. Chinese immigrants were selected randomly from a list of contacts provided by Chinese associations in Andalusia. The sample obtained is representative of the working-age population of Chinese immigrants in Andalusia (about 11,760 Chinese people, when excluding individuals with a student visa) and has a sample error of 6 % and a confidence level of 95 %.

Table 1 General distribution of respondents

	Self-employed	Paid workers	Total
Age (average)	34.5	25.8	31.2
Time in Spain (number of years)	7.5	5.2	6.3
Gender			
Men	81.6	97.7	88.9
Women	18.4	2.3	11.1
Education level			
No studies (%)	0	0	0
Primary education (%)	36.2	34.2	35.1
Secondary education (%)	63.8	65.8	64.9
Tertiary education (%)	0	0	0
Entrepreneurs in the family			
Yes (%)	27.8	72.2	50.2
No (%)	82.5	17.5	49.8
Spanish language level			
None (%)	0.8	4.4	2.8
Basic (%)	99.2	95.6	97.2
Advanced (%)	0	0	0

The questionnaire comprises different aspects related to the personal characteristics of the immigrants interviewed, to their social capital resources and also to their business activity (the latter only for those who were running a business). The questions regarding social capital were adapted from the questionnaire employed by Liu (2009).

Since many Chinese people do not have a good enough level of Spanish, a Chinese version of the questionnaire was employed in the fieldwork. The survey was conducted through face-to-face interviews by Chinese interviewers. These two facts allowed for a very high response rate—above 90 %.

Based on the information obtained in the survey, Chinese immigrants in Andalusia appear as a comparatively young group with an average age of 31.2 years. Regarding the level of education, most of those interviewed had a secondary education degree. Furthermore, almost 100 % of the Chinese immigrants had just a basic level of Spanish (see Table 1).

Beltrán (2004, 2006) and Saiz (2004) have pointed out that Chinese immigrants usually start up a business only after a few years working for others. The results of our survey are in line with this observation: The self-employed Chinese in our survey have a longer history of residence in Spain than the Chinese immigrants working as paid employees.

Chinese immigrants in Andalusia to some extent represent an ethnic 'enclave' (Waldinger 1993; Li 2001), with low levels of integration in the host society. Therefore, Chinese paid employees work in businesses run by other Chinese immigrants. Thus,

those interviewed did not report problems in getting a job, and 100 % of the business owners had previous experience as paid workers. In addition, we asked them about their wish to become business owners, in the case of those interviewed who were paid employees, and 97 % of them answered affirmatively. Overall, self-employment is seen by the Chinese immigrants in Andalusia as a way of improving their economic and social status.

Among the business owners interviewed, 36.2 % of them managed restaurants and 56.2 % retail trade businesses. The remaining 7.6 % of the self-employed surveyed had launched cybercafés or Internet points, travel agencies, real estate agencies and warehouses. Regarding the number of employees in the company, all Chinese businesses surveyed were small businesses with fewer than 50 workers.

In order to test the hypotheses proposed in Sect. 2, an empirical analysis has been carried out considering the following variables:

A. *Dependent variable: self-employed*. Our dependent variable is a binary variable which takes value 1 for the Chinese immigrants who were running a business as self-employed people and 0 for the paid employees.
B. *Explanatory variables*. Our explanatory variables are measurements of the social capital and 'guanxi' resources of Chinese immigrants. The indicators employed—which aim to capture the different dimensions of social capital and 'guanxi'—were obtained from a principal component analysis (PCA) of the responses to the questions on social capital included in the questionnaire.

– *Structural social capital* (SSC): Those interviewed were asked to what extent they agreed with the descriptions presented in Table 2. The answers were coded using a Likert scale from 1 to 7, 1 indicating total disagreement and 7 absolute agreement. There is obviously a high correlation between the variables made up from the answers to these questions. We therefore tried to capture the underlying factors among this group of variables by carrying out a PCA. The value of the Kaiser–

Table 2 Structural social capital

	Component 1
You can get information easily through your social network	0.874
You can always get valuable information through your social network	0.852
You often receive information through your social network	0.860
You frequently share information with other members of your social network	0.735
You often communicate with other members of your social network	0.760
Compared with other members of your social network, you have access to more resources	0.827
Generally, you are located in an important position in the social network	0.855

Matrix of principal components

Meyer–Olkin (KMO) statistic was 0.868, and Bartlett's sphericity test showed a significant value for the Chi-square. All the communalities had values greater than 0.54. As a result of this analysis, only one principal component was obtained which captures 68.0 % of the total variance (Table 2). The Cronbach's alpha value, as a measure of scale reliability, was 0.921. This is much higher that the threshold of 0.8 is considered satisfactory to assume the internal consistency of the scale.

– *Relational social capital* (RSC): As for the structural social capital, those interviewed were asked to what extent they agreed with the descriptions presented in Table 3. In this case, after carrying out a PCA, we got a 0.898 value of the Kaiser–Meyer–Olkin statistic, indicating a very high level of sampling adequacy. Bartlett's test also showed a significant level. All the commonalities were greater than 0.647. The only principal component obtained explains 75.3 % of the total variance (Table 3). The Cronbach's alpha value was 0.934, supporting the internal consistency of the scale employed.

– *Cognitive social capital* (CSC): Those interviewed were asked to what extent they agreed with the descriptions presented in Table 4. In this case, we got a KMO value of 0.838 and Bartlett's test also showed a significant result. The communality values varied between 0.537 and 0.798, meeting the conventional minimum requirement set. As a result, one principal component was obtained which captures 67.8 % of the total variance (Table 4). The Cronbach's alpha value was 0.879 in this case, ensuring the scale's internal consistency.

In addition, we confirmed the discriminant validity of our scales related to the three dimensions of social capital by means of comparing the squared root of the Average Variance Extracted (AVE) with the correlation coefficients between the factors.

– *Guanxi*: This variable aims to capture the importance of the 'guanxi' relationships for the Chinese immigrants. Those interviewed were asked about their level of agreement with the descriptions presented in Table 5 (using a Likert scale from 1 to 7, with 1 meaning total disagreement and 7 absolute agreement to code the answers). In this case, the KMO value was 0.829, which is a high enough level.

Table 3 Relational social capital		Component 1
	You maintain frequent interaction with the members of your social network	0.864
	You care about commitments to other members of your social network	0.830
	There is a high level of trust among the members of your social network	0.885
	You are very sure of the capacity of the members of your social network	0.908
	You like to share information with the members of your social network	0.804
	You often collaborate with members of your social network	0.911
Matrix of principal components		

Table 4 Cognitive social capital

	Component 1
There is a very similar language in your social network	0.732
The members of your social network often have a common vision with regard to personal development	0.893
The members of your social network often have a common vision regarding the group's decisions	0.849
The members of your social network often have similar goals	0.793
You think that collaboration is a good way to solve problems	0.841

Matrix of principal components

Table 5 Analysis of principal components of 'guanxi'

	Component 1
You can always get valuable information from 'guanxi'	0.860
You have given much 'renqing' to other members of 'guanxi'	0.891
You have received much 'renqing' from other members of 'guanxi'	0.824
Generally, you have much 'mianzi' in the 'guanxiwang'	0.879

Bartlett's test was significant as well. The value of the commonalities in this case varied between 0.678 and 0.793. As a result of this analysis, one principal component was obtained (Table 5). The Cronbach's alpha value of this scale (0.885) also satisfied the standard requirements.

C. *Control variables* In the regression models presented in the following section, several controls were also considered in order to isolate the effect of the social capital variables on the dependent variable:[3]

– *Gender* (Gender): This variable takes value 0 for men and 1 for women to capture the possible effect of gender differences.
– *Education level* (Educ): The immigrants' educational background might influence their decision to become self-employed. In our sample, there were no individuals with higher education or without primary education. Therefore, the education factor was characterized as a dichotomous variable that takes the value 0 for individuals with primary education and 1 for individuals with secondary education.

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[3] We also included other control variables such as the business owner's age, the Chinese area of origin and the province of destination in Spain. None of these variables were significant in the models and their inclusion did not alter the results.

– *Spanish language skills* (Span_skill): The level of knowledge of Spanish necessarily influences the Chinese immigrants' capacity for developing social relationships with the locals and can also facilitate the start-up process. This variable originally took values from 0 to 2, 0 meaning no knowledge of Spanish, 1 basic knowledge and 2 advanced knowledge. However, none of the immigrants interviewed declared having an advanced level of Spanish. Therefore, the final variable included in the models is just a binary variable differentiating between the immigrants with no knowledge of Spanish and those with a basic knowledge.

– *Time in Spain* (Time_Spain): Immigrants often start up a business only after having lived for some time in the destination area. In this respect, we include in the analysis a variable indicating the number of years that the Chinese immigrants had been in Spain.

– *Business owner in the family* (Ent_Fam): Individuals are often more prompted toward self-employment when they know other business owners who represent role models for them or can help them in their start-up process. To capture this effect, we included a dummy variable that takes the value 1 when the respondents had a relative who was a business owner and takes the value 0 otherwise.

4 Methodology and empirical results

In this analysis, the dependent variable is a dichotomous one (self-employed versus paid employee); hence, a binary logistic regression specification was employed to test our hypotheses. The logistic regression model can be presented as follows:

$$\ln\left(\frac{p}{1-p}\right) = z = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k \tag{1}$$

where p is the probability of a Chinese immigrant being self-employed, x_j represents the independent variables ($j = 1 \ldots k$) and β_j denotes the regression coefficients ($j = 1 \ldots k$).

So the probability of being a self-employed person for a Chinese immigrant will be given by the following expression:

$$p = \frac{\exp\left(\beta_0 + \sum_j \beta_j x_j\right)}{1 + \exp\left(\beta_0 + \sum_j \beta_j x_j\right)} \tag{2}$$

This logistic regression model is estimated using the maximum likelihood method.

Since 'guanxi' is a special form of social capital, its measurement, contents and characteristics are quite similar to those of social capital. Therefore, when estimating the regression models, the inclusion of the 'guanxi' variable and other social capital variables together would have caused multicollinearity problems. For this reason, we separately incorporated our social capital variables and our 'guanxi' variable into different models (Table 6). Model 1 only includes the control variables. Model 2

Table 6 Binary logistic regression with respect to the variable "self-employed" (self-employed = 1; paid employees = 0)

	Model 1			Model 2			Model 3				Model 4			
	B	S.E.	Sig.	B	S.E.	Sig.	B	S.E.	Sig.	M.E.	B	S.E.	Sig.	M.E.
Control variables														
Gender	−1.559	0.790	**	−0.953	0.795		−0.991	0.760		−0.083	−0.770	0.732		−0.024
Educ	−0.096	0.358		0.006	0.447		0.125	0.464		−0.009	−0.016	0.396		−0.024
Spa_skill	−0.210	1.133		−0.718	1.287		−0.726	1.199		−0.055	−0.498	1.270		−0.078
Time_Spain	0.979	0.141	***	0.228	0.199		0.163	0.209		0.012	0.497	0.158	***	0.047
Entr_Fam	1.835	0.348	***	1.482	0.471	***	2.236	0.577	***	0.194	0.741	0.409	*	0.131
Social capital and 'guanxi'														
SSC				1.349	0.424	***	0.980	0.438	**	0.070				
RSC				2.186	0.476	***	2.330	0.529	***	0.167				
CSC				−0.978	0.382	***	−1.918	0.474	***	−0.138				
CSC × Entr_Fam							2.290	0.698	***	0.545				
Guanxi											2.057	0.403	***	0.196
Constant	−5.318	1.604	***	0.487	2.027		−0.802	2.017			−2.287	1.706		
Goodness of fit														
Chi-squared (sig.)	178.062 (***)			244.304 (***)			257.534 (***)				215.183 (***)			
Nagelkerke R^2	0.618			0.767			0.793				0.706			
−2 log-likelihood	216.870			150.627			137.397				179.748			
Correct predictions (%)	85.7			89.9			89.5				88.2			

M.E. = average marginal effect evaluated in the whole sample and calculated following Ai and Norton (2003), Number of cases = 287. Cutoff value = 0.5

* Significant at the 90% level. ** Significant at the 95% level. *** Significant at the 99% level

includes the control variables and the social capital variables. An additional variable capturing the interaction effect between the cognitive social capital dimension and the "business owners in the family" variable is also included in Model 3. Finally, Model 4 gathers the control variables and the 'guanxi' variable. The correlation table for the variables included in these models is provided in the "Appendix" (Table 8).

VIF values (Variance Inflation Factor) of the variables in these models are always less than 5. Also, the higher value of condition indices of the variables is 25.901. These results allow the ruling out of serious multicollinearity problems.

Regarding the results, "business owners in the family" (Ent_Fam) is the only control variable that is significant and positive in all the models. This indicates that Chinese immigrants with one or more family members who are business owners are more likely to become self-employed themselves. This is due to the greater support that they can receive to create a business and the entrepreneurial values that can be internalized in their education due to the characteristics of their family environment.

Besides, "time in Spain" (Time_Spain) has a positive sign and is statistically significant in Models 1 and 4. This result indicates that the probability of a Chinese immigrant becoming self-employed increases along with his/her time spent in Spain. Nevertheless, the "time in Spain" variable is not significant in Models 2 and 3, though its coefficients remain positive. This result may be due to the fact that the "time in Spain" has a positive correlation with the social capital variables. The longer the time that the Chinese immigrants have lived in Spain, the more social capital they can accumulate in the country. This positive correlation does not cause a multicollinearity problem in the model. However, it determines that the social capital variables capture part of the effect of the "time in Spain" (Time_Spain), making this variable statistically insignificant in Models 2 and 3.

In Model 4, "time in Spain" is again a statistically significant variable. This is due to the fact that the 'guanxi' variable is less sensitive to the time in Spain than the social capital variables. The time in Spain could affect the immigrants' social capital more than their 'guanxi' resources, because the 'guanxi' relationships are often developed before the immigration processes, in the immigrants' regions of origin. As pointed out by Urbano et al. (2011), many Chinese self-employed have transnational family networks that influence their business activity and their interfirm relations.

Gender is a statistically significant variable only in Model 1, showing a higher probability of being self-employed in the case of males. Finally, the education variable and the level of Spanish are not significant in any model. This result agrees with the considerations of Beltrán (2006) who found no relevant influence of the education level on the self-employment of Chinese immigrants. Moreover, he pointed out that a negative effect could even operate, successful Chinese entrepreneurs often being characterized by a low level of education. According to our results, neither a significant positive influence of education, nor a negative relationship is observed.

Let us now consider the social capital variables in Models 2 and 3. On the one hand, structural social capital (SSC) and relational social capital (RSC) show positive signs and appear as statistically significant variables, supporting hypotheses H1 and H2. Among them, according to the computed marginal effects, relational social capital has a stronger influence on the probability of being self-employed.

On the other hand, the cognitive social capital (CSC) variable has a negative and significant effect on self-employment. Therefore, hypothesis H3 is refuted by this result. On the contrary, in the case of the Chinese community in Andalusia, cognitive social capital seems to favorably influence the option for paid employment compared to the option for self-employment.

A possible interpretation of this result could be that it is "misfit" individuals who attempt to start a venture. Hofstede et al. (2004) pointed out that, irrespective of the specific cultural characteristics of a society, people not sharing dominant cultural values—dissatisfied individuals—tend to opt more frequently for self-employment. According to this hypothesis, people with greater cognitive social capital, who share values and goals with the members of their social network, would be less likely to start up a business. On the contrary, the dissatisfied or misfit Chinese immigrants, with less cognitive social capital, would be prompted to become self-employed workers.

This explanation can be complemented with another interpretation based on Burt's ideas. The Chinese immigrants who do not share the values and views of their ethnic group—adopting the cultural elements of the host society—could develop more social connections with the native Andalusian people. These immigrants could cut across the structural holes that separate their ethnic niche and the local Andalusian society. In this way, they could have access to nonredundant information and other valuable resources from both sides of the structural hole. According to our results, this higher integration in the local society would favor self-employment (versus working as a paid employee).

However, the effect of cognitive social capital could also be affected by the type of values and visions generally shared within a social group. In this respect, the entrepreneurship literature has paid attention to the influence of family role models. Growing up in a family with self-employed members may lead to more pro-business values and attitudes in the children (Jr et al. 1994; Carr and Sequeira 2007). However, entrepreneurial family role models do not necessarily stimulate individuals to become entrepreneurs (Kim et al. 2006). Thus, Chlosta et al. (2012) has shown that the individual personality can condition the effect of the entrepreneurial family role models, among other aspects. In this respect, the identification with the family values and views could be another contingency factor affecting the impact of family role models. Hence, to go more deeply into the complex effect of cognitive social capital on self-employment, we included an interaction effect between cognitive social capital and the "business owners in the family" variables in Model 3.[4]

The resulting variable (CSC × Ent_Fam) is observed to have a positive sign and to be statistically significant in the model. According to this result, the family of the self-employed Chinese immigrant represents a specific social microenvironment in which cognitive capital does favor the decision to become self-employed. In this con-

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[4] The interpretation of the interaction effects in nonlinear models implies certain difficulties. Thus, the interaction cannot be evaluated simply by looking at the sign, magnitude or statistical significance of the coefficient on the interaction term. In this paper, the marginal effects have been computed following Ai and Norton (2003).
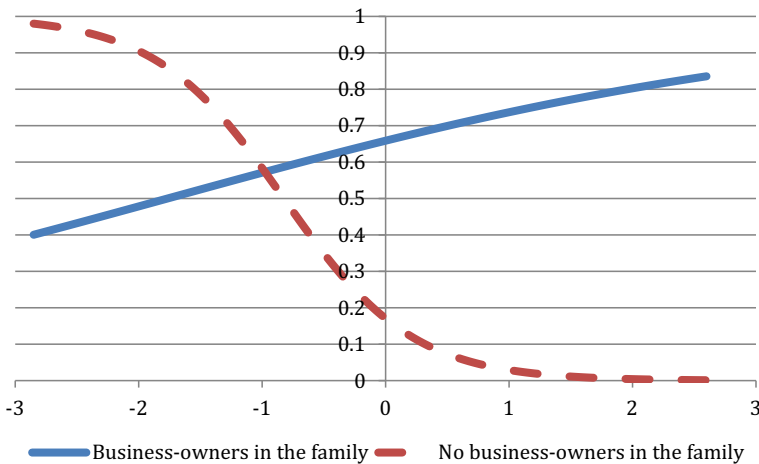
Fig. 1 Predicted probabilities of being self-employed depending on the level of cognitive social capital. The probabilities have been calculated using the mode of the categorical independent variables and the mean values of the continuous independent variables

text, a high cognitive social capital can imply a shared vision of life and business which may be determined by the business owner's values and ideas. This business-friendly cultural environment would have a positive effect on the self-employment predisposition that could be even stronger than the 'dissatisfaction' effect that has been commented upon above. Therefore, the presence of entrepreneurial role models in the family would stimulate self-employment among the individuals with high cognitive social capital endowments who share the family business values (as the marginal effects for the social capital variable and the interaction variable in Table 6 show).

Figure 1 shows the probabilities of being self-employed for different levels of cognitive social capital, comparing the immigrants with and without business owners in their family. It can be observed that the probabilities of being self-employed decrease as cognitive social capital resources increase in the case of the immigrants who did not have business owners in their family. However, for those Chinese immigrants who do have business owners in their family, this probability rises as the levels of cognitive social capital increase. Thus, the probability of being self-employed in the case of the Chinese immigrants with low levels of cognitive social capital is higher when they do not have business owners in the family (compared to the cases with business owners in the family). Nevertheless, when considering the case of people with medium and high levels of cognitive social capital, it can be noted that the probability of being self-employed is higher for those who have business owners in the family (see Fig. 1).

Finally, Model 4 includes the 'guanxi' variable along with the control variables. The 'guanxi' variable has a positive sign and is statistically significant. This indicates a positive influence on the Chinese immigrants' self-employment, supporting

Table 7 Exploring the effect of firm size and age on social capital (and 'guanxi') formation

	SSC			RSC			CSC			'Guanxi'		
	B	S.E.	Sig.	B	S.E.	Sig.	B	S.E.	Sig.	B	S.E.	Sig.
Size	−0.01	0.01		−0.01	0.01		−0.00	0.01		0.00	0.01	
Bus_age	−0.01	0.02		−0.03	0.02		−0.03	0.03		−0.02	0.02	
Ent_age	0.11	0.01	***	0.11	0.01	***	0.12	0.01	***	0.11	0.01	***
Constant	−2.99	0.24	***	−2.93	0.27	***	−3.55	0.38	***	−3.33	0.22	***
R^2	0.780			0.757			0.659			0.841		

Number of cases = 130

* Significant at the 90 % level. ** Significant at the 95 % level. *** Significant at the 99 % level

hypothesis H4. As can be seen in Table 6, the goodness-of-fit statistics only slightly improve when considering the general measures for social capital (which include all types of interactions) compared to the model with the 'guanxi' variable (exclusively considering the social links within the Chinese community). Therefore, 'guanxi' itself explains the large majority of the effect of social capital on the Chinese immigrants' self-employment.

Previous models show the existence of a relationship between the social capital endowment (and 'guanxi') and the Chinese immigrants' self-employment. We have interpreted this relationship following one of the two possible directions of causality: The accumulation of social capital would favor the option for self-employment. However, this could also be the case for a reverse causal relationship. From this perspective, the fact of being a business owner could facilitate the accumulation of social capital and 'guanxi' by the Chinese immigrants. Although the relationship may actually operate in both directions, our data suggest that the most important influence is in line with our original interpretation.

To verify this, we focused on those Chinese immigrants who were running businesses and checked whether certain factors related to their businesses might influence their stock of social capital. Hence, we estimated four linear regression models in which the social capital and 'guanxi' indicators are the dependent variables see Table 7. In these models, the explanatory variables are the number of employees and the business' number of years of life. These variables are selected as possible factors associated with the economic and social status of the business owner.

If the business activity reinforced the accumulation of social capital, the business owners with a longer trajectory in business and running larger firms would have greater stocks of social capital. Consequently, positive signs and significant effects for these explanatory variables in the regression models would indicate that the fact of being a self-employed person favors the accumulation of social capital. We also included the entrepreneur's age as a control variable in these models to isolate the possible effects of the main explanatory variables on the social capital endowments.

However, the variables number of employees (size) and the company's number of years of life (bus_age) are not statistically significant in the models estimated. The entrepreneurs' endowment of social capital is therefore not associated with the size

and age of their businesses. These results confirm our interpretation of the causality direction which is stated in our hypotheses.

5 Conclusion

In this paper, we have defended the crucial role of social capital in the immigrants' self-employment. The notion of social capital is considerably broad and its influence on self-employment versus the alternative of paid employment is not simple. In our opinion, this paper makes a contribution by clarifying the influence of social capital in the case of self-employed immigrants.

In order to do this, we have differentiated between three dimensions of social capital: the structural, the relational and the cognitive social capital. Our results show that relational social capital has a significant positive effect on the Chinese immigrants' self-employment as well as, to a lesser extent, the structural social capital. However, the effect of cognitive social capital is more complex. Our analysis in this respect represents an exploration on the mechanisms through which cultural identity conditions the formation of social capital and its impact on immigrant self-employment.

On the one hand, cognitive social capital can have a negative effect on self-employment. We have attributed this result to a dissatisfaction effect. The individuals with low cognitive social capital do not share common values and goals with other members of their social network. These misfit individuals could opt more frequently for self-employment, versus working as paid employees, as a reaction to their dissatisfaction. Moreover, the Chinese immigrants who do not completely share the values and views of their ethnic group could be more open to the local culture. This would facilitate their integration in the host society, and based on our results, this integration would favor the option for self-employment (versus paid employment).

Nevertheless, this research also shows that the influence of cognitive social capital could vary depending on the values and visions generally shared in the social reference group. Thus, a positive influence of cognitive social capital on self-employment can still be observed in the particular case of individuals who have business owners in their own families. In this specific context, when the individuals share and assume the family culture involving entrepreneurial values and attitudes—having high levels of cognitive social capital—they tend to experience a greater attraction toward self-employment.

These results regarding cognitive social capital need to be confirmed in further research and in different cultural contexts. Nevertheless, this finding shows that the effects of social capital on self-employment are not as simple as is frequently assumed and calls for the necessity of a precise delimitation of the social capital notion when studying its influence on self-employment and entrepreneurship.

In this respect, this paper also uses the concept of 'guanxi' as a different notion of social capital which is specific for the Chinese society and its culture. To date, there have been few studies that have explored the economic effects of 'guanxi,' and to the best of our knowledge, this is the first to address the effects of 'guanxi' on the self-employment of Chinese immigrants. The analysis carried out shows a clear positive role of 'guanxi' in the Chinese immigrant's self-employment. Nevertheless, more research is also needed in order to capture the specificities of 'guanxi' compared to

other forms of social capital and the particular mechanism through which it influences Chinese migrants' self-employment.

The crucial role of context when analyzing entrepreneurship and self-employment has often been pointed out (Zahra 2007; Welter 2011). In this respect, this paper focuses on a "neat" context: Chinese immigrants in Spain. This relatively homogenous context makes the results obtained more consistent, but also implies certain limitations. The role of social capital could be different in other ethnic groups of immigrants and could also be affected by the specific characteristics of the host country. Future research could explore these issues and extend this analysis in three more directions: by working with panel data, contributing finer measurement instruments for social capital and 'guanxi,' and placing a greater emphasis on the separation of the immigrants' social capital resources within the ethnic group and with the host society.

Appendix

See Table 8.

Table 8 Correlation table

	Gender	Educ	Spa_skill	Time_Spain	Entr_Fam	SSC	RSC	CSC	Guanxi
Gender	1	0.028	−0.075	−0.248	−0.156	−0.238	−0.229	−0.225	−0.234
Educ	0.028	1	−0.036	−0.064	−0.005	−0.073	−0.062	−0.027	−0.069
Spa_skill	−0.075	−0.036	1	0.146	0.085	0.169	0.189	0.182	0.184
Time_Spain	−0.248	−0.064	0.146	1	0.478	0.679	0.700	0.613	0.683
Entr_Fam	−0.156	−0.005	0.085	0.478	1	0.553	0.551	0.569	0.614
SSC	−0.238	−0.073	0.169	0.679	0.553	1	0.783	0.654	0.816
RSC	−0.229	−0.062	0.189	0.700	0.551	0.783	1	0.774	0.851
CSC	−0.225	−0.027	0.182	0.613	0.569	0.654	0.744	1	0.753
Guanxi	−0.234	−0.069	0.184	0.683	0.614	0.816	0.851	0.753	1

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