

# Location choices of Chinese enterprises in Southeast Asia: The role of overseas Chinese networks

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**Abstract:** With the implementation of the “Going out” strategy and the Belt and Road Initiative, China’s investments have become increasingly influential in the global market. The contemporary literature has revealed how overseas Chinese networks and communities have actively promoted foreign investments into China over the past four decades. Whether this factor can help Chinese capital flow out once again is still ambiguous. This study examines this question by investigating Chinese corporate investments in Southeast Asia from 2001 to 2016. Through the discrete-selection logistic regression model, the study analyzes the correlation between overseas Chinese social networks and the location choices of Chinese corporate investments. The results show the following: (1) overall, there is a significant positive correlation between the population of overseas Chinese in Southeast Asian countries and the location choices of Chinese corporate investments; (2) in terms of the time sequence, the significance of the correlation is increasing, which implies that overseas Chinese have positive impacts on promoting the location choice of Chinese enterprises and that the impact is potentially increasing; and (3) in terms of the industrial structure and corporate functions, the impacts vary and are only significant in some industries and corporate segments.

**Keywords:** outward foreign direct investment; social network; overseas Chinese; location choice; Southeast Asia

## 1 Introduction

With the implementation of the “Going out” strategy and the Belt and Road Initiative, Chinese companies are accelerating the pace of foreign direct investment (FDI) (Cheng and Ma, 2010). China’s FDI flows have risen from 68.8 billion US dollars in 2000 to 145.67 billion USD in 2015, surpassing Japan for the first time and ranking second in the world (Ministry

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of Commerce, 2016). However, due to the lack of experience in making foreign direct investments, how to make a location choice has become the primary concern of Chinese enterprises (Kolstad and Wiig, 2012; Ramasamy *et al.*, 2012; Wang and Xu, 2017). Chinese society is a typical ‘relational-based’ (*guanxi*) society, which means that individuals or enterprises tend to rely on private relations in economic activities. For example, investment decision-making, labor recruitment and enterprise management often establish preliminary trust and communication through social networks (Hsu and Saxenian, 2000; He *et al.*, 2013). At present, Chinese enterprises are becoming the main force of international investments. Whether the overseas Chinese network can play a positive role in the process of globalization to help, attract and drive Chinese enterprises’ outward investment has become a cutting-edge research topic in recent years (Gao *et al.*, 2013; Gao, 2003; Meng, 2008). A large number of current theoretical and empirical studies have revealed that a common language background can bring convenience to communications in the operations of overseas markets for enterprises. Ethnic networks also play an important role in increasing trust and reducing communication barriers in the process of international trade and foreign investments (Meng, 2008; Javorcik *et al.*, 2011; Hernandez, 2014; Liu *et al.*, 2014). However, whether the overseas Chinese network can play a positive and effective role in the FDI of Chinese enterprises has not been fully revealed in the current economic geography literature. Therefore, this paper intends to explore this issue from the perspective of the classical location model.

At present, the location choices of foreign investment have been abundantly studied in development economics and international trade research. The early theoretical research mainly focused on the foreign investment behavior of enterprises in developed countries (Zhu, 2011; Liang, 2014). For example, Dunning proposed the OLI theory that only enterprises with certain competitive advantages in developed countries can carry out FDI (Dunning, 1977). However, some developing countries with rapid development since the 1970s have begun to conduct outward investments. The theory of outward investment based on developed countries has exposed the limitations of its application (Charnley and Cupic, 2005; Wen, 2008; Liang, 2014). Specifically, it is difficult to explain why developing countries that do not have ownership advantages can invest abroad (Yeung and Liu, 2008; Liang, 2014). In addition, there is a lack of comprehensive understanding of the concept of “advantage”, which is not absolute but relative and not static but dynamic. As long as an enterprise has one or more broad relative advantages, it will have the ability to make direct investments in the host country (Liang, 2014). Therefore, to remedy these defects, scholars have analyzed and explained it from different perspectives and created various distinctive theories, such as “The Theory of Small Scale Technology”, the “State of Localized Technological Capacities”, “Industrial Upgrading Theory”, etc. (Su, 2006; Yiu, 2011; Zhu, 2011). Although these theories provide a new analytical approach to the study of FDI for developing countries, scholars have not yet paid sufficient attention to or discussed the role of social networks in this process. In contrast, economic geographers have made a lot of contributions to this topic. For example, investments in the mainland of China by Hong Kong-funded and Taiwan-funded enterprises after the reform and opening up confirm the positive role of the overseas Chinese relationship network in this process. In the process of attracting FDI into the mainland of China, overseas Chinese, on the one hand, act as lobbyists for investments, actively publicize China’s investment environment, and assist Chinese manufacturers in opening up chan-

channels for overseas export markets. On the other hand, they have become the main force of FDI by directly investing in factories in the mainland of China, such as Chinese entrepreneurs in Hong Kong, Macao, Taiwan and Southeast Asia (Sung, 1995; Qiu, 2005; Yang, 2006; Hsing, 2015). It can be seen from the study of ethnic networks that promoting trade and investment is not the exclusive feature of overseas Chinese networks. The studies confirm that there is a significant positive correlation between American immigrants and FDI from their original countries (Javorcik *et al.*, 2011). In addition, together with social networks in developed and developing regions, knowledge and capital transfer networks can play substantial roles in promoting the development of the region. Saxenian (2005), for example, reveals that Chinese and Indian-born engineers are shifting technology and knowledge between remote regional economies faster and more flexibly after being employed in industrial clusters in developed regions, thus significantly accelerating the development of their home country's IT industries. Yeung (2009) also pointed out that transnational social communities are becoming a global informal technology delivery network and changing the traditional situation of technology space dissemination controlled by enterprises.

In recent years, economic geographers have gradually focused on the impact of overseas Chinese networks on the development of Chinese enterprises' outward investment. Current studies have found that overseas Chinese communities have a substantial role in Chinese enterprises' investments in Europe (Karreman *et al.*, 2016). This role can be explained as follows: linguistic proximity allows Chinese enterprises to choose areas with less communication barriers for investments. However, the existing research has not confirmed whether this mechanism is universal. Overseas Chinese are more intensive in Southeast Asia, where the business environment is closer to the domestic business environment in terms of cultural and linguistic differences. Whether overseas Chinese social networks play a positive role in such a situation and whether there are any other important roles of social networks apart from reducing language and cultural barriers are the questions that this article attempts to explore.

The question of this paper is whether the overseas Chinese network in Southeast Asia has a positive impact on Chinese enterprises' location choices. This paper examines this question based on the data of outward investment enterprises that invested in Southeast Asia from 2001 to 2016 and registered with the Ministry of Commerce of China. First, it describes the current situation of overseas Chinese in Southeast Asia and examines the spatial distribution characteristics of Chinese enterprises' investments in Southeast Asia. Then, it proposes hypotheses and establishes a mixed-logistic model to examine the influences of the scale and relationship density of overseas Chinese in Southeast Asia on the location choices of Chinese enterprises in Southeast Asia and the changing trend of this influence. Finally, the paper compares the various situations of enterprises on overseas Chinese in different industries and different functional departments.

## 2 Methodology and data

### 2.1 Study area

This paper selects 10 ASEAN member countries in Southeast Asia, namely, Malaysia, Philippines, Thailand, Singapore, Indonesia, Brunei, Vietnam, Laos, Myanmar and Cambodia,

with a total area of 4.3356 million square kilometers, a population of 601 million in 2015 and a GDP of 24 trillion USD. This paper takes the 10 ASEAN member countries in Southeast Asia as the research area for two main reasons. First, based on the current situation of China's FDI, Southeast Asia is the hot spot. Direct investment flows into Southeast Asia in 2015 amounted to 146.04 billion USD, an increase of 87% over the same period in the previous year (Ministry of Commerce, 2016). Second, Southeast Asia is an important place for overseas Chinese to emigrate. Overseas Chinese have a long history of immigrating to Southeast Asia, where approximately 73% of the total number of overseas Chinese in the world relocated (Zhuang, 2011). They have relatively strong economic strength, mature production and marketing networks, a wide range of political and business contacts, a solid platform for Chinese language and cultural education, and unique advantages of accommodating China and foreign countries. They play an irreplaceable role in the investments of Chinese enterprises in Southeast Asia.

## 2.2 Model

The current studies on the location choices of enterprises are usually based on the discrete selection model (Schmidheiny and Brülhart, 2011). It is assumed that a company pursuing their maximum benefits will choose the location where it has the maximal expected return. Finally, the location choice of each enterprise is considered as the result of the discrete selection among all alternatives. In other words, under the control of demand, supply and external economic factors, when deciding in which country to invest in Southeast Asia, Chinese enterprises have 10 alternative locations with specific locational attributes. To evaluate these location choices, this paper uses a mixed-logistic model for the regression analysis, and the main problems discussed in this paper include variables that both vary with the country (such as the number of overseas Chinese) and vary with individuals (such as the industrial nature of different enterprises). The mixed-logistic model can solve the limitations of independent characteristics and the random preferences for unrelated alternatives (Heiss, 2003; Wang *et al.*, 2015).

## 2.3 Hypotheses

(1) Assumption of relationship between the number of overseas Chinese and the location choices of China's outward investments.

The empirical study shows that the number of overseas Chinese has a positive effect on Chinese enterprises' outward investments. Buckley *et al.* (2007) argued that larger overseas Chinese can provide more valuable intelligence and local information and that Chinese investors' ability to access location information through social and business networks is potentially increasing. Kelley *et al.* (2013) used the investment data of Chinese enterprises in the United States from 2007 to 2011 to explore the determinants of the location choices of Chinese enterprises. The results showed that the relative number of overseas Chinese was one of the strongest factors in the prediction of FDI location choice (Kelley *et al.*, 2013). These studies reveal that countries with larger numbers of overseas Chinese often attract significantly more Chinese investments. However, no research has confirmed this conjecture in Southeast Asia, where overseas Chinese are most concentrated. Therefore, the following hypothesis is made:

H1: *In a certain country in Southeast Asia, there is a positive correlation between the number of overseas Chinese and the location choice of Chinese outward investments.*

(2) The relationship between the number of overseas Chinese and the location choices of China's outward investments.

On December 11, 2001, China formally joined the WTO, marking a new stage of China's reform and opening up. According to the relevant research, China's FDI also entered a new stage after 2001 (Liang, 2014). Therefore, the research data of this paper started from 2001. Dunning (1998) proposed the theory of the Investment Development Path, stating that there was a causal relationship between the scale of FDI and the relative development stage of the per capita GNP of a country, which showed a periodic characteristic. Many scholars have applied this theory to the analysis of the development stage of China's FDI and made some achievements (Zhu, 2011; Liang, 2014). It is generally believed that China passed from the second stage into the third stage of investment development around 2007. *The Guiding Policy for Overseas Investment Companies* was issued by the National Development and Reform Commission on July 5, 2006, and it has breakthrough significance in promoting Chinese enterprises' outward investments. Therefore, this article takes 2006 as the dividing point between the first stage and the second stage. Other studies have shown that China entered the last phase in 2011 when per capita GDP exceeded 5000 USD (Zhu, 2011). In 2013, the "Belt and Road Initiative" was established, which again accelerated the outward foreign direct investment of Chinese enterprises. Therefore, this article regards 2012 as the dividing point between the second and the third stage.

Then, as time passes, will the role of overseas Chinese in the location choices of Chinese enterprises' outward investments remain unchanged? If there is any change, what kind of change process occurs? From the existing research, some scholars believe that, over time, the role of overseas Chinese networks in promoting FDI inflow into China will decrease (Meng, 2008). In other words, is the role of overseas Chinese in promoting investment gradually weakened? Therefore, the following hypothesis is made:

H2: *In a certain country in Southeast Asia, the relationship between the number of overseas Chinese and the potential investments in Chinese enterprises becomes less significant over time.*

(3) Assumption of the relationship between China's outward investments and the number of overseas Chinese based on the enterprise's nature.

In terms of industrial sector comparisons, the service industry is inseparable from production and consumption and is essentially different from the manufacturing industry. Therefore, it should also be different regarding the needs of Chinese enterprises in different industrial sectors for the use of overseas Chinese networks to promote investment (Zhou, 1998). Services often require close links with customers to provide customized services and adapt to local market rules, especially in information-intensive and knowledge-intensive industries, such as legal counseling where the demand for a well-educated and integrated workforce is strong (Hernandez, 2014). Meanwhile, manufacturing firms can overcome trade barriers such as tariffs and import quotas through outward FDI. It is less important to know the market preferences and customer needs of the host country when products are highly standardized (Yeung and Liu, 2008). Accordingly, the following hypothesis is made:

H3: *In a certain country in Southeast Asia, the relationship between the overseas Chinese network and the potential investments of Chinese enterprises is more significant in service*

*enterprises.*

As for the comparison of functional departments, similar to the differences between the manufacturing and service industries, there are also differences in the intensity of information and in the needs of local workers among various functional sectors of the enterprise (Burger *et al.*, 2012). The upstream functional departments, such as corporate headquarters and R&D institutes, usually require highly educated personnel. Managers should have a comprehensive understanding of the local market rules and master some local networks. The downstream functional departments, such as sales, marketing and follow-up services, mainly rely on local people who have a clear understanding of the local language, trade environment and consumer preferences. The production-related intermediaries have greater demand for natural resources, transportation, locations and other aspects. Unlike the upstream and downstream functional departments, they can significantly reduce the costs and liabilities required by specific locations through local overseas Chinese. Therefore, the following hypothesis is made:

H4: *In a certain country in Southeast Asia, the relationship between the number of overseas Chinese and the potential investments of Chinese enterprises is more significant in the upstream and downstream functional enterprises.*

## **2.4 Data**

### **2.4.1 Investments of Chinese enterprises in Southeast Asia**

To investigate the impacts of overseas Chinese networks on attracting China's FDI, the data used in this paper are from the foreign direct investments of enterprises registered with the Ministry of Commerce of China. In addition, the database of outward investing enterprises is expanded by using the information from enterprise websites and the industrial departments and functional departments of the enterprises are defined according to their business scope, thus improving the comparability of the data. The final database includes 5492 enterprises from the mainland of China. Since 2001, 5492 companies have invested in 10 Southeast Asian countries (10 ASEAN countries: Malaysia, Philippines, Thailand, Singapore, Indonesia, Brunei, Vietnam, Laos, Myanmar and Cambodia). The investments are not evenly distributed and are mainly concentrated in Singapore (18.6%), Vietnam (17.4%) and Indonesia (14%). Table 1 lists the numbers and distributions of Chinese enterprises in different industries and functional departments. The data show that most of China's investments come from leasing and business services (38.8%), low-tech manufacturing (24.2%) and middle-tech manufacturing (13.3%). In the functional sector, most of the investments are concentrated in the sales and marketing sector (49%), which is followed by the production sector (21%) and the service sector (14.3%).

### **2.4.2 Overseas Chinese**

There has not been consistent statistics on the number of overseas Chinese in the world. The official census data of immigrants in developed countries and the estimates of the numbers of illegal immigrants can be used, which makes the data of overseas Chinese in developed countries relatively easy to obtain. It is difficult to count the number of overseas Chinese in Southeast Asia because they are mostly overdue detainees or unofficial immigrants and can acquire local settlement status through various means (Zhuang, 2009). Therefore, through the

**Table 1** Industrial structure and corporate function of Chinese investments in Southeast Asia

Industrial classification	Number of companies	Share (%)
Leasing and business services	2136	38.8
Financial services	28	0.5
High-tech manufacturing	514	9.4
Low-tech manufacturing	1330	24.2
Medium-tech manufacturing	728	13.3
Natural resources & energy	445	8.1
Software & information & communications technology	145	2.6
Transport services	166	3
Functional classification		
Headquarters	160	3
Logistics	382	7
Production	1152	21
Research & development	322	5.9
Sales & marketing	2692	49
Support & servicing	784	14.3

comparative analysis of multi-source data, this paper finally decided to adopt the data of the World Statistics Table on the Population Distribution of Overseas Chinese issued on October 10, 2015 as this paper’s measure of overseas Chinese in Southeast Asia (Table 2). Considering that the focus of this study is on the location choices of investments in a particular region, a dummy variable is used to measure the existence of large-scale overseas Chinese. If the number of overseas Chinese in a country in Southeast Asia is larger than the Trimmed Mean of overseas Chinese in ten countries (3,437,143), the value is 1. Otherwise, it is 0.

Nevertheless, the total populations and land areas of Southeast Asian countries are quite different. It is difficult to explain the problem by choosing the absolute number of overseas Chinese as an explanatory variable. To maintain the preciseness of the study, the proportion of overseas Chinese ( $Chinrate$ ) and the relationship density ( $Network_i$ ) are added. Overseas Chinese are usually linked together through the same ancestral origin, close blood relationships and the same work, thus forming a huge ethnic network to disseminate and share information. Using the method of Gao’s Model for reference, the activity intensity of the overseas Chinese network is approximately measured by the proportion of overseas Chinese with respect to the total population of the country (Gao *et al.*, 2013). It indicates that the greater the proportion of overseas Chinese in a country is, the closer the relationship between the overseas Chinese in that country (Singer, 2006) and the higher the possibility of direct investment by Chinese enterprises. How should we measure the close relationship between overseas Chinese and Chinese business operators? This paper still chooses to adopt the alternative method of calculating this index. It is measured by the product of the proportion of overseas Chinese living in country  $i$  in year  $t$  to the total population in country  $i$  and the proportion of overseas Chinese living overseas to the total population in China in that year (Rauch and Trindade, 1999). The larger the product is, the closer the relationship between the two places is. The closer the network relationship is, the more likely that Chinese enterprises will invest in it.

**Table 2** Population of overseas Chinese in Southeast Asia in 2015

Country	Year	Number	A proportion of the local population (%)	Tightness
Indonesia	2015	10,000,000	3.9	0.001283
Thailand	2015	9,500,000	14	0.00462
Malaysia	2015	7,500,000	24.7	0.008172
Singapore	2015	3,500,000	63.2	0.020898
Myanmar	2015	1,440,000	2.7	0.000883
Philippines	2015	1,960,000	1.9	0.000643
Vietnam	2015	2,610,000	2.8	0.000941
Cambodia	2015	860,000	5.5	0.001825
Laos	2015	190,000	2.8	0.000923
Brunei	2015	58,230	14.8	0.004548

### 2.4.3 Control variables

To ensure the scientific nature of the study, it is necessary to control the factors that may affect the relationship between overseas Chinese and the investment possibilities of Chinese enterprises. According to the traditional location choice and regional economic literature, enterprises usually pursue the maximization of benefits and the minimization of costs when choosing locations. Therefore, the three variables related to the attractiveness of Southeast Asian countries are the following: (1) demand factors. Because one of the important reasons for enterprises to invest abroad is to seek and open up markets (De and Duanmu, 2012), the size of the market can reflect the size of demand; (2) supply factors, which are mainly related to production and operation costs, such as labor costs and the corporate tax rate (Fu and Wu, 2017); and (3) external economic factors. Table 3 displays the descriptive statistics of the main explanatory variables. To examine the multiple-collinearity problem, a correlation test of the explanatory variables is carried out (see Table 4).

**Table 3** Portfolio of the proposed variables in this study

Name	Introduction	Mean	SD
Number of overseas Chinese (Chinnum)	The number of overseas Chinese in a Southeast Asian country	3,761,823	3,615,877
Overseas Chinese communities (Chincomm)	If the number of overseas Chinese in Southeast Asia is more than 3437143, the value is 1. Otherwise, it is 0.	0.4	0.49
Ratio of overseas Chinese (Chinrate)	The number of overseas Chinese in a Southeast Asian country versus the total population of the country	0.14	0.18
Relationship density/tightness (Network)	The product of the proportion of overseas Chinese to the total population of country $i$ in year $t$ and the proportion of overseas Chinese to the total population of China in that year ( $t=2015$ )	0.004	0.006
GDP	GDP of a Southeast Asian country in 2015 (one billion USD)	243.81	246.11
Wage cost	Annual average wage of workers in a Southeast Asian country in 2015 (USD)	8973.6	9780.98
Corporate tax rate	Corporate tax rate for a country in Southeast Asia in 2015	22.35	3.72
Volume of trade	Total trade with China in 2000 (USD)	395,215.1	376293.8
Observations: 54,920	Investment 5492		



**Table 4** Correlation test of the independent variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
In Chinnum	1							
Chincomm	0.4745	1						
Chinrate	0.1823	-0.1301	1					
Network	0.1805	-0.1306	1	1				
In GDP	0.8793	0.3044	0.2089	0.2072	1			
In cost	0.0454	-0.1436	0.8434	0.8431	0.2064	1		
Tax	0.2173	-0.0187	-0.5314	-0.5335	0.2247	-0.4994	1	
In trade	0.8834	0.3214	0.3797	0.3780	0.9637	0.3603	0.0714	1

Note: LN stands for natural logarithms.

First, we address the demand factors. Chinese enterprises invest in Southeast Asia mainly to seek new markets and to exploit existing markets, so we choose economic variables related to the regional economic scale. The size of a regional economy is measured by its GDP, and the data are obtained from the World Bank's official website. Second, we address the supply factors. They are mainly related to the factors of production cost variables, including labor costs and capital costs. The Southeast Asian labor costs data for 2015 come from the Numbeo website, which has the world's largest urban and national related data resources. The capital costs are determined by the corporate tax rates of Southeast Asian countries in 2015, which are taken from the Global Economic Indicators website. External economic factors are used to control the attractiveness of countries with long-term trade cooperation with China by using the volume of trade between China and the Southeast Asian countries in 2000, which is taken from the *China Statistical Yearbook*.

### 3 Results

First, there is a positive correlation between the number of overseas Chinese and the location choices of China's outward investments.

Table 5 shows the results of the regression analysis of the mixed-logistic model. The results show that there is a positive and significant relationship between the number of overseas Chinese in a Southeast Asian country (rows 1 and 2) and the possibility of Chinese enterprises' FDI. The regression coefficient for InChinese is significantly positive, indicating that Chinese enterprises tend to choose countries with more overseas Chinese. The country with a large number of overseas Chinese means that the overseas Chinese network is more complex and closely linked with the local social network. It will be easier to obtain local information for foreign direct investments in countries with more overseas Chinese, which reduces the costs and investment risks. The regression coefficient of "Chincomm" is also significantly positive, indicating that Chinese enterprises' FDI is concentrated in countries with large overseas Chinese communities. Therefore, some scholars have found that the overseas Chinese network is of great significance to inward foreign direct investment in China (Gao, 2003; Amighini *et al.*, 2013). This study confirms that the overseas Chinese network also plays a positive and effective role in promoting the outward investments of Chinese enterprises.

**Table 5** Results of the mixed-logistic model for the location choices of Chinese corporate investments in Southeast Asia

	(1)	(2)	(3)	(4)	(5)
In Chinum	0.0774*** (−0.0431)		−0.391*** (−0.0973)		
Chincomm		0.197*** (−0.0475)	0.574*** (−0.106)		
Chinrate				5.294*** (−0.228)	
Network					159.9*** (−6.886)
In GDP	0.0212 (−0.0488)	−0.0601 (−0.0474)	−0.301*** (−0.076)	0.294*** (−0.0492)	0.294*** (−0.0492)
In cost	−0.326*** (−0.039)	−0.419*** (−0.025)	−0.774*** (−0.0919)	−1.377*** (−0.0562)	−1.377*** (−0.0561)
Tax	−0.108*** (−0.00528)	−0.106*** (−0.00536)	−0.104*** (−0.00535)	−0.0762*** (−0.006)	−0.0767*** (−0.006)
In trade	0.134** (−0.0627)	0.228*** (−0.0379)	0.685*** (−0.12)	−0.015 (−0.0424)	−0.015 (−0.0424)
Investments	5492	5492	5492	5492	5492
Observations	54920	54920	54920	54920	54920
Standard errors in parentheses	*** p<0.01, ** p<0.05, * p<0.1				

The same conclusion is confirmed by the relationships among the proportion of Chinese (Row 4), the relationship density (Row 5) and the possibility of Chinese enterprises' FDI. Therefore, we can conclude that the test results support hypothesis 1. In terms of the control variables, first, the supply factor is more important than the demand factor in the investment location choice of Chinese multinational enterprises in Southeast Asia. Second, Chinese enterprises are more inclined to invest in countries that have long-term trade relations with China, which shows that the external economy plays an important role in the location choices of Chinese enterprises' FDI.

Second, there is an increasingly significant relationship between the number of overseas Chinese and the location choices of China's outward investments.

The results of the model (Tables 6 and 7) show that the relationship between the possibility of Chinese enterprises' direct investment in Southeast Asian countries and the number of overseas Chinese is not gradually weakening but, rather, showing an increasing trend from 2001 to 2016. This result is contrary to the original hypothesis. To explore the reasons for this situation in depth, through literature review, we speculate that there may be three reasons. First, China's foreign direct investment was still in the embryonic state at the beginning of the 21st century, and there were only 2.7 billion USD of FDI flows in 2002. Nearly 40% of the 179 enterprises investing in Southeast Asia were state-owned enterprises (SOE). SOEs' outward investments are affected by other factors, such as politics and diplomacy, and they do not simply seek economic benefits. Therefore, they are not very sensitive

**Table 6** Regression results for Chinese corporate investments in Southeast Asia in different periods (1)

	(1)	(2)	(3)
	2001–2005	2006–2012	2013–2016
In Chinnum	–0.594 (–0.626)	–0.988*** (–0.167)	0.0152 (–0.126)
Chincomm	–0.107 (–0.655)	0.687*** (–0.177)	0.669*** (–0.139)
In GDP	0.27 (–0.478)	–0.159 (–0.125)	–0.451*** (–0.0998)
In cost	–1.113* (–0.593)	–1.320*** (–0.157)	–0.339*** (–0.119)
Tax	–0.220*** (–0.0326)	–0.144*** (–0.00835)	–0.0694*** (–0.00729)
In trade	0.649 (–0.765)	1.060*** (–0.201)	0.424*** (–0.156)
Investments	179	2280	3033
Observations	1790	22800	30330
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1			

**Table 7** Regression results for Chinese corporate investments in Southeast Asia in different periods (2)

	(1)		(2)		(3)	
	2001–2005	2001–2005	2006–2012	2006–2012	2013–2016	2013–2016
Chinrate	2.785** (−1.269)		5.102*** (−0.342)		5.631*** (−0.321)	
Network		83.28** (−38.21)		153.2*** (−10.3)		170.9*** (−9.718)
In GDP	0.653** (−0.306)	0.652** (−0.306)	0.678*** (−0.0772)	0.677*** (−0.0771)	−0.0048 (−0.0665)	−0.00511 (−0.0665)
In cost	−1.288*** (−0.299)	−1.283*** (−0.298)	−1.414*** (−0.0832)	−1.408*** (−0.0828)	−1.379*** (−0.08)	−1.385*** (−0.0801)
Tax	−0.227*** (−0.0388)	−0.227*** (−0.0388)	−0.123*** (−0.00985)	−0.124*** (−0.00985)	−0.0361*** (−0.00789)	−0.0363*** (−0.0079)
In trade	−0.181 (−0.263)	−0.181 (−0.263)	−0.322*** (−0.0654)	−0.322*** (−0.0654)	0.218*** (−0.058)	0.218*** (−0.058)
Investments	179	179	2280	2280	3033	3033
Observations	1790	1790	22800	22800	30330	30330
Standard errors in parentheses	*** p<0.01, ** p<0.05, * p<0.1					

to the attraction of reducing transaction costs and obtaining more information through overseas Chinese. Second, Southeast Asia is still dominated by developing countries. According to Meng (2008), the influence of overseas Chinese networks will be weakened with further innovation of information technology and the perfection of the legal system. Therefore, under the current situation that the general economic level of Southeast Asian countries is still

low and the legal system is yet not perfect enough, overseas Chinese networks can still play significant roles for more time. Finally, the result has something to do with the increasing influence of China and the rising social status of overseas Chinese in Southeast Asia. In 2014, Zhong Wanxue became the first overseas Chinese governor of the Jakarta Special Administrative Region. In 2014, the Malaysian Chinese Association and the Malaysian Democratic Party returned to the cabinet (Jia *et al.*, 2016). These achievements have expanded the social influence of overseas Chinese, and also showed the great potential of overseas Chinese in promoting economic development and outward investments in Southeast Asia.

Third, there is heterogeneity in the relationship between the number of overseas Chinese and the location choices of China's outward investments.

The influences of overseas Chinese networks on Chinese enterprises' FDI are different between different industrial departments and functional departments. In the industrial sector (as shown in Table 8), the number of overseas Chinese in the service sector (Row 2) has a more positive and significant impact on the outward investments of service enterprises than on the manufacturing sector (Row 1). Moreover, this conclusion is supported by both the number of overseas Chinese and the regional large-scale communities of overseas Chinese. This finding confirms Hypothesis 3 and also shows that overseas Chinese have played a greater role in providing local information and knowledge for Chinese enterprises to integrate into the local market. Chinese enterprises, on the one hand, often lack the advantages of ownership and some patent resources. On the other hand, the degree of service sector regulation in the Chinese market is constantly changing, which makes Chinese enterprises lack the corresponding experience in a mature market which is more competitive in developed countries. Ultimately, these pressures could make it more difficult for Chinese companies in the service sector to overcome the operational complexity in unfamiliar markets. China's manufacturing enterprises have the advantages of acquiring cheap labor and using cost-effective production technologies in the host country. Although these advantages do not

**Table 8** Variation of the location choices in terms of industrial structure and corporate function

	(1) (Manufacturing)	(2) (Services)	(3) (Production)	(4) (Upstream and downstream )
In Chinnum	−0.017** (−0.115)	−0.708** (−0.182)	0.222* (−0.193)	0.493*** (−0.113)
Chincomm	0.0811* (−0.123)	0.922*** (−0.202)	−0.212 (−0.202)	0.719*** (−0.124)
In GDP	−0.0876 (−0.0932)	−0.289** (−0.144)	0.362** (−0.159)	−0.419*** (−0.0878)
In cost	−0.720*** (−0.105)	−0.803*** (−0.179)	−0.761*** (−0.175)	−0.771*** (−0.108)
Tax	−0.0855*** (−0.00724)	−0.131*** (−0.00833)	−0.124*** (−0.0123)	−0.0990*** (−0.00601)
In trade	0.197 (−0.142)	1.050*** (−0.226)	−0.24 (−0.24)	0.848*** (−0.139)
Investments	3017	2475	1152	4340
Observations	30170	24750	11520	43400
Standard errors in parentheses	*** p<0.01, ** p<0.05, * p<0.1			

eliminate the production costs in the unfamiliar host country, it partially compensates for the competitive disadvantage of Chinese enterprises. Therefore, for manufacturing firms, cheaper labor and cost-effective production may be more important in standardized product competition than the need for access to local information through overseas Chinese networks.

As for the different functional departments of Chinese enterprises, the results show that the number of overseas Chinese has a more positive and significant impact on the upstream and downstream investments than on the production sector. The correlation analysis indicates that the upstream and downstream enterprises related to management, sales and after-sales service need more help from overseas Chinese in the process of FDI, highlighting the relative importance of overseas Chinese groups in the decision-making of Chinese enterprises investing in information-intensive and knowledge-intensive industries and confirming Hypothesis 4.

#### 4 Conclusions and discussion

This paper attempts to reveal the relationship between the overseas Chinese ethnic networks and the outward investments of Chinese enterprises using regression analysis with a mixed-logistic model. Through the study of Southeast Asia, two main findings are obtained.

First, there is a positive and significant relationship between the number of overseas Chinese in Southeast Asia and the outward investments of Chinese enterprises. This relationship implies that overseas social networks can positively promote the overseas investments of home enterprises, which is consistent with previous studies. In most Southeast Asian countries, despite the large numbers of overseas Chinese, they are still a minority group. To survive, the overseas Chinese tend to unite, actively use various resources, and strive for more economic and political rights and interests (Meng, 2008). Over time, a complex network of relations has been formed. This relationship network is also important for promoting the direct investments of Chinese enterprises. Chinese society is different from European and American societies. It is a typical 'relational' society (Hsu and Saxenian, 2000). When enterprises invest overseas, they can reduce the 'search costs', the risks and the uncertainty of the transaction by choosing areas where Chinese social networks are more abundant. In areas where the legal environment is not perfect, they can reduce the execution costs of the contract and thus improve the efficiency of business operation; so, these social networks can become important factors that affect the investment decisions of enterprises.

Second, we find that this relationship is dynamic. With the changes of the internal and external conditions, the influence of overseas Chinese social networks on the location choices of FDI by Chinese enterprises will also change. However, we think that this relationship will weaken over time under normal circumstances. This paper finds that the role of overseas Chinese in promoting outward investments has not weakened over time. From the analysis of different industries and functional departments, it is found that Chinese multinational enterprises are more inclined to locate in areas with large numbers of overseas Chinese for information-intensive and knowledge-intensive industries. This relationship is more significant in the business services sector than in the manufacturing sector. These features reflect the preferences of Chinese enterprises in upstream and downstream manufacturing segments for accessing local information and resources when making location choices.

The contribution of this paper is to affirm the role of social networks in the globalization

of multinational enterprises. Based on the above conclusions, three specific recommendations for China are proposed. First, when enterprises are making investment decisions or the state implements the “Going out” strategy, we need to pay sufficient attention to the overseas Chinese networks. The networks of overseas Chinese can effectively reduce the informal institutional differences between the host country and China, reduce the transaction costs, and smooth the localization process of China’s outward investments. Second, in the context of the Belt and Road Initiative, according to the proportion of overseas Chinese, countries like Singapore, Malaysia, Indonesia and other Southeast Asian countries should have priority for outward investments. Chinese enterprises can increase their investments in them and promote economic co-development (Zou and Liu, 2016). Third, more relevant policies should be developed to strengthen and facilitate the international cooperation between Chinese entrepreneurs, overseas Chinese communities, which is of great significance to the expansion of Chinese networks and the development of Chinese enterprises’ outward investments.

The main limitation of this paper is that it uses the national-level statistical data and still lacks of a micro-level examination of the location choices of foreign investments. In addition, although this paper has proved the correlation between the overseas Chinese networks and the Chinese outward investments, there is a lack of empirical case studies to explore the mechanism in detail. These two problems remain to be further studied and verified in the future.

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