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Confucius Institute, Belt and Road Initiative, and Internationalization

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ABSTRACT

In this paper, we study the role of Confucius Institute in supporting internationalization of Chinese enterprises. Employing a panel dataset containing 66 Belt-Road countries and 75 non Belt-Road countries from 2006 to 2017, we find that Confucius Institute has had a positive effect on Chinese CMA in general and such an effect is stronger in Belt-Road countries, especially after the Belt and Road Initiative was launched in 2013. Our results suggest that the earlier the host country joins the Belt and Road Initiative, the stronger is the interactive effect of CI and Belt and Road Initiative. Moreover, we show that Confucius Classroom, a related program also positively affects the Chinese CMA in the context of Belt and Road Initiative. These findings are robust to controlling for the endogeneity of reverse causality and sample selection bias.

1. Introduction

It has been increasingly recognized that home country institutions and policies play crucial roles in internationalization by stimulating the foreign investment (Cuervo-Cazurra, 2011; Estrin, Meyer, Nielsen & Nielsen, 2016; Cuervo-Cazurra, Luo, Ramamurti, & Ang, 2018; Yan, Zhu, Fan, & Kalfadellis, 2018; Li, Liu & Qian., 2019). During the process of internationalization, the significant impact of cultural distance should not be neglected (Guiso, Sapienza, & Zingales, 2006; Lee & Peterson, 2000; Lee, Shenkar, & Li, 2008; Xu & Shenkar, 2002). This also applies to cross-border mergers and acquisitions (CMA, hereafter), a popular form of foreign investment strategy in recent years (Morosini, Shane & Shign, 1998; Lee & Peterson, 2000; Teerikangas & Very, 2006; Lim, Makhija, & Shenkar, 2016). Home institutions and cultural compatibility are considered as two important determinants on internationalization in the literature, but little effort has been made to connect these two strands of research. In this paper, we study the role of cultural institutes as a factor of CMA by Chinese enterprises, and investigate how this role was affected by the introduction of the Belt and Road Initiative. By doing so, we seek to shed new light on the internationalization of firms from the world's largest emerging economy and a major foreign investor over the past decades.

Over the past years, the Chinese government has successively initiated several initiatives such as the Going Out policy and the Belt

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and Road Initiative, encouraging investment abroad. Committing funding for massive investments in the infrastructure and the transportation network along the Belt (overland) and Road (maritime routes), the Belt and Road Initiative was launched in 2013. Considered as a new home institutional landscape of China by many scholars (for example, see Cheng, 2016; Huang, 2016; Li et al., 2019), it substantially increases the Chinese outward FDI (Du & Zhang, 2018), which has helped propel the wave of Chinese CMA. Nevertheless, Chinese CMA activities are certainly subject to the potential influence of the home-host culture difference, a major type of informal institutional difference (Xu & Shenkar, 2002). Such national cultural difference can have a negative effect on the CMA as it can lead to raised worker turnover rate, low job satisfaction, employee resistance (Lee, Kim & Park., 2015), higher cross-border management cost (Du, Lu, & Tao, 2012), shallow corporate social responsibility, weak organizational commitment and higher management cost (Ahern, Daminelli, & Fracassi, 2015). That is to say, although the Belt and Road Initiative can potentially bring sizable benefits to the world economy, its progress has so far been limited by major challenges such as misunderstanding and inefficient cooperation due to institutional and cultural distances (Huang, 2016; Liu, Lu, & Wang, 2018; Zhai, 2018). Therefore, popularizing the Chinese culture overseas and bridging over the cultural distance between China and the member countries should have received greater importance in the Belt and Road Initiative (Liu et al., 2018).

A growing number of empirical studies focus on the role of cultural institutes. For example, cultural institutes such as the British Council and Goethe-Insitut can bridge the cultural gap between home and host countries via cultural exchanges (Lien & Lo, 2017). Similarly, the Confucius Institute (CI, hereafter), a non-profit public educational organization set up by the Ministry of Education of China, has the potential to mitigate the cultural incompatibility that the Belt and Road Initiative experiences. Since the establishment of the first CI branch in South Korea in 2004, the CI has had beneficial effects in terms of tourism, trade and foreign direct investment. For example, Lien, Oh, and Selmier (2012) use the gravity model with over 100 countries from 1996 to , 2008 and show that the CI has a positive effect on both trade and outward FDI. They ascribe such positive effect to the cultural and linguistic familiarity generated by the CI. Similarly, Lien and Co (2013) show a positive effect of CI by studying the trade between the United States and China. They find that there is a positive association between the exports from the United States and the number of CI branches. An additional branch of CI set up in a state from 2006 to 2010 translates to approximately 5% increase of exports. Akhtaruzzaman, Berg, and Lien (2017) also find that the CI has a positive effect on Chinese foreign investment in Africa. They suggest that CI is an effective instrument to China's soft power without the motivation of resource seeking.

However, the literature has thus far left a significant gap in our understanding of the relationship between cultural institutes and home-country policies in the context of internationalization. To bridge this gap, we conduct an analysis on the basis of a panel data set covering 66 Belt-Road countries and 75 non Belt-Road countries from 2006 to 2017. To preview the findings, we first lend credence to the current literature by showing a positive effect of culture institute on internationalization. The key finding to emerge from our research is that the impact of culture institute has been strengthened by the BRI, which further promotes the internationalization of the home country.

Two main contributions are offered in our study. On the one hand, we contribute to the ongoing studies in broader literature on home country's institutions on its internationalization (Cuervo-Cazurra, 2011; Meyer et al., 2014; Estrin et al., 2016; Cuervo-Cazurra et al., 2018; Yan et al., 2018; Li et al., 2019) from the culture perspective (Guiso et al., 2006; Lim et al., 2016; Fidrmuc & Fidrmuc; 2003; Xu & Shenkar, 2002) by investigating the role of cultural institute (Lien & Co, 2013; Lien et al., 2012, 2014, 2017; Lien & Co, 2013). On the other hand, we join the growing literature on the influence of the Belt and Road Initiative by examining the function of CI, speaking to the recent evidence that underscores the importance of bilateral compatibility (Cheng, 2016; Du & Zhang, 2018; Huang, 2016; Liu et al., 2018; Zhai, 2018).

The rest of the paper is organized as follows. Section 2 provides the literature review. Section 3 summarizes the data and describes the methodology. Section 4 discusses the results. Section 5 concludes.

2. Literature review

With the advancement of trade liberalization and globalization, the intensity of CMA activities has increased from the mid-1990s onwards and has continued at a remarkable pace among not only developed economies but also developing countries. This has helped generate considerable interest in CMA in the literature, not only in the field of economics and finance, but also in international business, marketing and strategic management. Among all the research in this field, one main stream of the literature has been focused on these questions: What drives the waves of CMA? And what are the determinants of CMA?

CMA is generally considered as a micro level decision or behavior while Harford (2005) ascribes the waves of CMA to the macro-level capital liquidity. He argues that the assemblage of industrial level liquidity finalizes the aggregate-level mergers wave by examining and comparing both neoclassical and behavioral models. Still, not only the liquidity matters, but also the structure in terms of capital does. Companies with higher leverage and poorer accounting quality are less likely to undertake acquisitions but more likely to be the targets (Erel, Liao, & Weisbach, 2012; Hu & Yang, 2016; Rossi & Volpin, 2004). In the case of China, Wu and Xie (2010) show that the pre-acquisition experience and state-owned share has positive effect on the CMA performance while their results do not provide evidence that either the corporate age or the cash flow is influential in this sense.

Admittedly, there are numerous answers from the financial economics studies. Besides, a number of researchers have also reported some other CMA determinants in different perspectives. Lebedev, Peng, Xie, and Stevens (2015) provide an elaborate review on the mergers and acquisitions (M&A) literature for both developed economies and emerging economies based on more than 100 papers lately published in management, economics, finance, accounting and sociology journals. Several key factors that are perceived as the main driving forces behind the M&A are listed, namely, the mode of entry, market power, previous M&A experience, firms' real options and network characteristics, country characteristics, institutional factors and other minor yet interesting factor such as nationalistic sentiments and national implications. Xie, Reddy, and Liang (2017) review over 250 articles in international business, strategic management, finance and economics journals in the past three decades. Macroeconomic and financial market environment, institutional and regulatory environment, political environment and corruption, tax and taxation environment, accounting standards and valuation guidelines, cultural and geographical environment (in the host

countries) are shown to be decisive towards the CMA activities as this systematic review suggests.

Among these factors, institutional environment in host countries is considered to be of essentially importance. For example, a large and growing body of literature has investigated how protection of investments in the target countries affects the CMA activities. An essential aspect of protection of CMA is shareholder protection. It has been argued that the countries with high-level shareholder protection polices attract more M&A activities (Rossi & Volpin, 2004). Using a sample of 49 major countries from 1990 to 2002, they find that the investments on M&A are from regions with poorer protection to ones with greater protection and argue that the CMA helps improve the cross-country corporate governance regimes. Stronger protection in host countries encourages the CMA, while policy uncertainty deters it. However, the causality between the CMA and shareholder protection is yet to be determined. Following Katelouzou and Siems (2015), Ahiabor, James, Kwabi, and Siems (2018) suggest that the CMA positively affect the shareholder protection. In line with these studies, Bonaime, Gulen, and Ion (2018) demonstrate that policy uncertainty can affect the CMA activity in a negative way. Following the uncertainty policy index developed by Baker, Bloom, and Davis (2016), they examine four conceivable channels through which policy uncertainty could affect CMA, including real options, interim risk, empire-building and risk management. Their findings also suggest that the influences of different types of policy uncertainty differ as the uncertainties from the monetary policy, fiscal policy and financial regulation have the worst impact on CMA.

As a watershed in forming inclusive and extractive nation's institutions, protection for property right has been considered as the fundamental factor to sustain (long-term) economic development (Acemoglu, Johnson, & Robinson, 2001, p. Acemoglu et al., 2005). Similarly, Alimove and Officer (2017) set up a sample of over 67,375 CMA in 50 countries from 1985 to 2012 and find that the host countries with higher intellectual property rights (IPR) protection experience more CMA. Interestingly still, this effect is larger for the less developed countries that tend to have poor property right protection. These arguments are supported by Feito-Ruiz and Menéndez-Requejo (2011) who analyze the legal and institutional environment's impact on the shareholders' valuation of CMA. Their finding rests on 469 M&A of listed firms in 40 countries over the period of 2002–2006 and shows that the countries with better legal and institutional protection create higher value on CMA announcements whereas the countries with poorer protection have lower value.

Formal protection, enshrined in countries' legal systems and constitutions, is a key factor of CMA. Nevertheless, informal and "softer" protection, based on cultural differences, has also drawn sufficient attention in the literature. Among various studies, Beugelsdijk and Frijns (2010) ascribe the international investment allocation bias to cultural differences. Their evidence is based on more than 20,000 mutual funds across 26 countries in 1999 and 2000 and shows that the cultural distance affects the amount of investment but it does not affect the decision to invest overseas. In a recent study with longer panel from 1991 to , 2008, Ahern et al. (2015) report a negative effect between the cross-country difference (in terms of the value of trust, hierarchy and the individualism) and the volume of CMA. In particular, the larger (or smaller) volume of CMA is caused by the smaller (or greater) cultural distance. This argument is supported by Lim et al. (2016) who study the relationship between cultural distance and the target premiums in a sample of 1690 CMA deals from 1990 to 2009 involving 45 countries as deal counterparties to the United States. They point out that the effect of cultural distance on the CMA is asymmetric with emphasis on the importance of cultural familiarity. Furthermore, Li, Li, and Wang (2016) assess 367 overseas acquisitions by Chinese firms from 2000 to 2011. They find that the firms with greater absorptive capacity are better able to overcome the difficulties driven by the cultural differences and argue that cultural familiarity is the foremost issues that should be stressed to ensure the success of CMA.

From a different perspective, according to the liability of foreignness (LOF) theory, historical ties between countries that have extensive influence on economic development, trade, FDI and even on the labor market of the host countries (Acemoglu et al., 2001; Head, Mayer, & Ries, 2010; Kedia & Bilgili, 2015; Wang, Fidrmuc, & Tian, 2020). The potential impacts of the historical legacy are not only on the changes of legal and institutional system, but also on the individual behavior aspects such cultural familiarity, trust towards different cultures and the personal emotions or attitudes towards foreigners. The investigation on the relationship between historical ties and the CMA has been motivated as a result. For instance, Chowdhury and Maung (2018) conceive a sample of 29,496 completed CMA in 177 host countries from 2001 to 2015. As suggested by their results, CMA between countries that once were colonies and colonizers is affected by their historical relationship. Particularly, the number of CMA is either positively affected by the affable relationship or negatively affected by the hostile relationship.

Yet, the importance of cultural familiarity is derived by a major unsettled question in the literature: Is the cultural difference[a] beneficial or detrimental (Beugelsdijk, Slangen, Masland, & Onrust, 2014; Lee et al., 2008; Stahl and Voigt, 2008; Slangen, 2006)? This inconclusive debate thus far is basically the essence of the national cultural difference that allows the coexistence for both the positive and the negative sides. The main perception of the negative effect of the cultural difference is the culture clash that leads to certain levels of stress, anxiety, hostility and annoyance[b] in the process of CMA (Lee, Kim, & Park, 2015) whereas the positive aspect of cultural differences can be primarily attributed to learning[c]. Vermeulen and Barkema (2001), for example, argue that cross-cultural differences can be constructive as they trigger the inter-organizational learning, enlarge the firms' knowledge bases and keep the firms vigorous in the process of CMA. Besides, cultural learning opportunity generated in the CMA creates cultural familiarity and expands the firms' absorptive capacity, which in turn positively affects back the CMA (Lien et al., 2017).

[a] There are mainly two cultural differences in the literature, namely, the national cultural difference and the organizational cultural difference. However, in the context of CMA, the cultural difference mainly refers to the former one as national cultural difference more affects the CMA while the organizational cultural differences more affect the DMA (domestic mergers & acquisitions) (see Morosini et al., 1998; Larsson & Lubatkin, 2001; Lee et al., 2015 for detail explanations).

[b] These culturally driven sentimental issues further cause negative working attitudes, internal turbulences and employment resistance (Lee et al., 2015).

[c] Here, the learning includes at least skill learning and cultural learning, which is a prominent activator for the internationalization (Volet & Ang, 1998; Cuervo-Cazurra et al., 2018).

Further, the greater cultural difference between the home and host countries, the more valuable the cultural learning is. The process of learning is more important but more arduous when CMA takes place between two culturally-distant countries. However, such CMA can generate higher abnormal returns once the cultural learning succeeds (Xu, 2017). In a similar vein, Meyer and Thaijongrak (2013) propose the important signification of learning in the evolution of MNEs and the process of CMA. By using the internationalization process model to assess its usefulness, they illustrate this idea with analysis on 6 Thai MNEs case studies.

As an official cultural institute bridging the cultural gap, CI can affect the Chinese CMA activities based on following ways. First, the CMA activities are negatively associated with home-host countries' cultural difference and shortening the cultural distance helps increase CMA (Lee at al., 2008); Besides, learning is beneficial to the CMA inasmuch as it not only creates skill learning but also cultural learning (Vermeulen & Barkema, 2001; Volet & Ang, 1998). These two lessons tally with the purpose of the CI as its primary objective is to promote Chinese language and culture globally and establish better international relationships (Akhtaruzzaman et al., 2017; Lien et al., 2012).

Second, as a non-profit educational institution, the CI promotes the spread and sharing of knowledge (Li, Mirmirani & Ilacqua, 2009; Lien & Co, 2013). It attracts distinguished scholars and professors from different countries. Local media's reporting on such events helps build up trust towards the Chinese and deepen the recognition of Chinese enterprises. The CI, therefore, not only provides important communicative platform and opportunities for strengthening the mutual cooperation in business, but also elevates the image of China. Accordingly, the presence of CI in a country has a positive direct effect on the Chinese firms' CMA activities by lowering the level of information asymmetry that impedes the business cooperation.

Third, as a major carrier of culture, language is important for cultural learning because different cultures can only be better understood by learning their languages (Lazear, 1999). Numerous studies have shown that the language has a certain impact on various economic aspects including trade, FDI and CMA (Chen, 2013; Fidrmuc & Fidrmuc, 2016; Lien et al., 2012; Metliz, 2008). The main purpose of the CI's establishment is to provide Chinese language (*Hanyu*) courses. In recent years, *Hanyu* learning has become more and more popular since China's fast-growing development has created so many business opportunities that mastering Chinese language skills becomes necessarily important for business facilitation. The CI presence lowers the cost of *Hanyu* learning and further popularizes it. Before the process of CMA, cultural frictions in interactions may generate misunderstanding or misevaluation of the targets or the potential synergies (Joshi & Lahiri, 2014; Li et al., 2018), which could potentially cause the CMA to fail. *Hanyu* learning lowers the language barrier which in turn can reduce the cultural frictions during the negotiation of the mergers and acquirers. Besides, in the process of *Hanyu* learning, potential mergers will imperceptibly be affected by the Chinese culture and a close culture affinity will be developed. Therefore, The CI can have a positive direct effect on the Chinese firms' CMA activities by shortening the linguistic distance that hampers business communications.

In addition, as a comprehensive platform of Sino-foreign cultural exchange, the CI has been shown to have culture spillover effects to strengthen the international relationships between China and other countries (Li et al., 2009). These spillovers effects are not only limited to boosting the trade and Chinese OFDI towards the host countries where the CI locates (Lien et al., 2012), but also on other aspects. For example, Lien and Miao (2018) find a positive relationship between the CI presence and the number of foreign students studying in China. They explain this effect via the culture spillover channels such as CIs' presenting Chinese elements to local communities and accustoming them to Chinese culture, providing consultation service to the local communities and organizing regular activities which attract the local communities. These cultural spillovers also apply to the CIs' influence on the booming international tourism to China (Lien et al., 2014; Lien et al., 2017).

In studying what drives the CMA, the role of policies should not be neglected. The government subsidy, financing policy and resource allocation can have a direct impact on the investment strategy and decision of the investors (Cuervo-Cazurra, 2011; Estrin et al., 2016; Haveman, Jia, Shi, & Wang, 2017). Based on this framework, the influence of Chinese investment in the Belt and Road Initiative has drawn increasing attentions. Zhai (2018) reports that in 2015, two years after the Belt and Road Initiative was introduced, Chinese outward direct investment grew to 145.7 billion USD and rendered China a net direct investor for the first time. Du and Zhang (2018) adopt difference-in-differences approach and find that the number of Chinese CMAs increases significantly after the Belt and Road Initiative, especially in the Belt-Road countries. Using a sample of Chinese firms in Xinjiang Uygur autonomous region, Li et al. (2019) also show that the Belt and Road Initiative provides Chinese firms with strong incentives to invest abroad.

Drawing on the framework of the existing literature discussed above, we seek to advance our understanding of the nexus of home institution, cultural institute and CMA by examining how CI affects the CMA in the context of Belt and Road Initiative in this study. Expectedly, the role of CI should be strengthened after the Belt and Road Initiative because one of main objectives of Belt and Road Initiative is also to promote the bilateral cultural compatibility in member countries (Cheng, 2016; Huang, 2016; Liu et al., 2018). Popularizing Chinese culture to shorten the cultural gap, CI can in turn serve as a pioneer towards the success of the Belt and Road Initiative. In specific, we can expect that the influence of CI is stronger in Belt-Road countries than non Belt-Road countries. The impact of CI is more pronounced in Belt-Road countries and it can also be stronger in non Belt-Road countries due to the policy externalities after the Belt and Road Initiative.

3. Data and methodology

3.1. Data

To test these hypotheses, we conduct a comprehensive panel dataset pertaining to 66 Belt-Road and 75 non Belt-Road countries from 2006 to 2017. The data are mainly from multiple sources, namely, the Chinese Ministry of Foreign Affairs for the information about the Belt and Road Initiative, the WIND database for the Chinese overseas CMA, and the CI data from *Hanban* official website. We also rely on

Table 1
The list of Belt-Road countries by continents up to 2017.

Region	Country
Asia	Afghanistan, United Arab Emirates, Azerbaijan, Pakistan, Palestine, Bhutan, East Timor, Philippines, Georgia, Kazakhstan, South Korea, Kyrgyzstan, Cyprus, Cambodia, Qatar, Laos, Lebanon, Maldives, Malaysia, Burma, Bahrain*, Mongolia, Bangladesh, Nepal, Saudi Arabia, Sri Lanka, Tajikistan, Thailand, Brunei, Uzbekistan, Singapore, Armenia, Yemen, Iraq, Iran, Israel, India, Indonesia, Vietnam
Europe	Albania, Estonia, Belarus, Turkey, Bulgaria, Poland, Bosnia and Herzegovina, Russia, Montenegro, Czech Republic, Croatia, Latvia, Lithuania, Romania, Macedonia, Moldova, Serbia, Slovakia, Slovenia, Ukraine, Greece, Hungary
Africa	Egypt, Madagascar, Morocco, South Africa
North America	Panama
Oceania	New Zealand

Source: Chinese Ministry of Foreign Affairs.
Note: * not in sample.

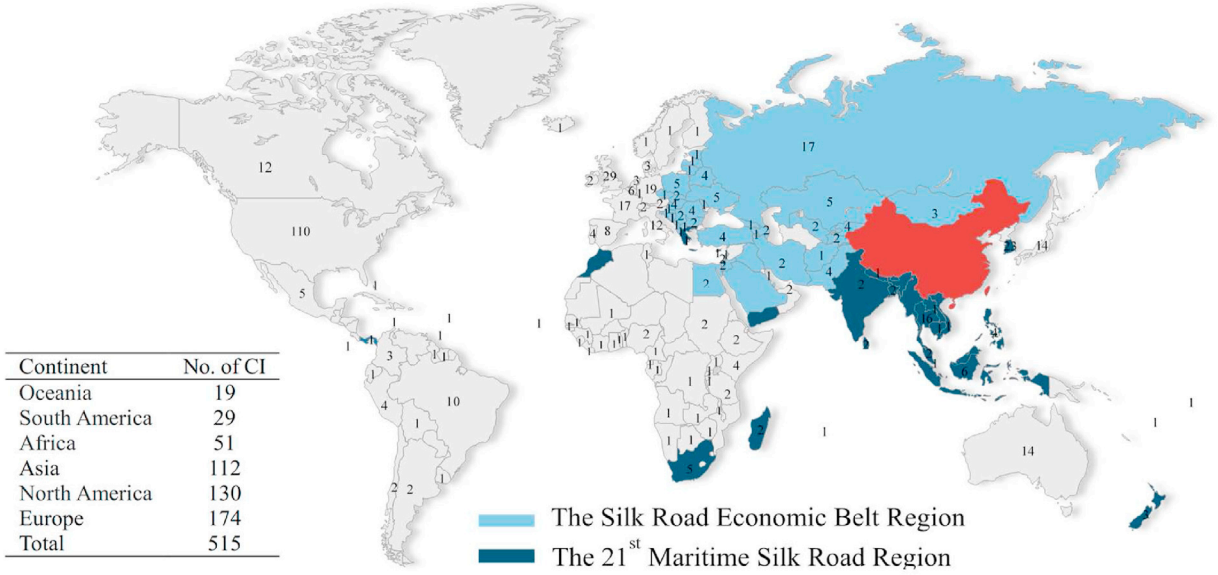

Fig. 1. Distribution of CI (2006–2017) under the Belt-Road network (up to 2017).

world development indicators for the economic characteristics for the sample countries. Table 1 lists the Belt-Road countries by continents.[d] Fig. 1 depicts the distribution of CI under the Belt-Road network. The supplementary information is in the appendix where Table A shows the number of CI and the number of Chinese CMA activities in both Belt-Road countries and non Belt-Road countries.

The Chinese firms' CMA transaction data including both the announced CMA data and accomplished CMA data are sampled from the WIND. It is a database that has a collection of extensive data covering 15 macro concepts such as national accounts, foreign trade, banking, securities markets, employment and wages, mergers and acquisitions, and fixed-asset investment, etc. from both macro and firm level, which has been widely used in academia and industry. In particular, we extract the sample in accordance with the following rules. First, the headquarters of the acquirer companies that have been selected are located solely in mainland China; Second, the companies in the financial industry have been excluded due to their higher heterogeneity compared to other industries; Third, the CMA with "rumor" transaction status have been excluded; Fourth, the tax haven target countries[e] have been excluded; and 5, the missing values have been excluded. Fifth, Bahrain has been excluded due to data unavailability.

Fig. 2a shows the trend of Chinese CMA including the number of announced CMA and accomplished CMA in the Belt-Road countries from 2006 to 2017. Starting in 2006, there were only 2 CMA that took place and the numbers have been slightly increasing and fluctuating after that. This has not changed until 2013 when the Belt and Road Initiative started. Since then, the number has been growing dramatically until 2016 with an average growth rate of 31.9%. As a comparison, the trend of Chinese CMA in non Belt-Road

[d] In Table 1, we list all the Belt-Road countries from the official website of Chinese government. However, as an anonymous referee point out, countries like New Zealand, South Korea and Greece should not be listed as Belt-Road countries. Despite such ongoing argument, excluding these three countries in the Belt-Road samples makes no significant changes to the empirical results given that our empirical study is based on a global comprehensive dataset.

[e] They are the Cayman Islands, the British Virgin Islands, the Bermuda Islands and the Jersey Island.

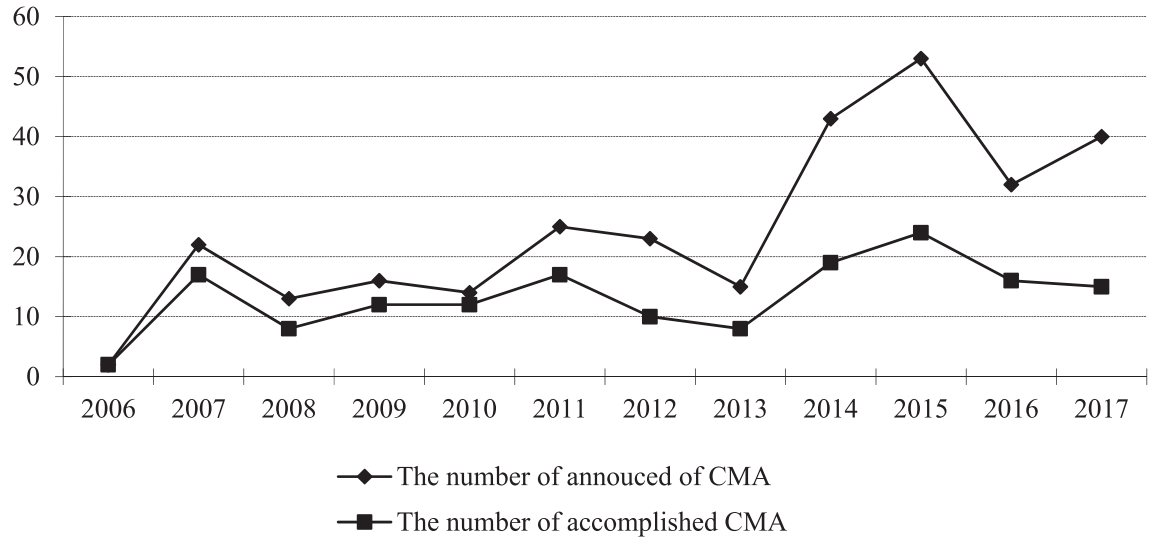

Fig. 2a. The Chinese CMA in Belt-Road countries from 2006 to 2017.
Source: The authors' calculation based on WIND.

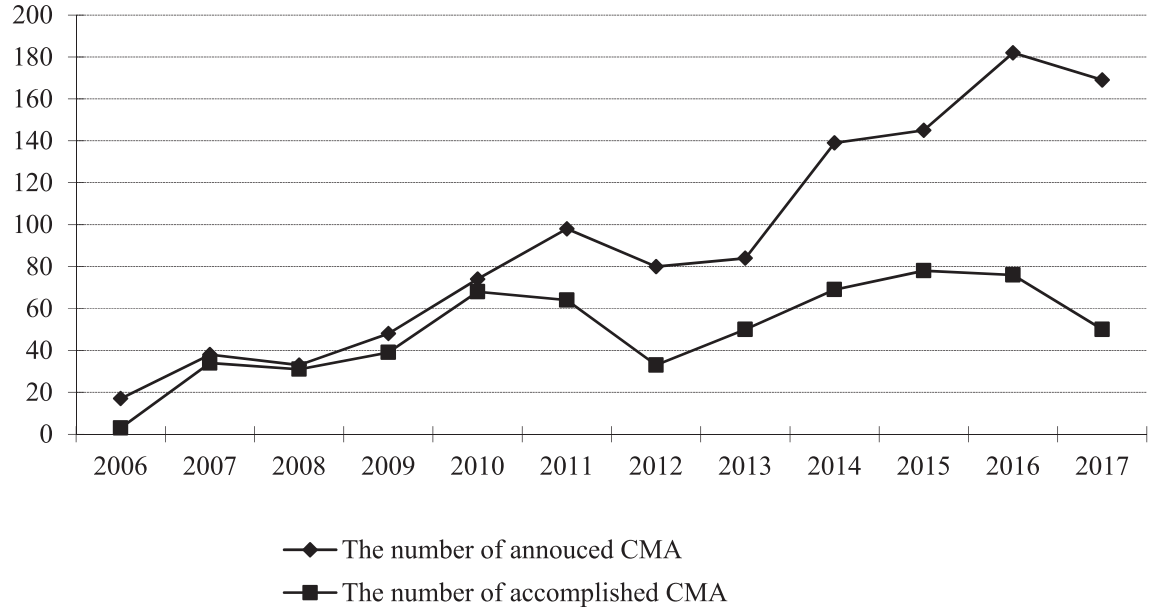

Fig. 2b. The Chinese CMA in non Belt-Road countries from 2006 to 2017.
Source: The authors' calculation based on WIND.

countries is shown in Fig. 2b.

Table 2a and Fig. 3a summarize the Chinese firms' overseas CMA activities in different regions and list the top ten target countries in Belt-Road countries from 2006 to 2017. As shown in Fig. 3a, the main target countries are located in South-east Asia, East Asia, East Europe and Africa. The CMA is mostly taken place in South-east Asia during this period, with 41.61% of the total announced CMA and 23.83% of the accomplished CMA. However, there is no CMA in North America, which contains only one potential target country, Panama. The case in non Belt-Road countries is shown in Table 2b and Fig. 3b as a comparison. The number of announced CMA and accomplished CMA in United States has taken the largest portion, with 32.97% and 29.58% respectively.

3.2. *Empirical strategy*

After Anderson (1979) first employed the gravity model to study international trade, this model has been used and developed in

Table 2a
Top ten targets for Chinese CMA in Belt-Road countries from 2006 to 2017.

Target country	Number of announced CMA	Percentage	Number of accomplished CMA	Percentage
Singapore	65	21.81%	38	12.75%
South Korea	52	17.45%	25	8.39%
Russia	26	8.72%	13	4.36%
South Africa	19	6.38%	9	3.02%
Thailand	16	5.37%	12	4.03%
Indonesia	16	5.37%	9	3.02%
New Zealand	13	4.36%	5	1.68%
India	10	3.36%	8	2.68%
Vietnam	10	3.36%	5	1.68%
Cambodia	8	2.68%	3	1.01%

Source: The authors' calculation based on WIND.

Table 2b
Top ten targets for Chinese CMA in non Belt-Road countries from 2006 to 2017.

Target country	Number of announced CMA	Percentage	Number of accomplished CMA	Percentage
United States	365	32.97%	176	29.58%
Australia	121	10.93%	70	11.76%
Germany	94	8.49%	57	9.58%
United Kingdom	89	8.04%	44	7.39%
Canada	85	7.68%	50	8.40%
Italy	69	6.23%	46	7.73%
Japan	52	4.70%	28	4.71%
France	34	3.07%	20	3.36%
Netherland	28	2.53%	13	2.18%
Brazil	27	2.44%	15	2.52%

Source: The authors' calculation based on WIND.

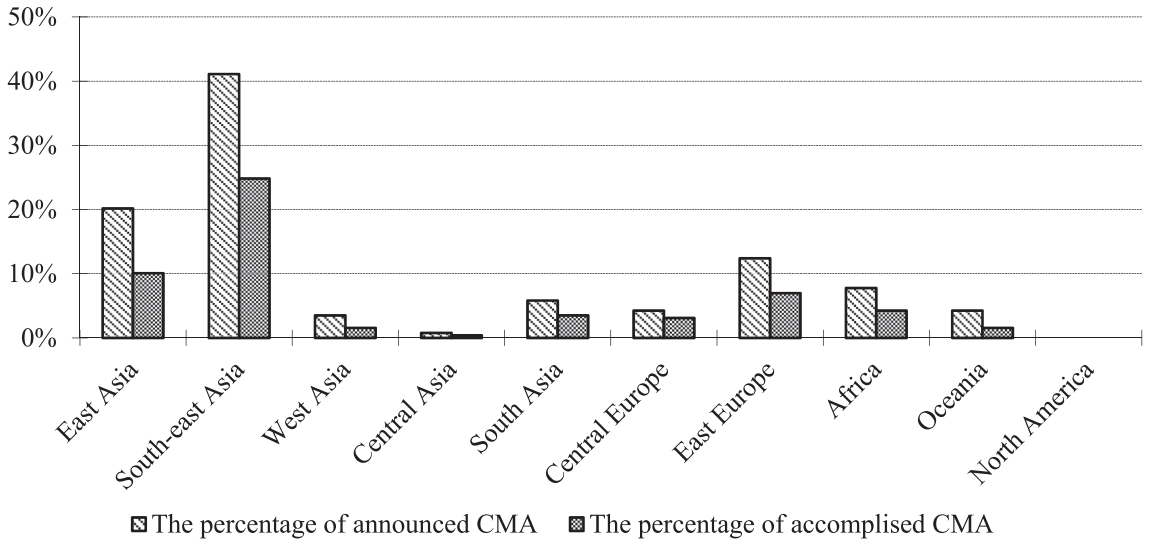

Fig. 3a. The percentages of Chinese CMA in Belt-Road countries from 2006 to 2017.
Source: The authors' calculation based on WIND.

many subsequent studies, especially in international trade, overseas investment and international tourism (for example, see Cheung & Qian, 2009; Lien et al., 2012; Lien et al., 2014). The gravity model has been widely used also in the CI studies (Akhtaruzzaman et al., 2017; Lien et al., 2017; Lien & Lo, 2017).

We adopt a modified version of the gravity model. Because the zero values of CMA in some observations can lead to sample selection bias, we use two empirical approaches to solve this issue. First, we follow relevant studies that take log after adding 1 to the number of CMA (for example, see Lien et al., 2012; Lien & Lo, 2017; Lien et al., 2017; Lien & Miao, 2018). The model is thus specified as follows.

$$\ln(CMA_{it}+1)=\alpha_0+\alpha_1 CI_{it-1}+\beta \boldsymbol{X}_{it}+\delta_t+\varepsilon_{it} \quad (1)$$

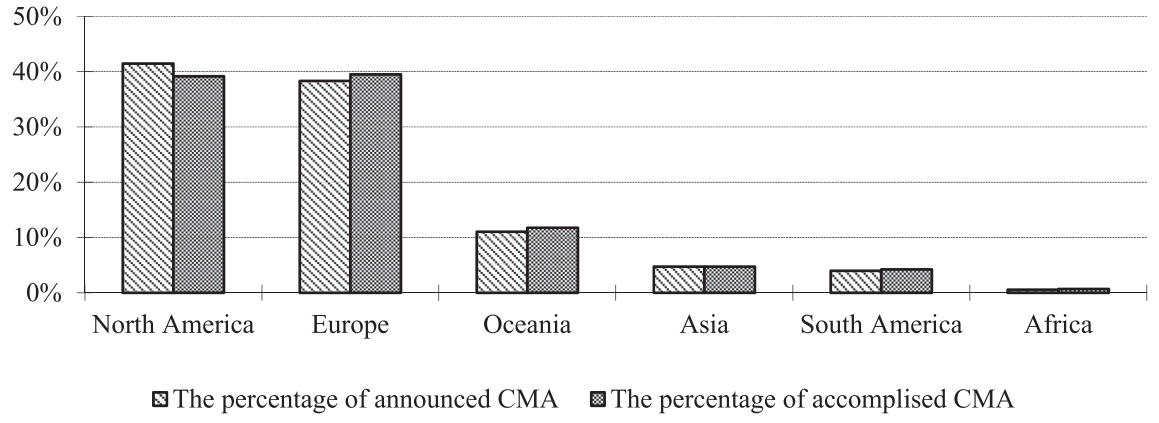

Fig. 3b. The percentages of Chinese CMA in non Belt-Road countries from 2006 to 2017.
Source: The authors' calculation based on WIND.

Second, we adopt the Poisson pseudo maximum likelihood (PPML) estimator proposed by Silva and Tenreyro (2006) that can address the issue with the presence of heteroscedasticity and the problem of selection bias caused by the zero values of the dependent variable, which has been also used in other empirical studies (for example, see Lien et al., 2017; Akhtaruzzaman et al., 2017) Therefore, we also adopt the PPML estimation, which estimates the following form.

$$CMA_{it} = exp[\alpha_0 + \alpha_1 CI_{it-1} + \beta \boldsymbol{X}_{it}]\pi_{it} \tag{2}$$

where CMA_{it} is the number of CMA in target country i in year t; CI_{it-1} is the number of CI lagged by one year. It takes up to 18 months on average for a CI to be officially functional. Taking one-year lag helps therefore mitigates the potential reverse causality and endogeneity (Lien et al., 2012, 2017). $\boldsymbol{X}_{it}$ is a vector of control variables. It includes the standard variables in the gravity model such as per capita GDP and population in the host countries as well as the economic distance (difference between GDP per capita of home country, China, and the host country) and geographic distance between the home country, China, and the host country. Based on the theoretical framework we discussed in the literature review, we also further control for the institutional quality in the host country[f] as better institutional quality in the host country is shown to have a positive effect on foreign investment (Alimove & Officer, 2017; Katelouzou & Siems, 2015; Ahiabor et al., 2017; Rossi & Volpin, 2004). We also control factors relating to the transaction cost that can also positively affect the CMA (Erel et al., 2012; Ahern et al., 2015; Hu & Yang, 2017): the normalized host country - Chinese currency exchange rate and the inflation rate in the host country. According to the previous discussions on how cultural difference matters for foreign investment (Beugelsdijk & Frijns, 2010; Guiso et al., 2006; Lim et al., 2016; Xu & Shenkar, 2002), we control for cultural factors that can play a role in the strategy of cross border investment such as whether Chinese culture is the one of the major cultural traditions in the host country[g], whether China and the host country are neighbors[h] and the cultural difference[i] between China and the host country. δ_t is the time-specific confounder and ε_{it} is the error term. Table 3a, Tables 3b and 3c present descriptive statistics in the Belt-Road countries, non Belt-Road countries and the full sample, respectively.

4. Empirical results

4.1. The baseline estimates

Table 4 shows the OLS estimation results for the CI's effect on the Chinese firms' CMA activities. Starting with the control variables, our results show that the all the coefficients of host country's institutional quality are significantly positive, which indicates that the institutional quality is a key factor for Chinese CMA. Population and per capita GDP have positive impacts on the CMA activities in most cases. However, we do not find consistent evidence the host country-Chinese currency exchange rate has any effect on the number of CMA, whereas the previous studies that argue the increase of CMA activities resulted from the declining currency in the target country

[f] The institutional quality index is calculated by taking weighted mean of 6 indicators from the World Bank including regime stability, government efficiency, regulatory quality, corruption control ability, legal system and government accountability.

[g] East Timor, Philippines, Brunei, Cambodia, Singapore, Malaysia, Laos, Thailand, Vietnam, Indonesia and Mongolia are counted as having Chinese culture as one of the major cultures.

[h] Afghanistan, Pakistan, Bhutan, Laos, Nepal, India, Vietnam, Kazakhstan, Tajikistan, Kyrgyzstan and Mongolia are counted as China's neighbors.

[i] Cultural distance is calculated based on cultural dimension values including Power Distance, Individualism vs Collectivism, Masculinity vs Femininity, and Uncertainty Avoidance from Greet-Hofstede website. That is, $CD_i = \sum_{k=1}^{4}[(H_{ki} - H_{kc})^2 / V_k]/4$. Where H_{ki} represents the kth cultural dimension value for country i; H_{kc} represents the kth cultural dimension value for China. V_k represents the variance of the kth cultural dimension values.

Table 3a
Descriptive statistics (Belt-Road countries), 2006–2017.

Variables	Abbr.	Obs.	Mean	S. D.	Min	Max
Number of announced CMA		792	0.376	1.309	0	23
Number of accomplished CMA		792	0.202	0.737	0	14
Number of CI branches	CI	792	1.868	3.274	0	23
Number of Confucius class	CC	792	1.165	3.283	0	30
Institutional quality	INS	792	−0.147	0.757	−1.895	1.861
Exchange rate	ER	792	2.149	3.065	0.001	11.090
Inflation rate	INF	792	5.756	6.109	0.001	59.219
Population (log form)	POP	792	15.418	1.628	11.938	20.070
Per capita GDP (log form)	PGDP	792	8.552	1.270	5.608	11.391
Economic distance (log form)	EDIS	792	8.357	1.238	2.348	11.317
Geographic distance (log form)	GDIS	792	8.599	0.488	6.696	9.572
Cultural distance	CD	792	2.832	1.832	0.222	6.832
Chinese cultural influence (dummy)	CHN	792	0.167	0.373	0	1
Contiguity (dummy)	HEIGH	792	0.167	0.373	0	1
Developed country (dummy)	DEV	792	0.242	0.429	0	1

Table 3b
Descriptive statistics (non Belt-Road countries), 2006–2017.

Variables	Abbr.	Obs.	Mean	S. D.	Min	Max
Number of announced CMA		900	1.230	4.851	0	70
Number of accomplished CMA		900	0.661	2.384	0	25
Number of CI branches	CI	900	3.178	10.218	0	110
Number of Confucius class	CC	900	6.086	40.056	0	519
Institutional quality	INS	900	0.178	0.982	−1.660	1.889
Exchange rate	ER	900	2.967	3.992	0.000	20.968
Inflation rate	INF	900	5.254	5.633	0.000	55.484
Population (log form)	POP	900	15.093	1.798	10.493	18.912
Per capita GDP (log form)	PGDP	900	8.641	1.740	5.111	11.689
Economic distance (log form)	EDIS	900	8.629	1.730	5.111	11.689
Geographic distance (log form)	GDIS	900	9.256	0.326	7.649	9.868
Cultural distance	CD	900	4.890	1.814	1.862	7.678
Chinese cultural influence (dummy)	CHN	900	0	0	0	0
Contiguity (dummy)	HEIGH	900	0	0	0	0
Developed country (dummy)	DEV	900	0.242	0.429	0	1

and appreciating currency in the acquirer countries (Erel et al., 2012; Hu & Yang, 2017). The negative sign of economic distance shows that the economic distance between China and the host countries impedes Chinese CMA activities, especially for non Belt-Road countries. Yet, there is no significant relationship between the CMA and the geographic distance as all the coefficients of the geographic distance and the dummy for whether host countries and China are neighbors are insignificant, which supports the "distance death" theory (Couclelis, 1996; Lin & Sim, 2012) as the "flaw" of the distance can be easily covered by the rapid development of the transportation and logistics. Besides, the statistically significant and positive coefficient of Chinese cultural majority indicates that the countries where the Chinese culture has been rooted for a certain period are more attractive to the Chinese investments. As expected, all the coefficients of CI are statistically significant at 1% and suggest that one additional CI leads to an increase in the number of announced CMA by approximately 3.3% (exp(0.033) = 1.033) in full sample, 4.2% (exp(0.041) = 1.042) in Belt-Road countries and 3.1% (exp(0.031) = 1.031) for non Belt-Road countries, respectively. This positive effect is slightly weaker in terms of accomplished CMA. One additional CI relates to 2.1% (exp(0.021) = 1.021 increase in the number of accomplished CMA in full sample and 1.9% (exp(0.019) = 1.019) in both Belt-Road countries and non Belt-Road countries, respectively.

Table 5 reports the PPML estimation results. The results are broadly consistent with the OLS estimations except that the coefficient of exchange rate turns to be positive. All other coefficients of the control variables maintain the expected signs and are all statistically significant. Compared with OLS estimation, the influence of CI is stronger in the sample of Belt-Road countries while such effect declines in total sample and the sample of non Belt-Road countries on both announced and accomplished CMA. One additional CI promotes the announced and accomplished CMA by 12.9% (exp(0.122) = 1.129) and 10.3% (exp(0.098) = 1.103) in Belt-Road countries while the effect shrinks to 1.1% (exp(0.011) = 1.011) regards to the announced CMA in non Belt-Road countries. More importantly, we observe that the positive influence of CI is more pronounced in Belt-Road countries than in non Belt-Road countries although larger number of Chinese CMA activities and CI branches are in non Belt-Road countries in both estimation methodologies. That seems to say that the Belt and Road Initiative strengthens the impact of CI.

4.2. Subsample estimates: before and after the belt Road Initiative

To confirm the robustness of our findings, we compare the Belt-Road countries and non Belt-Road countries before and after the

Table 3c
Descriptive statistics (full sample), 2006–2017.

Variables	Abbr.	Obs.	Mean	S. D.	Min	Max
Number of announced CMA		1692	0.830	3.674	0	70
Number of accomplished CMA		1692	0.446	1.824	0	25
Number of CI branches	CI	1692	2.564	7.807	0	110
Number of Confucius class	CC	1692	3.783	29.395	0	519
Institutional quality	INS	1692	0.026	0.898	−1.895	1.889
Exchange rate	ER	1692	2.584	3.610	0.000	20.968
Inflation rate	INF	1692	5.489	5.864	0.000	59.220
Population (log form)	POP	1692	15.245	1.728	10.493	20.070
Per capita GDP (log form)	PGDP	1692	8.599	1.538	5.111	11.689
Economic distance (log form)	EDIS	1692	8.502	1.525	2.348	11.689
Geographic distance (log form)	GDIS	1692	8.948	0.525	6.696	9.868
Cultural distance	CD	1692	3.927	2.091	0.222	7.678
Chinese cultural influence (dummy)	CHN	1692	0.093	0.276	0	1
Contiguity (dummy)	HEIGH	1692	0.093	0.276	0	1
Developed country (dummy)	DEV	1692	0.221	0.457	0	1

Table 4
OLS estimates for the impact of CI for Belt-Road countries and non Belt-Road countries.

Variables	Total		Belt-Road		Non Belt-Road	
	(1)	(2)	(3)	(4)	(5)	(6)
	Announced	Accomplished	Announced	Accomplished	Announced	Accomplished
CI	0.033*** (0.002)	0.021*** (0.001)	0.041*** (0.008)	0.019*** (0.006)	0.031*** (0.003)	0.019*** (0.002)
INS	0.132*** (0.045)	0.119*** (0.038)	0.110* (0.074)	0.113** (0.047)	0.142** (0.063)	0.121** (0.054)
ER	−0.007 (0.007)	0.002 (0.006)	−0.010 (0.012)	−0.008 (0.008)	−0.011 (0.011)	0.006 (0.009)
INF	0.001 (0.002)	0.001 (0.001)	−0.001 (0.002)	0.001 (0.002)	0.001 (0.001)	0.001 (0.003)
lnPOP	0.074*** (0.017)	0.074*** (0.013)	0.075*** (0.022)	0.055*** (0.016)	0.061** (0.023)	0.073*** (0.174)
lnPGDP	0.052* (0.029)	0.011 (0.024)	0.076** (0.037)	0.018 (0.027)	2.158*** (0.041)	0.979*** (0.368)
lnEDIS	−0.032* (0.018)	−0.005 (0.015)	−0.026* (0.016)	−0.005 (0.013)	−2.158*** (0.416)	−0.968*** (0.365)
lnGDIS	0.104 (0.067)	0.059 (0.054)	−0.065 (0.086)	−0.087 (0.067)	−0.055 (0.150)	−0.018 (0.125)
NEIGH	0.106 (0.910)	0.011 (0.096)	0.032 (0.104)	−0.067 (0.076)	/	/
CHN	0.257** (0.107)	0.175** (0.088)	0.258*** (0.093)	0.165** (0.076)	/	/
DEV	0.221** (0.091)	0.135* (0.075)	0.063 (0.099)	0.052 (0.073)	0.052 (0.76)	0.031 (0.152)
Observations	1551	1551	726	726	825	825
Number of countries	141	141	66	66	75	75
R-square	0.5158	0.5913	0.3141	0.3543	0.5980	0.5070
Time Period	2006–2017	2006–2017	2006–2017	2006–2017	2006–2017	2006–2017
Country fixed effects	No	No	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes

Notes: 1. Robust standard errors are reported in parentheses; 2. *, ** and *** represents the 10%, 5% and 1% significance level, respectively.

lounching of this Chinese global initiative. The Belt and Road Initiative was launched in 2013 and our sample data covers a longer period from 2006 to 2007. We divide the period into before the Belt and Road Initiative subperiod from 2006 to 2012 and after the Belt and Road Initiative from 2013 to 2017. As shown in Table 6 and Table 7, the control variables retain expected signs. The coefficients of institutional quality, population, GDP per capita and Chinese culture are positive and statistically significant in general. As for the impact of CI with OLS estimation, all the coefficients are significantly positive before and after the Belt and Road Initiative. The effect is stronger after the Belt and Road Initiative for the Belt-Road countries. One additional CI increases the number of announced CMA and accomplished CMA by 2.1% (exp(0.021) = 1.021) and 1.5% (exp(0.015) = 1.015), respectively before the Belt Road Initiative whereas these effects grow to 5.9% and 3.2%, respectively, after the BRI was lounched. Yet, we do not spot any externalities from this global policy for the non Belt-Road countries as the effect of CI remains unchanged before and after the Belt and Road Initiative. The results obtained with PPML, however, show that the impact of CI for Belt-Road countries is significant only after the initiative in the sense that one additional CI leads to increase in announced CMA and accomplished CMA by 14.7% (exp(0.138) = 1.147) and 11.7% (exp(0.111) = 1.117), respectively. In spite of the discrepancy, both results support that the impact of CI is strengthened in Belt-Road countries after the Belt and Road Initiative.

4.3. Subsample estimates: belt countries and road countries

The impact of CI can be different in the Belt countries (those on overland routes from China) and the Road countries (with maritime links). Therefore, we separate the samples into the belt countries and the Road countries and estimate the impact of CI before and after the Belt Road Initiative was launched. In the OLS estimation results shown in Table 8, CI exerts positive effect on both the announced and accomplished CMA in belt countries and this effect is strengthened after the Belt Road Initiative, from 3% (exp(0.030) = 1.030) to

Table 5
PPML estimates for the effect of CI for Belt-Road countries and non Belt-Road countries.

Variables	Total		Belt-Road		Non Belt-Road	
	(1)	(2)	(3)	(4)	(5)	(6)
	Announced	Accomplished	Announced	Accomplished	Announced	Accomplished
CI	0.011*** (0.002)	0.004** (0.002)	0.122*** (0.030)	0.098*** (0.036)	0.011*** (0.002)	0.002 (0.003)
INS	0.132*** (0.045)	0.670*** (0.277)	0.110* (0.074)	1.339** (0.375)	0.121** (0.054)	0.731* (0.388)
ER	0.040** (0.016)	0.048*** (0.017)	−0.111** (0.044)	−0.053 (0.057)	0.051** (0.021)	0.051** (0.022)
INF	−0.043 (0.026)	−0.016 (0.032)	0.008 (0.020)	0.033 (0.021)	−0.067 (0.046)	−0.052 (0.055)
lnPOP	0.709*** (0.041)	0.814*** (0.046)	0.504*** (0.105)	0.657*** (0.141)	0.817*** (0.065)	0.929*** (0.073)
lnPGDP	0.888*** (0.166)	0.912*** (0.203)	0.414 (0.283)	0.323 (0.349)	4.759*** (0.708)	4.609*** (0.954)
lnEDIS	−0.027 (0.101)	0.039 (0.114)	0.164 (0.145)	−0.155 (0.142)	−3.911*** (0.604)	−3.482*** (0.814)
lnGDIS	−0.188 (0.175)	−0.076 (0.178)	0.417** (0.196)	0.307 (0.067)	0.012 (0.198)	0.194 (0.218)
NEIGH	0.106 (0.910)	0.187 (0.380)	1.041** (0.442)	0.459 (0.472)	/	/
CHN	1.117** (0.212)	1.296** (0.239)	1.487*** (0.220)	1.535** (0.282)	/	/
DEV	−0.862*** (0.192)	−0.783*** (0.253)	−0.257 (0.355)	0.044 (0.048)	−1.350*** (0.181)	−1.261*** (0.236)
Observations	1551	1551	726	726	825	825
Number of countries	141	141	66	66	75	75
Pseudo log-likelihood	−1169.059	−807.6633	−431.924	−279.392	−645.968	−480.862
R-square	0.7958	0.7043	0.5013	0.4137	0.8321	0.7504
Time Period	2006–2017	2006–2017	2006–2017	2006–2017	2006–2017	2006–2017
Country fixed effects	No	No	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes

Notes: 1. Robust standard errors are reported in parentheses; 2. *, ** and *** represents the 10%, 5% and 1% significance level, respectively.

Table 6
OLS estimates for the effect of CI before and after the Belt and Road Initiative.

Variables	Belt-Road				Non Belt-Road			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Announced	Accomplished	Announced	Accomplished	Announced	Accomplished	Announced	Accomplished
CI	0.021*** (0.010)	0.015* (0.008)	0.059*** (0.012)	0.032*** (0.06)	0.032*** (0.004)	0.026*** (0.007)	0.032*** (0.004)	0.025*** (0.003)
INS	0.173*** (0.063)	0.155*** (0.050)	0.178** (0.082)	0.108** (0.058)	0.156** (0.066)	0.133*** (0.057)	0.231*** (0.088)	0.118* (0.072)
ER	−0.012 (0.010)	−0.009 (0.008)	−0.006 (0.016)	0.002 (0.011)	0.007 (0.011)	0.014 (0.028)	0.031* (0.016)	0.014 (0.013)
INF	−0.001 (0.003)	−0.001 (0.002)	0.004 (0.005)	0.003 (0.004)	0.001 (0.004)	0.001 (0.001)	−0.001 (0.004)	−0.001 (0.004)
lnPOP	0.027* (0.036)	0.049*** (0.015)	0.053** (0.027)	0.041*** (0.013)	0.111** (0.021)	0.096*** (0.018)	0.145*** (0.028)	0.089*** (0.023)
lnPGDP	0.052* (0.029)	0.001 (0.003)	0.019 (0.051)	0.001 (0.024)	1.930** (0.771)	0.678 (0.705)	1.061* (0.585)	0.488 (0.475)
lnEDIS	−0.002 (0.023)	−0.012 (0.019)	−0.001 (0.029)	0.026 (0.018)	−1.858** (0.769)	−0.952 (1.243)	−0.992* (0.579)	−0.431 (0.471)
lnGDIS	0.002 (0.080)	−0.012 (0.063)	0.067 (0.111)	−0.087 (0.067)	−0.261* (0.146)	−0.018 (0.125)	−0.311* (0.185)	−0.237 (0.149)
NEIGH	0.038 (0.095)	−0.007 (0.075)	0.138 (0.126)	−0.028 (0.057)	/	/	/	/
CHN	0.200** (0.082)	0.152** (0.065)	0.381*** (0.109)	0.216** (0.077)	/	/	/	/
DEV	−0.009 (0.095)	0.015* (0.076)	0.099 (0.126)	0.025 (0.089)	−0.344* (0.185)	−0.223 (0.158)	−0.196 (0.234)	−0.122 (0.189)
Observations	396	396	330	330	450	450	300	300
Number of countries	66	66	66	66	75	75	75	75
R-square	0.3046	0.2735	0.4297	0.3622	0.5846	0.5447	0.7496	0.8821
Time Period	2006–2012	2006–2012	2013–2017	2013–2017	2006–2012	2006–2012	2013–2017	2013–2017
Country fixed effects	No	No	No	No	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: 1. Robust standard errors are reported in parentheses; 2. *, ** and *** represents the 10%, 5% and 1% significance level, respectively.

5.9% (exp(0.058) = 1.059) on announced CMA and from 1.9% to 3.2% on accomplished CMA, respectively. The impact of CI is statistically insignificant in the Road countries before BRI while it turns out to be statistically significant and positive after the Belt Road

Table 7
PPML estimates for the effect of CI before and after the Belt and Road Initiative.

Variables	Belt-Road				Non Belt-Road			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Announced	Accomplished	Announced	Accomplished	Announced	Accomplished	Announced	Accomplished
CI	0.074	0.081 (0.068)	0.138***	0.111***	0.008*	0.002 (0.006)	0.001 (0.003)	−0.008
	(0.058)		(0.032)	(0.038)	(0.005)			(0.006)
INS	1.432***	1.619***	1.273***	1.119***	1.602**	1.645**	0.571*	−0.061
	(0.046)	(0.058)	(0.026)	(0.320)	(0.347)	(0.382)	(0.308)	(0.392)
ER	−0.175**	−0.172*	−0.033	−0.008	0.038 (0.027)	0.031 (0.029)	0.061*	0.031 (0.039)
	(0.079)	(0.102)	(0.056)	(0.008)			(0.031)	
INF	0.022	0.004 (0.002)	0.037*	0.064***	0.075 (0.046)	0.067 (0.048)	−0.029	−0.131**
	(0.016)		(0.020)	(0.017)			(0.040)	(0.058)
lnPOP	0.719***	0.756***	0.396***	0.055***	0.955**	1.031***	1.008***	1.103***
	(0.221)	(0.275)	(0.101)	(0.016)	(0.094)	(0.094)	(0.113)	(0.186)
lnPGDP	0.695	0.572 (0.605)	0.186	0.078 (0.361)	4.197***	2.683 (1.946)	3.875***	3.886***
	(0.454)		(0.031)		(1.395)		(0.639)	(0.942)
lnEDIS	0.055	0.115 (0.184)	0.171	0.172 (0.226)	−3.469***	−2.063 (1.951)	−2.525***	−1.962**
	(0.152)		(0.214)		(1.339)		(0.560)	(0.873)
lnGDIS	0.462*	0.535* (0.287)	0.351	0.063 (0.356)	−0.013	−0.224 (0.277)	0.237 (0.226)	0.426 (0.316)
	(0.266)		(0.303)		(0.249)			
NEIGH	0.535	0.477 (0.075)	1.197**	0.588 (0.614)	/	/	/	/
	(0.606)		(0.600)					
CHN	1.357***	1.464***	1.663***	1.748**	/	/	/	/
	(0.326)	(0.397)	(0.266)	(0.364)				
DEV	−0.673	−0.549	0.301	0.691 (0.647)	−1.613***	−1.367***	−0.796***	−0.771**
	(0.558)	(0.076)	(0.407)		(0.276)	(0.336)	(0.197)	(0.297)
Observations	396	396	330	330	450	450	300	300
Number of countries	66	66	66	66	75	75	75	75
R-square	0.3760	0.3442	0.5785	0.4859	0.5980	0.5070	0.9451	0.8866
Pseudo log-likelihood	−193.6949	−143.5840	−224.7839	−129.0700	−275.9541	−247.9432	−231.8339	−166.3877
Time Period	2006–2012	2006–2012	2013–2017	2013–2017	2006–2012	2006–2012	2013–2017	2013–2017
Country fixed effects	No	No	No	No	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: 1. Robust standard errors are reported in parentheses; 2. *, ** and *** represents the 10%, 5% and 1% significance level, respectively.

Initiative. The PPML estimation results in Table 9, similarly, shows that the impact of CI is statistically significant in the Belt countries only after the Belt Road Initiative whereas it remains insignificant throughout in the Road countries. Both estimations suggest that the CI's influence in the belt countries is more responsive to the Belt Road Initiative, which is in line with Du and Zhang (2018). They find that the Belt-Road Initiative increases the outflow investment in land belt countries only. In general, cultural distance is negatively associated with economic cooperation. This also applies to China in the way that culturally remote countries display higher aversion towards foreign investments. Therefore, a possible explanation for these results is that the Belt countries rather than the Road countries are mostly located in East Asia and South-east Asia where the Chinese culture has been rooted for longer period. The Belt countries are relatively more familiar with the Chinese culture and therefore benefit more from the CI presence.

4.4. Difference-in-differences estimates

Towards a fuller insight into the impact of CI in the context of and Belt Road Initiative, we conduct two types of difference-in-differences (DID) analyses and further control the cultural difference in this section. In the previous estimates, we take one-year lag of the independent variable, CI, to mitigate the issue of endogeneity. In this section, we also employ system GMM (Generalized Method of Moments) to control the issue of endogeneity as a robustness check. Introduced by Arellano and Bong (1991) and developed by Arellano and Bover (1995) and Blundell and Bond (1998), system GMM can address the problem of individual heterogeneity, correct the deviation due to missing data, and alleviate the issue of weak instrument that observed in difference GMM.

The results in columns (1) to (6) in Table 10 are estimated with a standard DID, where BRI is a dummy that captures whether the country is a Belt-Road country and Post is a time dummy that captures the period after the Belt and Road Initiative was introduced. In most cases, the coefficients of CI are positive and statistically significant, which again confirms the favorable effect of CI. The coefficients of Post, 2013–2017 are mostly positive, meaning that the Chinese CMA in these recent years increased further. Yet, we observe that the BRI and the interaction term of post and BRI are negatively associated with Chinese CMA in PPML estimation. This might not be surprising because the early influence of Belt Road Initiative can be negative due to high barriers such as potential clash of institution, religion and culture (Huang, 2016). The positive coefficients of interaction term among CI, Post and BRI suggest that the after the Belt and Road Initiative, the positive effect of CI on announced CMA and accomplished CMA is strengthened in the Belt Road countries

Table 8
OLS estimates for the effect of CI before and after the Belt and Road Initiative.

Variables	Belt				Road			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Announced	Accomplished	Announced	Accomplished	Announced	Accomplished	Announced	Accomplished
CI	0.030***	0.019***	0.058***	0.032***	0.027	0.025 (0.015)	0.046*	0.029*
	(0.010)	(0.007)	(0.007)	(0.007)	(0.018)		(0.024)	(0.017)
INS	0.059 (0.063)	0.018 (0.039)	0.011 (0.050)	0.035 (0.048)	0.280*	0.275**	0.289	0.098 (0.147)
					(0.143)	(0.117)	(0.205)	
ER	−0.005	−0.003	−0.001	0.005 (0.013)	−0.027	−0.023	−0.047	−0.029
	(0.007)	(0.005)	(0.003)		(0.029)	(0.023)	(0.048)	(0.034)
INF	−0.002	−0.002	−0.001	−0.001	0.001	0.001 (0.005)	0.005	0.006 (0.018)
	(0.002)	(0.002)	(0.003)	(0.004)	(0.006)		(0.023)	
lnPOP	0.038*	0.019 (0.014)	0.030 (0.020)	0.027 (0.020)	0.066*	0.047* (0.027)	0.058	0.037 (0.034)
	(0.021)				(0.034)		(0.045)	
lnPGDP	0.008 (0.034)	−0.002	0.011 (0.029)	0.005 (0.028)	0.026	−0.013	0.079	0.069 (0.101)
		(0.029)			(0.087)	(0.071)	(0.141)	
lnEDIS	−0.010	0.003 (0.019)	−0.007	0.007 (0.471)	−0.029	−0.013	−0.001	0.141*
	(0.021)		(0.017)		(0.057)	(0.048)	(0.029)	(0.083)
lnGDIS	−0.094	−0.011	0.228 (0.143)	0.255* (0.145)	0.063	0.045 (0.109)	0.084	−0.003
	(0.176)	(0.117)			(0.136)		(0.193)	(0.138)
NEIGH	−0.021	0.005 (0.079)	0.157 (0.100)	0.068 (0.101)	−0.011	−0.061	0.138	0.049 (0.179)
	(0.119)				(0.183)	(0.146)	(0.126)	
CHN	0.068 (0.271)	0.089 (0.179)	0.324 (0.147)	0.336 (0.220)	0.186	0.146 (0.104)	0.073	0.218 (0.127)
					(0.131)		(0.313)	
DEV	0.019 (0.076)	0.039 (0.050)	0.072 (0.065)	−0.002	0.012	0.029 (0.178)	0.099	0.006 (0.226)
				(0.064)	(0.222)		(0.126)	
Observations	240	240	200	200	156	156	130	130
Number of countries	40	40	40	40	26	26	26	26
R-square	0.1912	0.2735	0.3917	0.3262	0.3955	0.3971	0.5088	0.4319
Time Period	2006–2012	2006–2012	2013–2017	2013–2017	2006–2012	2006–2012	2013–2017	2013–2017
Country fixed effects	No	No	No	No	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: 1. Robust standard errors are reported in parentheses; 2. *, ** and *** represents the 10%, 5% and 1% significance level, respectively.

(especially from the results of OLS and GMM estimations), which is consistent with the results of the previous subsample analyses.

Although the Belt Road Initiative was introduced in 2013, different countries have been joining the initiative at different times. Standard DID estimate fails to control for the duration of Belt Road membership. In columns (7) to (12) in Table 10, therefore, we account for the membership length of so as to measure the progression of Belt Road Initiative and its interactive effect with CI. The impact of CI is positive in all cases. The coefficients of membership length are statistically significant, which means that longer Belt-Road membership attracts more Chinses investors. The coefficients of interaction between membership length and CI are also statistically significant and positive in general. In promoting the Chinese CMA, the longer the membership in the Belt and Road Initiative, the stronger effect of the CI is. The coefficients of main control variables such as population, institutional quality, GDP per capita and Chinese culture majority in the host country are statistically positive while others maintain insignificant or expected signs in most cases with variations due to sample differences. Notably, we further control the cultural difference and its interaction term with CI. The results show that the cultural difference weakens the positive effect of CI on CMA, which means that CI is less efficient in culturally distant countries.

As a further extension, we look at the Confucius classroom (CC), a related cultural exchange program. Table 11 presents the DID estimate results. The coefficient of CC is statistically significant and positive in all cases, meaning that CC also has a positive effect on Chinese CMA but this effect is weaker than the effect of CI. Moreover, we also find that the effect of CC is stronger in the Belt Road countries than in the non Belt-Road countries after the Belt Road Initiative. Our understanding is straightforward. As a major difference between CI and CC is that CI mostly partners with colleges and universities whereas CC partners with primary and secondary schools, the reputation and influence of CI is larger than that of the CC.

5. Conclusions

When investigating the progress in internalization, extant studies have explicitly recognized the importance of cultural compatibility (Ahern et al., 2015; Guiso et al., 2006; Lee et al., 2008; Lim et al., 2016; Xu & Shenkar, 2002) and home country institutions (Cuervo-Cazurra, 2011; Estrin et al., 2016; Cuervo-Cazurra et al., 2018; Wan & Hoskisson, 2003). In this paper, we bridge the gap of these two strands of literature by assessing the role of the Confucius Institute as a determinant of Chinese Cross-border Mergers and Acquisitions in the context of the Belt Road Initiative. We construct a comprehensive panel dataset containing 66 Belt-Road countries and 75 non

Table 9
PPML estimates for the impact of CI before and after the Belt and Road Initiative.

Variables	Belt				Road			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Announced	Accomplished	Announced	Accomplished	Announced	Accomplished	Announced	Accomplished
CI	−0.078	−0.138	0.218***	0.404**	0.066	0.074 (0.053)	0.043	0.089 (0.062)
	(0.150)	(0.179)	(0.085)	(0.159)	(0.052)		(0.051)	
INS	2.306*	0.155***	0.782	4.143 (1.084)	1.032	1.548 (1.194)	1.536**	1.177 (0.839)
	(1.333)	(0.050)	(1.096)		(1.097)		(0.078)	
ER	−0.369	−0.478	−0.015	0.199 (0.123)	−0.467	−0.305	−0.029	−0.023
	(0.366)	(0.612)	(0.087)		(0.311)	(0.284)	(0.016)	(0.219)
INF	−0.067	−0.136**	0.031	0.127***	0.027	0.031 (0.057)	−0.048	−0.043
	(0.041)	(0.057)	(0.051)	(0.047)	(0.043)		(0.090)	(0.127)
lnPOP	1.465*	1.767*	0.531**	1.545***	0.753***	0.773***	0.318**	0.495***
	(0.785)	(1.0148)	(0.221)	(0.295)	(0.214)	(0.213)	(0.125)	(0.144)
lnPGDP	0.291	−0.041	0.543	0.369 (0.787)	1.150	0.712 (1.052)	0.088	−0.337
	(0.446)	(0.598)	(0.436)		(0.903)		(0.907)	(0.839)
lnEDIS	0.043	0.668* (0.355)	−0.056	−0.086 (0.277)	0.018	−0.047	0.051	0.479 (0.501)
	(0.386)		(0163)		(0.218)	(0.195)	(0.338)	
lnGDIS	−4.558	−0.012	7.807*	22.358***	1.211***	0.941**	0.041	−0.013
	(2.923)	(0.063)	(4.274)	(8.712)	(0.454)	(0.453)	(0.489)	(0.536)
NEIGH	−2.485	−1.973	6.404**	5.674**	0.979	0.555 (0.739)	0.555	0.547 (0.669)
	(1.945)	(2.076)	(3.245)	(2.172)	(1.061)		(0.739)	
CHN	−1.848	1.186 (4.179)	9.370**	9.469**	1.607***	1.472***	1.408***	1.832**
	(2.838)		(4.770)	(4.168)	(0.538)	(0.561)	(0.427)	(0.569)
DEV	−1.695	−1.345	0.099	−2.403**	0.710	0.556 (0.705)	1.037	1.204 (0.892)
	(1.542)	(1.966)	(1.067)	(1.169)	(0.615)		(0.664)	
Observations	240	240	200	200	156	156	130	130
Number of countries	40	40	40	40	26	26	26	26
R-square	0.4726	0.5461	0.4436	0.4031	0.5820	0.4703	0.6341	0.5255
Pseudo log-likelihood	−84.1995	−53.5586	−73.0417	−32.5273	−92.5093	−76.2502	−136.3066	−82.4546
Time Period	2006–2012	2006–2012	2013–2017	2013–2017	2006–2012	2006–2012	2013–2017	2013–2017
Country fixed effects	No	No	No	No	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: 1. Robust standard errors are reported in parentheses; 2. *, ** and *** represents the 10%, 5% and 1% significance level respectively.

Belt-Road countries from 2006 to 2017. We show that CI has a positive effect of Chinese CMA and that this effect is more pronounced in Belt Road countries than non Belt-Road countries, especially after the Belt and Road Initiative was initiated in 2013. In particular, we observe that the earlier the host country joins the Initiative, the stronger is the interactive effect when we control for the intensity of Belt and Road Initiative. Our understanding is straightforward. As one important objective of the Belt and Road Initiative is to shorten the cultural gap, the Initiative enhances the role of CI and intensifies its impact. Or vice versa, the Belt and Road Initiative, at its preliminary stage, does not yet have significant impact due to cultural incompatibility. CI facilitates people-to-people cultural exchange and supports the Belt and Road Initiative. We further show that a related program, the Confucius classroom, also has a positive effect although it is not as strong as the effect of CI.

Admittedly, one major limitation of a macro level analysis like ours stems from the measurement of CMA. First, CMA have been mostly considered as a firm level behavior in the literature. Second, Chinese outflow of investments are largely from large companies. The large companies, mostly the SOEs, sometimes make several tiny M&A in host countries to test whether a major M&A can be done successfully. In this sense, firm level empirics seemingly work better to address these two issues from CMA measurements as it can control for firm level characteristics. However, the firm level data for most Belt-Road countries and non Belt-Road countries is unavailable and small sample estimation fails to offer a comprehensive understanding on the Belt and Road Initiative and the role of CI in this context. Therefore, we focus on a full frame of the Belt and Road Initiative, thereby explaining CMA from a macro perspective, in a country level estimation. Beyond this limitation, we hope that our study can serve as a first step to understand the interplay of cultural institute and home institutions on the rapid developing globalization nowadays and shed lights on ongoing study and progress of the Belt Road Initiative. Future research can focus on the specific channels via which the cultural institute and home institution strengthen each other not only in terms of CMA but also of some other aspects such as export and innovation.

Our findings also lead to policy considerations. On the one hand, policymakers should encourage the introduction of foreign cultural institutes to China since they are expected to promote the culture integration and develop the economic cooperation as the CI does. On the other hand, the established cooperation with the non Belt-Road countries should not be weighed less than the Belt-Road countries and China should also maintain and deepen the cooperation with these partners. Equally importantly, with the rapid increasing number of Belt-Road countries, the issue of cultural and institutional difference should be improved and addressed to ensure the efficiency of cooperation under the Belt and Road Initiative.

Table 10
DID estimates for the effect of CI under Belt and Road Initiative.

Variables	Announced			Accomplished			Announced			Accomplished		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	OLS	PPML	GMM	OLS	PPML	GMM	OLS	PPML	GMM	OLS	PPML	GMM
CI	0.154***	0.071**	0.278***	0.106***	0.040	0.027	0.109***	0.064**	0.210**	0.071***	0.069**	0.014
	(0.015)	(0.028)	(0.002)	(0.013)	(0.033)	(0.049)	(0.012)	(0.028)	(0.089)	(0.010)	(0.030)	(0.028)
Post	0.088***	0.698***	0.028***	0.015	0.321*	0.039*	/	/	/	/	/	/
	(0.023)	(0.151)	(0.003)	(0.021)	(0.184)	(0.023)						
BRI	−0.035	0.336 (0.245)	−0.37	0.024	0.357	0.591	/	/	/	/	/	/
	(0.070)		(0.027)	(0.055)	(0.319)	(0.395)						
Post × BRI	−0.055	−0.489*	−0.041	−0.014	−0.566*	0.019	/	/	/	/	/	/
	(0.035)	(0.275)	(0.034)	(0.031)	(0.337)	(0.062)						
CI × BRI	−0.017*	0.043**	−0.040	−0.015*	0.049*	0.025	/	/	/	/	/	/
	(0.009)	(0.022)	(0.032)	(0.007)	(0.027)	(0.037)						
Post × CI	0.001	−0.003	−0.003***	−0.004	−0.003	−0.003	/	/	/	/	/	/
	(0.003)	(0.003)	(0.001)	(0.003)	(0.004)	(0.003)						
Post × BRI × CI	0.021***	0.013 (0.023)	0.007***	0.022***	0.017	0.025**	/	/	/	/	/	/
	(0.008)		(0.001)	(0.007)	(0.029)	(0.010)						
Membership length	/	/	/	/	/	/	0.013	0.009*	0.029**	0.0011	0.072 (0.091)	0.025**
							(0.011)	(0.005)	(0.011)	(0.011)		(0.012)
Membership length × CI	/	/	/	/	/	/	0.005**	0.013**	0.001	0.002	0.009*	0.004**
							(0.002)	(0.006)	(0.006)	(0.002)	(0.005)	(0.002)
CD	0.025	0.026 (0.058)	0.143	0.016	−0.030	0.153	0.019	0.028 (0.051)	−0.040	0.014	−0.016	0.386
	(0.017)		(0.373)	(0.013)	(0.076)	(0.210)	(0.015)		(0.701)	(0.012)	(0.066)	(0.469)
CD × CI	−0.032***	−0.015**	−0.068***	−0.021***	−0.009	0.003	−0.021***	−0.014**	−0.056**	−0.013***	−0.016**	−0.004
	(0.004)	(0.007)	(0.001)	(0.003)	(0.008)	(0.012)	(0.003)	(0.007)	(0.025)	(0.003)	(0.007)	(0.023)
INS	0.135***	0.878***	0.309***	0.110***	0.798***	0.271**	0.150***	0.777***	0.167	0.128***	0.689**	0.299
	(0.044)	(0.234)	(0.016)	(0.035)	(0.312)	(0.127)	(0.043)	(0.228)	(0.338)	(0.034)	(0.287)	(0.194)
ER	−0.009	0.056***	−0.047***	−0.007	0.054***	−0.082***	−0.014***	0.039**	0.014	0.002	0.046***	−0.085*
	(0.007)	(0.015)	(0.001)	(0.007)	(0.018)	(0.026)	(0.007)	(0.016)	(0.058)	(0.005)	(0.017)	(0.049)
INF	0.001	−0.011	0.002	0.001	−0.015	0.003	0.001	−0.038	0.002	0.001	−0.016	0.002
	(0.019)	(0.008)	(0.002)	(0.008)	(0.034)	(0.002)	(0.002)	(0.027)	(0.002)	(0.002)	(0.033)	(0.002)
lnPOP	0.100***	0.768***	0.101***	0.078***	0.848***	0.248***	0.096***	0.710***	−0.044	0.079***	0.813***	0.313*
	(0.015)	(0.047)	(0.007)	(0.011)	(0.059)	(0.080)	(0.015)	(0.040)	(0.312)	(0.011)	(0.046)	(0.160)
lnPGDP	0.077***	0.803***	0.216***	0.032	0.773***	0.098	0.066**	0.862***	0.067	0.014	0.890***	0.114
	(0.028)	(0.195)	(0.004)	(0.023)	(0.243)	(0.076)	(0.028)	(0.166)	(0.123)	(0.023)	(0.208)	(0.118)
lnEDIS	−0.032*	0.085 (0.122)	0.004	−0.005	0.195	0.005	−0.024	−0.002	0.011	0.001	0.064 (0.119)	0.010
	(0.017)		(0.042)	(0.017)	(0.137)	(0.028)	(0.017)	(0.099)	(0.038)	(0.014)		(0.027)
lnGDIS	−0.081	0.107 (0.120)	−0.531	−0.072	0.201	0.747***	0.087	−0.089	−0.616	0.042	−0.001	0.826
	(0.076)		(0.792)	(0.059)	(0.147)	(0.287)	(0.063)	(0.155)	(3.070)	(0.049)	(0.17)	(0.838)
NEIGH	0.056	0.724**	1.601	−0.024	0.414	0.325	0.105	0.546*	1.835	0.106	0.313 (0.403)	0.371
	(0.112)	(0.352)	(1.661)	(0.086)	(0.103)	(0.485)	(0.112)	(0.316)	(2.911)	(0.087)		(1.432)
CHN	0.248**	1.260***	−1.617	0.169**	1.385***	0.273	0.249**	1.119***	−5.332	0.169**	1.351***	0.512
	(0.101)	(0.187)	(1.561)	(0.086)	(0.237)	(0.830)	(0.102)	(0.188)	(4.444)	(0.079)	(0.237)	(1.947)
DEV	0.139	−0.732***	−0.332	0.054	−0.715***	0.752	0.180**	−0.829***	0.258	0.087	−0.759***	1.046
	(0.087)	(0.218)	(1.293)	(0.068)	(0.269)	(0.489)	(0.087)	(0.192)	(1.546)	(0.068)	(0.254)	(0.930)
L. Dependent variable	/	/	0.007***	/	/	−0.022	/	/	0.005	/	/	0.001
			(0.001)			(0.032)			(0.095)			(0.073)
L.CI	/	/		/	/		/	/		/	/	

(*continued on next page*)

Table 10 (*continued*)

Variables	Announced			Accomplished			Announced			Accomplished		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	OLS	PPML	GMM	OLS	PPML	GMM	OLS	PPML	GMM	OLS	PPML	GMM
			0.016***			0.028***			0.034**			0.032*
			(0.000)			(0.009)			(0.016)			(0.018)
Observations	1551	1551	1410	1551	1551	1410	1551	1551	1410	1551	1551	1410
Number of countries	141	141	141	141	141	141	141	141	141	141	141	141
R-square	0.5720	0.8234	/	0.5206	0.7164	/	0.5551	0.7972	/	0.5059	0.7062	/
Pseudo log-likelihood	/	−1089.2163	/	/	−789.0948	/	/	−1159.1394	/	/	−804.76806	/
AR (1)	/	/	−3.122***	/	/	−4.165***	/	/	−3.918***	/	/	−2.963***
AR (2)	/	/	0.522	/	/	0.590	/	/	0.509	/	/	0.487
Sargan p-value			0.103			0.116			0.129			0.105
Time Period	2006–2017	2006–2017	2006–2017	2006–2017	2006–2017	2006–2017	2006–2017	2006–2017	2006–2017	2006–2017	2006–2017	2006–2017
Country fixed effects	No	No	No	No	No	No	No	No	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: 1. Robust standard errors are reported in parentheses; 2. *, ** and *** represents the 10%, 5% and 1% significance level, respectively.

Table 11
DID estimates for the effect of CC under Belt and Road Initiative.

Variables	Announced			Accomplished			Announced			Accomplished		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	OLS	PPML	GMM	OLS	PPML	GMM	OLS	PPML	GMM	OLS	PPML	GMM
CC	0.060***	0.049***	0.047***	0.047***	0.039***	0.035**	0.057***	0.055***	0.059***	0.041***	0.043***	0.027**
	(0.007)	(0.008)	(0.013)	(0.006)	(0.013)	(0.014)	(0.007)	(0.010)	(0.016)	(0.006)	(0.012)	(0.012)
Post	−0.001	0.037	0.045	0.005	0.212	−0.007	/	/	/	/	/	/
	(0.037)	(0.203)	(0.048)	(0.021)	(0.187)	(0.043)						
BRI	−0.166**	0.229	1.595***	−0.159***	0.468	−6.287***	/	/	/	/	/	/
	(0.070)	(0.271)	(0.539)	(0.053)	(0.287)	(1.259)						
Post × BRI	−0.058*	−0.206	−0.053	−0.012	−0.295	0.023	/	/	/	/	/	/
	(0.034)	(0.248)	(0.064)	(0.030)	(0.316)	(0.058)						
CC × BRI	0.002	−0.019	−0.006	0.008	0.079**	0.003	/	/	/	/	/	/
	(0.014)	(0.045)	(0.018)	(0.012)	(0.040)	(0.017)						
Post × CC	0.009***	0.003	0.004	0.002	−0.001	0.001	/	/	/	/	/	/
	(0.003)	(0.003)	(0.003)	(0.002)	(0.005)	(0.003)						
Post × BRI × CC	0.013***	0.002	0.011*	0.010	0.052	0.025*	/	/	/	/	/	/
	(0.04)	(0.046)	(0.006)	(0.012)	(0.040)	(0.015)						
Membership length	/	/		/	/		0.019*	0.086 (0.056)	0.040**	0.005	−0.013	0.004
							(0.011)		(0.017)	(0.010)	(0.069)	(0.017)
Membership length × CC	/	/		/	/		0.003	0.006 (0.003)	0.004**	−0.001	0.008	0.004
							(0.002)		(0.002)	(0.002)	(0.006)	(0.003)
CD	0.001	−0.267***	−0.213*	−0.005	−0.078	−0.506***	6.278**	−0.111**	2.602	2.518	−0.106*	−1.634
	(0.018)	(0.070)	(0.119)	(0.012)	(0.063)	(0.185)	(3.203)	(0.052)	(4.273)	(2.785)	(0.062)	(3.917)
CD × CC	−0.015***	−0.012***	−0.010***	−0.011***	−0.010***	−0.008**	−0.014***	−0.013***	−0.014***	−0.010***	−0.011***	−0.006*
	(0.002)	(0.002)	(0.003)	(0.002)	(0.003)	(0.004)	(0.002)	(0.003)	(0.004)	(0.002)	(0.003)	(0.003)
INS	0.118***	0.328*	0.032	0.114***	0.742***	0.086	−0.080	0.793***	0.052	−0.020	0.725***	−0.024
	(0.043)	(0.175)	(0.147)	(0.034)	(0.276)	(0.139)	(0.081)	(0.197)	(0.165)	(0.070)	(0.262)	(0.147)
ER	0.001	0.027	−0.042	0.004	0.032	−0.071**	−0.095***	0.006 (0.016)	−0.091***	−0.051***	0.020	−0.082***
	(0.007)	(0.023)	(0.029)	(0.006)	(0.021)	(0.029)	(0.015)		(0.031)	(0.013)	(0.019)	(0.032)
INF	0.001	0.004	0.002	0.000	−0.008	0.002	0.000	−0.026	0.001	0.000	−0.005	0.002
	(0.002)	(0.017)	(0.002)	(0.002)	(0.032)	(0.002)	(0.002)	(0.024)	(0.003)	(0.002)	(0.031)	(0.002)
lnPOP	0.132***	0.767***	0.324***	0.094***	0.864***	0.032	0.120	0.730***	0.414	0.020	0.818***	0.032
	(0.013)	(0.048)	(0.049)	(0.011)	(0.056)	(0.100)	(0.122)	(0.035)	(0.265)	(0.106)	(0.045)	(0.347)
lnPGDP	0.068**	1.176***	0.065	0.035	0.901***	−0.047	0.057	1.027***	0.143	−0.037	1.009***	−0.020
	(0.029)	(0.203)	(0.089)	(0.023)	(0.240)	(0.082)	(0.054)	(0.175)	(0.097)	(0.047)	(0.220)	(0.089)
lnEDIS	−0.032*	−0.113	0.017	0.001	0.213	0.053*	−0.030	−0.014	0.018	0.001	0.055	0.018
	(0.017)	(0.126)	(0.032)	(0.015)	(0.149)	(0.029)	(0.019)	(0.107)	(0.033)	(0.016)	(0.126)	(0.030)
lnGDIS	−0.074	−0.742***	−4.881***	−0.052	0.137	0.892**	23.047**	0.023 (0.178)	−2.247	9.738	0.113	0.785
	(0.091)	(0.195)	(0.682)	(0.055)	(0.172)	(0.400)	(11.082)		(2.335)	(9.635)	(0.186)	(2.682)
NEIGH	0.060	0.805**	0.877*	−0.005	0.093	4.212***	17.803**	0.507 (0.365)	10.341	7.347	0.308	−0.237
	(0.101)	(0.372)	(0.458)	(0.083)	(0.480)	(0.965)	(8.592)		(14.409)	(7.470)	(0.442)	(3.178)
CHN	0.217**	1.692***	−8.642***	0.137*	1.065***	4.915**	34.193**	0.897***	6.682	14.486	1.156***	−9.497
	(0.097)	(0.201)	(1.206)	(0.079)	(0.252)	(2.161)	(17.238)	(0.205)	(12.267)	(14.987)	(0.245)	(17.921)
DEV	0.212**	−0.024	−2.839***	0.044	−0.941***	−0.220	2.568**	−1.023***	3.989	1.389	−0.920***	−0.871
	(0.084)	(0.224)	(0.534)	(0.065)	(0.266)	(0.961)	(1.120)	(0.203)	(6.182)	(0.973)	(0.259)	(5.080)
L. Dependent variable	/	/	−0.024	/	/	−0.071**	/	/	−0.059	/	/	−0.072*
			(0.034)			(0.035)			(0.045)			(0.038)
L.CC	/	/		/	/		/	/		/	/	

(*continued on next page*)

Table 11 (*continued*)

Variables	Announced			Accomplished			Announced			Accomplished		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	OLS	PPML	GMM	OLS	PPML	GMM	OLS	PPML	GMM	OLS	PPML	GMM
			−0.003			−0.005***			−0.001			0.002
			(0.002)			(0.002)			(0.002)			(0.015)
Observations	1551	1551	1410	1551	1551	1410	1551	1551	1410	1551	1551	1410
Number of countries	141	141	141	141	141	141	141	141	141	141	141	141
R-square	0.5783	0.8789	/	0.4746	0.7131	/	0.7878	0.8355	/	0.7386	0.7103	/
Pseudo log-likelihood	/	−983.1477	/	/	−786.5399	/	/	−1115.1457	/	/	−792.1918	/
AR (1)	/	/	−3.603***	/	/	−2.779***	/	/	−3.571***	/	/	−3.017***
AR (2)	/	/	0.704	/	/	0.451	/	/	0.708	/	/	0.280
Sargan p value			0.112			0.093			0.124			0.115
Time Period	2006–2017	2006–2017	2006–2017	2006–2017	2006–2017	2006–2017	2006–2017	2006–2017	2006–2017	2006–2017	2006–2017	2006–2017
Country fixed effects	No	No	No	No	No	No	No	No	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: 1. Robust standard errors are reported in parentheses; 2. *, ** and *** represents the 10%, 5% and 1% significance level, respectively.

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Appendix A. Supplementary data

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References

Acemoglu, D., Johnson, S., & Robinson, J. A. (2001). The colonial origins of comparative development: An empirical investigation. *The American Economic Review, 91*(5), 1369–1401.
Acemoglu, D., Johnson, S., & Robinson, J. A. (2005). Institutions as a fundamental cause of long-run growth. *Handbook of Economic Growth, 1*(5), 385–472.
Ahern, K. R., Daminelli, D., & Fracassi, C. (2015). Lost in translation? The effect of cultural values on mergers around the world. *Journal of Financial Economics, 117*, 165–189.
Ahiabor, F. S., James, G. A., Kwabi, F. O., & Siems, M. M. (2018). Shareholder protection, stock markets and cross-border mergers. *Economics Letters, 171*, 54–57.
Akhtaruzzaman, M., Berg, N., & Lien, D. (2017). Confucius institutes and FDI flows from China to africa. *China Economic Review, 44*, 241–252.
Alimove, A., & Officer, M. S. (2017). Intellectual property rights and cross-border mergers and acquisitions. *Journal of Corporate Finance, 45*, 360–377.
Anderson, J. E. (1979). A theoretical foundation for the gravity equation. *The American Economic Review, 69*(1), 106–116.
Arellano, M., & Bong, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies, 58*(2), 277–297.
Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics, 68*(1), 29–51.
Baker, S. R., Bloom, N., & Davis, S. J. (2016). Measuring economic policy uncertainty. *Quarterly Journal of Economics, 131*(4), 1593–1636.
Beugelsdijk, S., & Frijns, B. (2010). A cultural explanation of the foreign bias in international asset Allocation. *Journal of Banking & Finance, 34*, 2121–2131.
Beugelsdijk, S., Slangen, A., Masland, R., & Onrust, M. (2014). The impact of home–host cultural distance on foreign affiliate sales: The moderating role of cultural variation within host countries. *Journal of Business Research, 67*, 1638–1646.
Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics, 87*(1), 115–143.
Bonaime, A., Gulen, H., & Ion, M. (2018). Does policy uncertainty affect mergers and acquisitions? *Journal of Financial Economics, 129*, 531–558.
Chen, K. M. (2013). The effect of language on economic behavior: Evidence from savings rates, health behaviors, and retirement assets. *The American Economic Review, 103*(2), 690–731.
Cheng, L. K. (2016). Three questions on China's "belt and road initiative". *China Economic Review, 40*, 309–313.
Cheung, Y., & Qian, X. (2009). Empirics of China's outward direct investment. *Pacific Economic Review, 14*(3), 312–341.
Couclelis, H. (1996). The death of distance. *Environment and Planning B: Planning and Design, 23*, 387–389.
Cuervo-Cazurra, A. (2011). Global strategy and global business environment: The direct and indirect influences of the home country on a firm's global strategy. *Global Strategy Journal, 1*(3–4), 382–386.
Cuervo-Cazurra, A., Luo, Y., Ramamurti, R., & Ang, S. H. (2018). The Impact of the home country on internationalization. *Journal of World Business, 53*, 593–604.
Du, J., Lu, Y., & Tao, Z. (2012). Institutions and FDI location choice: The role of cultural distances. *Journal of Asian Economics, 23*, 210–230.
Du, J., & Zhang, Y. (2018). Does One Belt One Road initiative promote Chinese overseas direct investment? *China Economic Review, 47*, 189–205.
Erel, I., Liao, R. C., & Weisbach, M. S. (2012). Determinants of cross-border mergers and acquisitions. *The Journal of Finance, 67*(3), 1045–1082.
Feito-Ruiz, I., & Menéndez-Requejo, S. (2011). Cross-border mergers and acquisitions in different legal environments. *International Review of Law and Economics, 31*, 169–187.
Fidrmuc, J., & Fidrmuc, J. (2016). Foreign languages and trade: Evidence from a natural experiment. *Empirical Economics, 50*(1), 31–49.
Guiso, L., Sapienza, P., & Zingales, L. (2006). Does culture affect economic outcomes? *The Journal of Economic Perspectives, 20*, 23–48.
Harford, J. (2005). What drives merger waves? *Journal of Financial Economics, 77*, 529–560.
Haveman, H. A., Jia, N., Shi, J., & Wang, Y. (2017). The dynamics of political embeddedness in China. *Administrative Science Quarterly, 62*(1), 67–104.
Head, K., Mayer, T., & Ries, J. (2010). The erosion of colonial trade linkages after independence. *Journal of International Economics, 81*, 1–14.
Huang, Y. (2016). Understanding China's belt & road initiative: Motivation, framework and assessment. *China Economic Review, 40*, 314–321.
Hu, M., & Yang, J. (2016). The role of leverage in cross-border mergers and acquisitions. *International Review of Economics & Finance, 43*, 170–199.
Joshi, A. M., & Lahiri, N. (2014). Language friction and partner selection in cross-border R&D alliance formation. *Journal of International Business Studies, 46*(2), 123–152.
Katelouzou, D., & Siems, M. (2015). Disappearing paradigms in shareholder protection: Leximetric evidence for 30 countries, 1990–2013. *Journal of Corporate Law Studies, 15*(1), 127–160.
Kedia, B. L., & Bilgili, T. V. (2015). When history matters: The effects of historical ties on the relationship between institutional distance and shares acquired. *International Business Review, 24*, 921–934.
Larsson, R., & Lubatkin, M. (2001). Achieving acculturation in mergers and acquisitions: An internal case survey. *Human Relations, 54*(12), 1573–1607.
Lazear, E. (1999). Culture and language. *Journal of Political Economy, 107*(6), 95–126.
Lebedev, S., Peng, M. W., Xie, E., & Stevens, C. E. (2015). Mergers and acquisitions in an out of emerging economies. *Journal of World Business, 50*, 651–662.
Lee, S., Kim, J., & Park, B. (2015). Culture clashes in cross-border mergers and acquisitions: A case study of Sweden's volvo and South Korea's samsung. *International Business Review, 24*, 580–593.
Lee, S. M., & Peterson, S. J. (2000). Culture, entrepreneurial orientation, and global competitiveness. *Journal of World Business, 35*(4), 401–416.

Lee, S., Shenkar, O., & Li, J. (2008). Cultural distance, investment flow and control in cross-border cooperation. *Strategic Management Journal, 29*, 1117–1125.
Li, L., Duan, Y., He, Y., & Chan, K. C. (2018). Linguistic distance and mergers and acquisitions: Evidence from China. *Pacific-Basin Finance Journal, 49*, 81–102.
Lien, D., & Co, C. Y. (2013). The effect of Confucius institutes on US exports to China: A state level analysis. *International Review of Economics & Finance, 27*, 566–571.
Lien, D., Ghosh, S., & Yamari, S. (2014). Does the Confucius institute impact international travel to China? A panel data analysis. *Applied Economics, 46*(17), 1985–1995.
Lien, D., & Miao, L. (2018). Effects of Confucius institutes on China's higher education exports: Evidence from Chinese partner universities. *International Review of Economics & Finance, 57*, 134–143.
Lien, D., Oh, C. H., & Selmier, W. T. (2012). Confucius institute effects on China's trade and FDI: Isn't it delightful when folks Afar study *Hanyu*? *International Review of Economics & Finance, 21*, 147–155.
Lien, D., Yao, F., & Zhang, F. (2017). Confucius institute's effects on international travel to China: Do cultural difference or institutional quality matter? *Applied Economics, 49*(36), 3669–3683.
Li, J., Li, P., & Wang, B. (2016). Do cross-border acquisitions create value? Evidence from overseas acquisitions by Chinese firms. *International Business Review, 25*, 471–483.
Lim, j., Makhija, A. K., & Shenkar, O. (2016). The asymmetric relationship between national cultural distance and target premiums in cross-border M&A. *Journal of Corporate Finance, 41*, 542–571.
Lin, F., & Sim, N. C. S. (2012). Death of distance and the distance puzzle. *Economics Letters, 116*(2), 225–228.
Liu, A., Lu, C., & Wang, Z. (2018). The roles of cultural and institutional distance on international trade: Evidence from China's trade with the Belt and Road countries. *China Economic Review*. https://doi.org/10.1016/j.chieco.2018.10.001 (in press).
Melitz, J. (2008). Language and foreign trade. *European Economic Review, 52*, 667–699.
Meyer, K. E., Ding, Y., Li, J., & Zhang, H. (2014). Overcoming distrust: How state owned enterprises adapt their foreign entries to institutional pressures abroad. *Journal of International Business Studies, 45*(8), 1005–1028.
Meyer, K., & Thaijongrak, O. (2013). The dynamics of emerging economy MNEs: How the internationalization process model can guide future research. *Asia Pacific Journal of Management, 30*(4), 1125–1153.
Rossi, S., & Volpin, P. F. (2004). Cross-country determinants of mergers and acquisitions. *Journal of Financial Economics, 74*, 277–304.
Silva, J. S., & Tenreyro, S. (2006). The log of gravity. *The Review of Economics and Statistics, 88*(4), 641–658.
Slangen, A. (2006). National cultural distance and initial foreign acquisition performance: The moderating effect of integration. *Journal of World Business, 41*, 161–170.
Stahl, G. K., & Voigt, A. (2008). Do cultural differences matter in mergers and acquisition: A tentative model and examination. *Organization Science, 19*(1), 160–176.
Vermeulen, F., & Barkema, H. (2001). Learning through acquisitions. *Academy of Management Journal, 44*(3), 457–476.
Volet, S. E., & Ang, G. (1998). Culturally mixed groups on international campuses: An opportunity for inter-cultural learning. *Higher Education Research and Development, 17*(1), 5–23.
Wan, W. P., & Hoskisson, R. E. (2003). Home country environments, corporate diversification strategies, and firm performance. *Academy of Management Journal, 46*, 27–45.
Wang, H., Fidrmuc, J., & Tian, Y. (2020). Growing against the background of colonization? Chinese labor market and FDI in a historical perspective. *Int. Rev. Econ. Finance, 69*, 1018–1031.
Wu, C., & Xie, N. (2010). Determinants of cross-border merger & acquisition performance of Chinese enterprises. *Procedia Social and Behavioral Sciences, 2*, 6896–6905.
Xie, E., Reddy, K. S., & Liang, J. (2017). Country-specific determinants of cross-border mergers and acquisitions: A comprehensive review and future. *Journal of World Business, 52*, 127–183.
Xu, E. Q. (2017). Cross-border merger waves. *Journal of Corporate Finance, 46*, 207–231.
Xu, D., & Shenkar, O. (2002). Institutional distance and the multinational enterprise. *Academy of Management Review, 27*(4), 608–618.
Yan, Z. J., Zhu, J. C., Fan, D., & Kalfadellis, P. (2018). An institutional work view toward the internationalization of emerging market firms. *Journal of World Business, 53*, 682–694.
Zhai, F. (2018). China's belt and road initiative: A preliminary quantitative assessment. *Journal of Asian Economics, 55*, 84–92.