How bilateral investment treaties affect cross-border mergers and acquisitions: Novel evidence from China's internationalization

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ABSTRACT

Utilizing a comprehensive dataset of China and 127 host economies from 2004 to 2019 at both national level and firm level, we investigate how bilateral investment treaties (BITs) between China and global economies affect China's outbound cross-border mergers and acquisitions (CBMA). Our results demonstrate a positive effect of BITs on CBMA and such a promoting effect varies across host countries with different institutional and economic settings. While the most-favored-nation clause and umbrella clause are the underlying mechanisms accounting for the incentives of CBMA in the stage of pre-acquisitions, the expropriation and compensation clause drives the successful rate of CBMA. Further, non-state-owned enterprises display stronger incentive than state-owned enterprises.

1. Introduction

Since globalization has become the mainstream trend of development over the past decades, the importance of cooperations worldwide has drawn increasing attention. In the wave of globalization, the scale of investment has been continuously expanding, and cross-border mergers and acquisitions (CBMA) have been a major form of international capital movement. According to United Nations Conference on Trade and Development,[1] the global total cross-border investment reached 1.5 trillion US dollars in 2022. In the course of international investment and its aftermath, multinationals can benefit from CBMA activities by absorbing advanced technology and know-how, gaining the brand awareness of the acquirer, lowering the marketing cost, and facilitating resource allocation, which can effectively promote the economic development in global markets (Harford, 2005; Erel et al., 2012; Kim, 2009; Li and Zhao, 2021; Wang et al., 2021). Nevertheless, the activities of CMBA encounter several challenges including institutional differences, cultural barriers, inefficient management and political risks, etc.

Defined as written agreements signed between countries to protect and promote investment activities between signatory economies, Bilateral Investment Treaties (BITs) play crucial roles in internationalization by facilitating global capital flows (Neumayer and Spess, 2005; Egger and Merlo, 2007; Kerner, 2009; Frenkel and Walter, 2019). Since the United States formulated the BIT Model 3, the scopes of BITs have been extended to many fields such as investment protection, asset transfer, asset security, arbitration management, and investment services. With the continuous expansion of the scopes and applications, BITs have become increasingly important in

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the field of international investment, especially in the current unstable global economic environment. As the world's largest emerging market, China has attached great importance to promoting the development of BITs. During President Xi Jinping's visit to the United States in 2015, he proposed "accelerating the negotiation of BITs and establishing more open and transparent market rules". Combined with China's fast-growing total global investment, the BITs signed by China are representative of expanding the scale and scopes of CBMA. The current negotiations of the BITs between China and the United States alongside the spread of the "Negative List and Pre-admission National Treatment" foreign investment management model have attracted increasing attention and discussions alike. Yet, the effect of BITs on CBMA activities and the underlying mechanisms remain underexplored.

Towards a fuller understanding of the nexus between BITs and CBMA, therefore, this paper investigates the casual effect of BITs on CBMA based on a comprehensive panel dataset covering 127 countries over the period of 2004–2019. The main goal of our empirical strategy is to assess whether BITs signed between a home country and host countries can effectively promote the home country's outbound CBMA. To preview the main findings, we first demonstrate that BITs between China and partner countries significantly promote China's CBMA activities. To examine whether the quality of BITs matters, we decompose the BITs from several dimensions and unravel the internal underlying mechanisms via which BITs serve the function. Moreover, the estimated outcomes suggest that comprehensive and high-quality BITs are more effective in promoting the activities of CBMA. By taking the ownership types into accounts, we further show that non-state-owned enterprises (non-SOEs) display stronger incentive for CBMA than state-owned enterprises (SOEs). These findings are largely consistent with both country-level and firm-level estimates, and robust to various specifications.

The contributions of our work are several folded. First, there have long been debates on what determines the activities of CBMA in decades. Many studies have provided empirical evidence from various aspects including home country institutions and host country institutions (Rossi and Volpin, 2004; Cuervo-Cazurra et al., 2007; Erel et al., 2012; Ahern and Fracassi, 2015; Estrin et al., 2016), rooted on the framework of liability of foreignness (LOF) (Zaheer, 1995). From the perspective of global investment treaties, our paper enriches the CBMA literature by arguing BITs can serve as policy driven economic ties between home country and host country.

Second, economic policy uncertainty has been explicitly considered as one of the most detrimental factors that impede economic development including real output, cooperate innovation, resource allocation, and firm investment (Bhattacharya et al., 2017; Chen et al., 2019; Istiak and Serletis, 2018; Kundu and Paul, 2022). This paper extends the strand of economic policy uncertainty studies by highlighting the role of BITs as an effective policy tool to lower the bilateral economic policy uncertainty and promote CBMA.

Third, an extensive body of research has investigated the economic effect of BITs on globalization with strong preference in international trade, foreign direct investment and global value chain (Neumayer and Spess, 2005; Egger and Merlo, 2007; Desbordes and Vicard, 2009; Colen et al., 2016; Boffa et al., 2019; Heid and Vozzo, 2020), yet less efforts have been devoted to the association between BITs and the activities of CBMA, a major form of foreign direct investment. Hence, our work contributes to the literature by quantifying the casual effect of BITs on CBMA.

In addition, a main strand of literature has documented the internationalization of state-owned enterprises (Estrin et al., 2016; Cuervo-Cazurra and Li, 2021). Controlled by the central government, SOEs are an important tool with political objectives for implementing the home country's global policies, especially for emerging markets like China, Russia and India (Cui and Jiang, 2012; Estrin et al., 2009, 2016). As such, our work complements these studies by comparing the differential influences on international strategies of SOEs and non-SOEs from the perspective of BITs.

Moreover, our work sheds new lights on the internal mechanisms of BITs. Inspired by studies underscoring that the efficacy of the agreements promoting economic cooperations is largely contingent on the specific contexts and chapters in a typical agreement (Boffa et al., 2019; Heid and Vozzo, 2020), we further probe into the content of the treaties from several dimensions including investment definition and scopes, fair and just treatment, national treatment, most-favored-nation treatment, expropriation compensation, umbrella and investment dispute settlement, which enables us to clearly identify the underlying mechanisms via which the BITs trigger the flow of CBMA.

The rest of the paper proceeds as follows. The next section discusses the related literature. Section 3 describes the methodology and data in use. Section 4 presents the main results and robustness checks. Section 5 explores the underlying mechanisms. Section 6 conduct firm level analyses. Section 7 concludes.

2. Literature review

The massive flux of international capital has been a symbolic phenomenon in the course of globalization. CBMA has become the most common form of global investment and resource allocation. According to the liability of foreignness theory (LOF), multinationals have to deal with unacquainted business environment with extra costs when entering into foreign markets (Zaheer, 1995). On the basis of the theoretical framework of LOF, a large number of studies have explored the determinants of CBMA from various aspects in terms of economic development, institutional settings, political relationship, cultural familiarity, policy influences and historical ties, etc. (Rossi and Volpin, 2004; Erel et al., 2012; Ahern and Fracassi, 2015; Chowdhury and Maung, 2018; Li et al., 2020; Wang and Luo, 2020, 2022; Wang et al., 2021; Lian et al., 2024).

In exploring the determinants of CBMA activities, many studies start from the perspective of economic development. Early attempts ascribe the rise of CBMA to the economic development with capital accumulations (Barney, 1991; Harford, 2005). The economic growth alongside rapid development of new technology reduces the barriers of cross borer investment as it can lower the cost of transaction, operation, communication, transportation and market entry (Levitt, 1983; Coeurdacier et al., 2009; Goldfarb and Tucker, 2019; Luo et al., 2023). Although economic development has promoted mergers and acquisitions in the global context, the huge income gap between nations creates barriers for CBMA activities due to divergence in business environment and output scale,

industrial structure and market competition. Whereas developed countries have benefited more from CBMA in the context of economic globalization due to their leadership in the global economy regarding the formulation of economic and trade rules, developing countries display relatively lower CBMA incentives (Jedin, 2012; Zhou et al., 2016).

Political risks cannot be neglected in studying global economic activities as government intervention can lead to higher fit-in cost for multinationals (Pollins, 1989; Kono, 2006). Under this framework, empirical studies show that host countries with stable political environment are more likely to attract international investment as well as enhance the success rate of mergers and acquisitions, especially for those countries with weak institutions (Rajan and Zingales, 2003; Rossi and Volpin, 2004; Chari et al., 2009; Pablo, 2013). Consistently, due to unfavorable institutional environment in domestic market, major enterprises from emerging countries tend to acquire multinationals from developed countries to access global market, obtain know-how diffusions and seek for better intellectual property rights protection for long-run development (Estrin et al., 2016; He and Zhang, 2018; Li et al., 2020).

Cultural similarity also plays an essential role in shaping the activities of CBMA. Conventional wisdom contends that greater cultural disparity is associated with lower incentive of CBMA activities due to the extra fit-in cost (Kogut and Singh, 1988; Morosini et al., 1998; Ahern and Fracassi, 2015; Sarala et al., 2019). Cultural differences can lead to obstacles to the process of enterprise resource integration, which may lead to the failure of CBMA (Schraeder and Self, 2003; Stahl and Voigt, 2008). In support of this, an emerging strand of literature investigates the impact of cultural familiarity on CBMA activities from the perspective of sister city partnership, cultural institutes, language barrier, historical legacies and more recently, international background of corporate executives (Chowdhury and Maung, 2018; Bazel-Shoham et al., 2020; Wang et al., 2021; Lian et al., 2024; Agcayazi et al., 2024).

Among others, institutional settings are the fundamental cause influencing the CBMA activities. Because legal systems, law enforcement, government bureaucracy and market regulation are essential for firm development, firms' CBMA activities are significantly affected by the institutional environment. Institutional environment in both home and host country matters in this context. According to the institutional theory, firms tend to escape from home countries with severe institutional constraints to countries with favorable institutions (Cuervo-Cazurra et al., 2007; Witt and Lewin, 2007; Contractor et al., 2014; Estrin et al., 2016), which helps explain the increasing investments overseas in the form of mergers and acquisitions from developing countries that have still been castigated for their weak and turbulent institutional environment. In light of this, empirical studies find a negative impact of institutional distance on CBMA activities due to extra operation, transaction, information and communication costs in unfamiliar foreign environment, especially in the short run (Rottig and Reus, 2009; Li et al., 2020).

As important agreements that can proactively alleviate the policy uncertainty, investment risks and information asymmetry caused by the institutional distance, the role of BITs has been widely investigated. BITs are generally believed to exert beneficial effects to attract foreign direct investments and facilitate international trade. For instance, Busse et al. (2010) find that BITs do promote FDI flows to developing countries, displaying a substitution effect for weak domestic institutions. Focusing on foreign investment in German, Egger and Merlo (2012) show that BITs increase the number of multinational firms and also exert a positive effect on the number of plants per firm. Comparing the effects of BITs on vertical and horizontal FDI, Sirr et al. (2017) find that BITs have stoner impacts on vertical FDI. Similarly, Heid and Vozzo (2020) find that BITs can promote bilateral trade flows by similar amounts as regional trade agreements (RTAs) with an investment chapter, emphasizing the important role of specific contexts in the treaties. On the contrary, however, some studies report insignificant relationship between BITs and international trade and investments (Rose-Ackerman and Tobin, 2005; Haftel, 2010) while other studies detect a U-shaped relationship between institutional distance and CBMA performance (e.g., see Li et al., 2020 among others).

Since institutional distance coevolves with both home and host country institutional settings, BITs are signed, introduced and implemented after several rounds of bilateral communications and negotiations largely adapting to domestic social economic development of each country, thereby serving to bridge the institutional gap between home and host country. All stages of BITs from communication to completion send positive signals of committing open market economy, developing advantageous investment environment, as well as simplifying transaction, entry and operation regulations to encourage cross-border investments (Salacuse and Sullivan, 2005). In acquiring a foreign firm, multinationals can benefit from policy dividends such as tax exemption, research grants and local subsidies, which in turn stimulates the incentive of CBMA activities (Harford, 2005; Erel et al., 2012). While supporting the efficacy of BITs in a practical manner, multinationals can also take over foreign market share in the host country, which exerts a demonstration effect on other multinationals, creating scale effect of CBMA activities (Harford, 2005; Egger and Merlo, 2012; Wang et al., 2021).

Under legal protection, BITs are also conducive to weakening the information asymmetry cultural differences between home and host countries (Kerner, 2009; Poulsen and Aisbett, 2013). For example, a number of studies show that sister-city partnership with more BITs can lead to more CBMA activities as sister-city partnership can promote cultural convergence that not only lowers miscommunications but also enhances social trust (Wang and Luo, 2022; Lian et al., 2024). Moreover, BITs are considered as the primary legal mechanism protecting foreign direct investment (FDI) around the world, thereby increasing investors' confidence in conducting CBMA activities (Kerner, 2009). Serving as formal protection for cross-border investments, BITs also imply an intimate and strengthened bilateral political relationship that can deepen the economic cooperations and in a certain period, which lowers the political risks that repel the CBMA activities (Desbordes and Vicard, 2009).

Rooted on the LOF theory, our study bridges the literature investigating the determinants of CBMA and the literature focusing on the impact of BITs by arguing that BITs can proactively mitigate the liability of foreignness and promote the CBMA activities. We quantify whether BITs signed between China and 127 global economies can promote China's outbound CBMA activities. In doing so, we construct a comprehensive dataset pertaining to both aggregate level data and firm level data for the empirical strategy. We first employ the aggregate level data in the baseline estimates as it has the advantage to offer a fuller insight of a country's internationalization capability (Hijzen et al., 2008; Chowdhury and Maung, 2018; Wang et al., 2021; Han et al., 2022). Aware of the decision of

Table 1
The list of Sample countries by continent by 2019.

Region	Country
Asia	United Arab Emirates, Oman, Azerbaijan, Pakistan, Bhutan, Republic of Korea, Philippines, Kazakhstan, Cambodia, Laos, Lebanon, Malaysia, Mongolia, Myanmar, Nepal, Japan, Tajikistan, Thailand, Turkey, Brunei Darussalam, Singapore, Islamic Republic of Iran, Israel, India, Indonesia, Vietnam
Europe	Albania, Ireland, Estonia, Austria, The Republic of Belarus, Bulgaria, Northern Macedonia, Belgium, Iceland, Poland, Bosnia, Herzegovina, Denmark, Germany, Russia, France, Finland, The Netherlands, Montenegro, Czech Republic Croatia, Latvia, Lithuania, Luxembourg, Malta, Moldova, Norway, Portugal, Sweden, Switzerland, Serbia, Cyprus, Slovak Republic, Slovenia, Ukraine, Spain, Greece, Hungary, Italy, United Kingdom
Africa	Burkina Faso, Burundi, Togo, Gambia, Congo-Brazzaville, Guinea-Bissau Republic, Comoros, Côte d'Ivoire, Liberia, Madagascar, Malawi, Mauritius, Mauritania, South Africa, Niger, Senegal, Seychelles, São Tomé and Príncipe, Swaziland, Central African Republic
North America	Antigua and Barbuda, Barbados, Bahamas, Panama, Dominican Republic, Costa Rica, Grenada, Honduras, Canada, United States of America, Mexico, Nicaragua, El Salvador, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, Guatemala, Jamaica
South America	Argentina, Paraguay, Brazil, Bolivia, Dominica, Ecuador, Columbia, Guyana, Peru, Suriname, Bolivarian, Republic of Venezuela, Uruguay, Chile
Oceania	Australia, Papua New Guinea, Fiji, Kiribati, The Federated States of Micronesia, Palau, Samoa, Solomon Islands, Tonga, New Zealand

Source: Authors' collection based on WIND.

Table 2
Descriptive statistics.

| Variable	Variable Definition	N	Mean	Std. Dev	Min	Max
Anno	Announced CBMA	2032	0.979	4.091	0	73
Acco	Accomplished CBMA	2032	0.539	2.136	0	36
Annof	Announced CBMA firm-level	3,338,400	0.001	0.008	0	1.099
Accof	Accomplished CBMA firm-level	3,338,400	0.001	0.008	0	1.001
BITs	Whether sign BIT with China	2032	0.126	0.332	0	1
Gdp	Gross national product	2032	24.371	2.537	18.742	30.537
Ins	Institutional quality	2032	0.177	0.871	−1.798	1.960
Er	Bilateral exchange rate	2032	1.687	2.027	0.026	8.728
Inf	Inflation rate	2032	0.049	0.119	−1.489	2.549
Pop	Population	2032	15.519	2.109	9.775	21.035
Res	Resource intensity	2032	0.157	0.179	0.001	0.687
Sci	Technology intensity	2032	3.537	3.527	0.001	12.817
Tra	Trade scale	2032	4.119	1.221	0.001	6.083
Dis	Geographical distance	2032	8.998	0.554	6.696	9.867
Size	Firm size	3,338,400	21.970	1.303	14.941	28.640
Fass	Fixed asset ratio	3,338,400	0.232	0.172	0	0.971
Lev	Leverage ratio	3,338,400	0.434	0.207	0.007	0.998
PB	Price-to-book ratio	3,338,400	4.146	20.680	0.121	2789
Audit	Audit advisor dummy	3,338,400	13.510	0.677	10.311	18.140
Age	Firm age	3,338,400	1.986	0.894	0	3.401
Age^2	Square of firm age	3,338,400	4.744	3.094	0	11.571
SOE	State ownership	3,338,400	0.434	0.496	0	1

CBMA is fundamentally firm level behavior, we then utilize the firm level data to conduct robustness checks and further analyses regarding firm ownerships.

With national strategic objectives, SOEs' internationalization targets on more challenging markets even with adverse market reactions (Cuervo-Cazurra and Li, 2021). As a comparison, non-SOEs tend to invest abroad because of weak home institutional settings that restrain their access to the financial resources (Song et al., 2011). Yet, the internationalization strategies of SOEs and Non-SOEs converge when home country institutions are effective (Estrin et al., 2016). Our study joins the discussions on comparison between internationalization strategies of SOEs and those of non-SOEs by conducing further analyses to examine whether the impact of BITs on CBMA activities varies if the acquiring firms are state owned.

Moreover, the effectiveness of BITs is dependent on the contents written in the agreements. For example, in an inspiring work, Boffa et al. (2019) contend that BITs deal exclusively with investment protection to facilitate capital flows and the establishment of foreign affiliates whereas RTAs introduce commitments that span beyond investment. As such, the content in BITs is more explicit and concrete in terms of investment regulations than other agreements in general and a specific bilateral investment treaty also has different content with other BITs. Therefore, unlike previous studies simply adopting the number of BITs in the empirical strategy, we account the content of BITs and explore the underlying mechanisms accordingly.
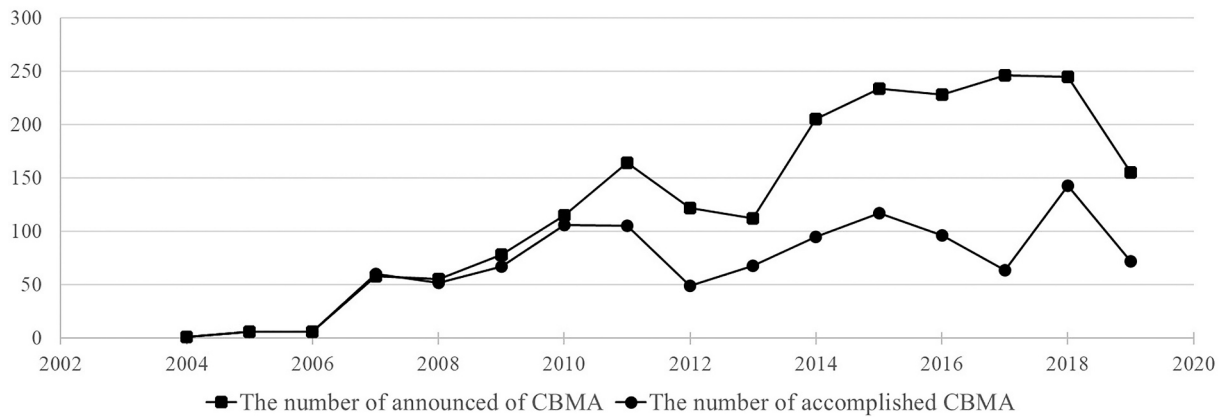
Fig. 1. The Chinese CBMA in 127 sample countries from 2004 to 2019.
(Source: Authors' plot based on WIND.)
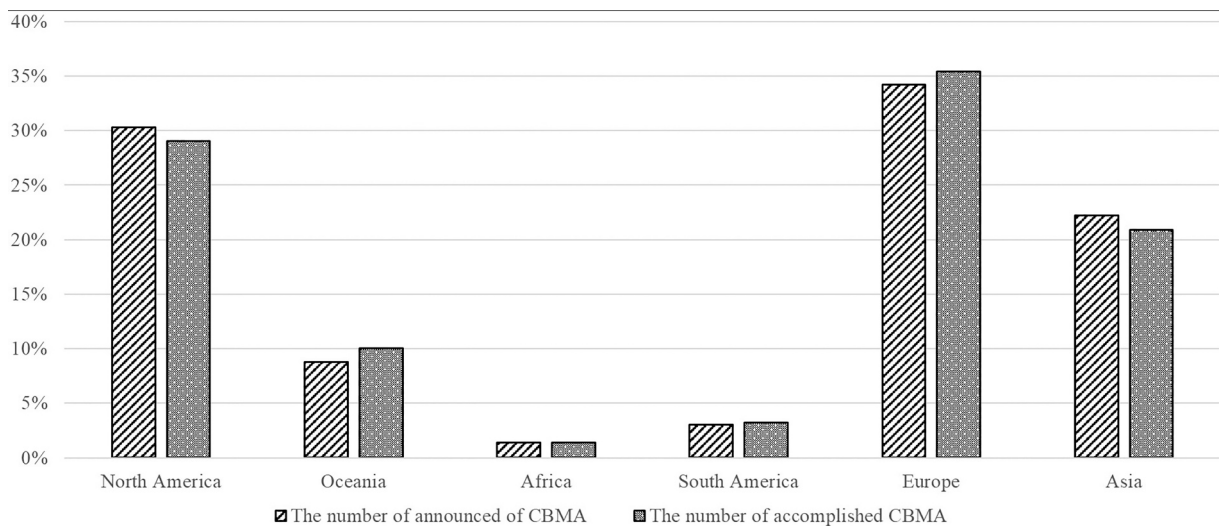
Fig. 2. The percentage of Chinese CBMA in sample countries from 2004 to 2019.
(Source: The authors' plot based on WIND.)

3. Data and methodology

3.1. Data

To investigate the impact of BITs signed by China on its outbound CBMA activities, we construct a comprehensive panel dataset covering 127 countries from 2004 to 2019 from various data sources including the Chinese Ministry of Commerce, WIND database, the World Bank, the Worldwide Governance Indicator and Zephyr database, etc. Specifically, we gather CBMA transaction data at including the announced CBMA and accomplished CBMA activities are sampled from WIND and Zephyr database, which have been widely used in CBMA studies. As important measures of CBMA activities, announced CBMA refers to the willingness and incentives of mergers and acquisitions whereas accomplished CBMA captures the successful rate of mergers and acquisitions (Wang et al., 2021; Han et al., 2022). In particular, we extract the sample from WIND by the following rules: (1) We select the headquarters of the acquiring companies located solely in mainland China. (2) We exclude the companies in financial industry due to higher heterogeneity compared to other industries. (3) We exclude the CBMA with "rumor" transaction status. (4) We exclude the tax haven target countries (the Cayman Islands, the British Virgin Islands, the Bermuda Islands, and the Jersey Island). (5) We exclude samples with severe missing values. Table 1 presents the sample countries by continent by 2019. Table 2 reports the descriptive statistics.

Fig. 1 presents the trend of Chinese CBMA activities in terms of announced CBMA and accomplished CBMA in the sample countries from 2004 to 2019. Starting in 2004, only 2 CBMA took place and the quantity of CBMA maintained a low level until 2006. After 2006, the amount of CBMA entered a five-year period of rapid growth which intuitively reflects the possible impact of BITs signing on CBMA activities. During this period, the reform measures of the international monetary system implemented by the Chinese government have

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Table 3
The effect of BITs on CBMA: baseline estimates.

	(1)	(2)	(3)	(4)	(5)	(6)
	Anno	Acco	Anno	Acco	Anno	Acco
BITs	0.4321***	0.2474***	0.3514***	0.1855**	0.4174***	0.2292***
	(0.1067)	(0.0792)	(0.1054)	(0.0787)	(0.1250)	(0.0769)
Gdp			0.0079	0.0147	−0.2546	−0.1879
			(0.0283)	(0.0188)	(0.2153)	(0.1423)
Ins			0.1736*	0.1202***	0.1535*	0.0886
			(0.0623)	(0.0458)	(0.0906)	(0.0576)
Er			−0.0001	−0.0001	−0.0001	−0.0001
			(0.0001)	(0.0001)	(0.0001)	(0.0000)
Inf			0.0001	−0.0152	0.0344	0.0079
			(0.0593)	(0.0347)	(0.0669)	(0.0374)
Pop			0.0799**	0.0526**	−0.1592	−0.1589
			(0.0368)	(0.0257)	(0.2615)	(0.1582)
Res			−0.0077	−0.0466	0.0900	0.0202
			(0.0982)	(0.0683)	(0.1174)	(0.0696)
Sci			0.0252	0.0197**	0.0186	0.0129
			(0.0132)	(0.0097)	(0.0168)	(0.0121)
Tra			0.0071	0.0040	0.0157	0.0128
			(0.0149)	(0.0087)	(0.0203)	(0.0113)
Dis			−0.0475	−0.0148	−0.3224	−0.1194
			(0.0493)	(0.0390)	(0.4279)	(0.3008)
Number of countries	127	127	127	127	127	127
Time Period	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019
Country fixed effect	No	No	No	No	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2032	2032	2032	2032	2032	2032
R^2	0.1130	0.0720	0.3767	0.3252	0.6747	0.6460

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

also well responded to the risks of the global financial crisis and protected China's CBMA activities from being seriously impacted. Subsequently, due to the debt crisis of developed countries and the downward pressure of the world economy, the intensity of Chinese CBMA activities were weakened in the year of 2011 and 2012. However, in 2013 the proposal of the Belt and Road Initiative stimulated the vitality of China's CBMA activities and kept the number of both announced CBMA and accomplished CBMA at a high level.

Fig. 2 summarizes China's outbound CBMA activities in different regions from 2004 to 2019. As it shows, China's outbound CBMA activities mainly target on Europe and North America while less flow into South America and Africa where resources are relatively rich but development is relatively backward.

3.2. Empirical model

We adopt the progressive difference-in-differences (DID) model to investigate the causal effect of BITs on CBMA. A challenge to assess the causal relationship between BITs and CBMAs comes from the endogeneity caused by reverse causality and unobserved factors. With the difference-in-differences method, we can effectively estimate the marginal effect of BITs on Chinese CBMA by comparing the two differences between the control group and the processing group before and after the implementation of BITs, excluding the effects that do not change with the policy time and other external unobservable factors on China's CBMA. In a generalized DID model, the policy implementation time is a single time point, but BITs are signed with several countries one after the other, and there are differences in the effective time, thus forming a progressive double differences model. Therefore, we refer to the processing methods of Almond et al. (2019) to adopt a gradual DID model to assess the policy effect of BITs on the CBMA, which is thus specified as follows.

$$Y_{it} = \alpha + \beta Treat_{it} + X'_{it}\varphi + \eta_i + \mu_t + \varepsilon_{it} \tag{1}$$

Where Y_{it} is the number of CBMA in target country i in year t, including the number of announced CBMA (*Anno*) and accomplished CBMA (*Acco*). $Treat_{it}$ indicates the state of country i in year t. Considering that the BITs are based on the third edition model formulated by the United States in 2004, we set the following criteria for the assignment of $Treat_{it}$: if country i entered into or reassigned BITs with China in year t after 2004, then $Treat_{it}$ of that year and subsequent years are assigned with value 1 and otherwise 0. X'_{it} is a vector of control variables: (1) Economic development (GDP) is the host country's GDP value in log form. (2) Institutional quality (Ins) is measured by the average value of the indicators in Global Governance Indicators issued by the World Bank. (3) Bilateral exchange rate (Er) is measured by the exchange rate of RMB against the host country's currency. (4) Inflation (Inf) is measured by the absolute value of the inflation rate of the host country. (5) The population size (Pop) is measured by the logarithm of the population size of the host country. (6) Resource intensity (Res) is measured by the export proportion of resource products of the host country. (7) Technology Intensity (Sci) is measured by the export proportion of high-tech products in the host country. (8) Trade scale (Tra) is measured by the logarithmic total foreign trade of the host country. (9) Geographical distance (Dis) is measured by the geographical distance from
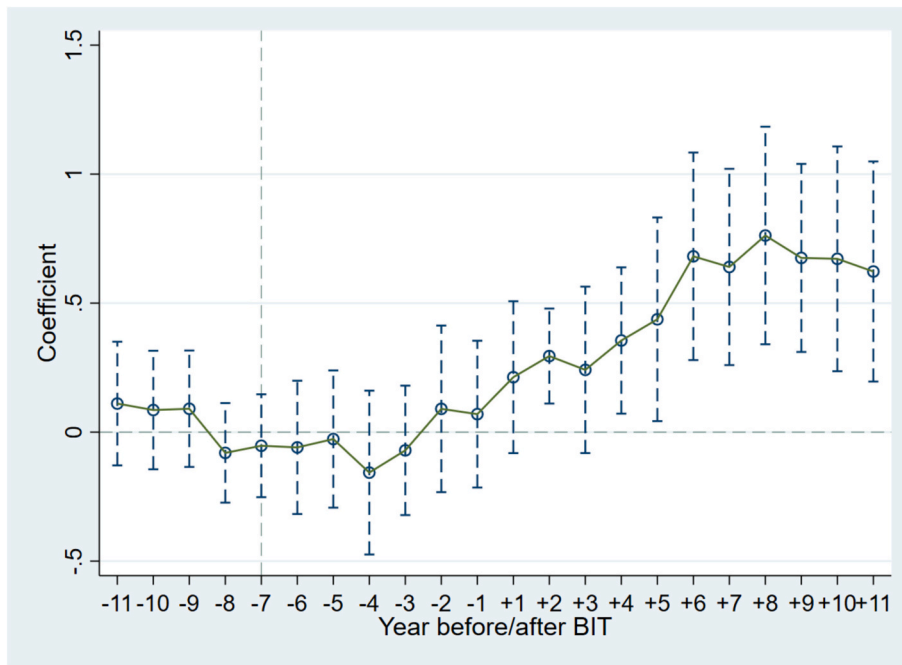
Fig. 3. Parallel trend test and dynamic effect identification.

Beijing to the capital of the host country. η_i and μ_t are the time-specific and country-specific variants, respectively. ε_{it} is the error term.

4. Main empirical strategies

4.1. Baseline estimate

Table 3 presents the baseline results for the effect of BITs on China's outbound CBMA activities with DID estimates. As expected, the coefficients of BITs are all statistically significant and positive in all columns, displaying a positive effect of BITs on CBMA activities in terms of both announced CBMA and accomplished CBMA. Specifically, the coefficients of BITs in columns (5)–(6) are 0.4174 and 0.2292, respectively, which indicates that compared with countries that have not signed BITs, the number of China's outbound announced and accomplished CBMA activities has increased by 41.74% and 22.92% in those countries with the BITs. This finding is well aligned with the previous literature showing that BITs have a positive effect on internationalization (Egger and Merlo, 2007, 2012; Bhagwat et al., 2021), adding credence to the LOF theory. The main results are consistent and robust after adding control variables and controlling the fixed effects of time trend, country and year.

4.2. Identification strategies

4.2.1. Parallel trend test

One of the basic assumptions of DID model is that the host country has a trend of parallel changes when BITs become effective. Therefore, we use the event analysis method to verify the parallel trend hypothesis and further analyze the dynamic impact effect of BITs as follows.

$$Y_{it} = \alpha + \sum_{s \geq -11}^{11} \beta_s D_s + X'_{it}\varphi + \gamma_i Trend_i + \delta_t + \eta_i + \varepsilon_{it} \tag{2}$$

Where D_s is a dummy variable when BITs enter into force. s indicates the length of years before and after the introduction of BITs. Due to the long period after the entry into force of BITs in the sample period, we set the pre-entry into force 4 years and more than 17 years after the entry into force of investment agreements as the benchmark group. The estimated parameter β_s and its corresponding 90% confidence interval are reported in Fig. 3. The results show that before the entry into force of BITs, the coefficients are around 0. Yet, after the entry into force of BITs, the values are all statistically significant at 90% level, which accords with the parallel trend hypothesis. Fig. 3 further shows that the policy effect of BITs has been gradually rising since its implementation.

4.2.2. Placebo test

Another important assumption of DID estimation is that the explained variable should not be significantly influenced by unobservable factors. Although we attempt to control the influence of the characteristics of the host country by adding country and time
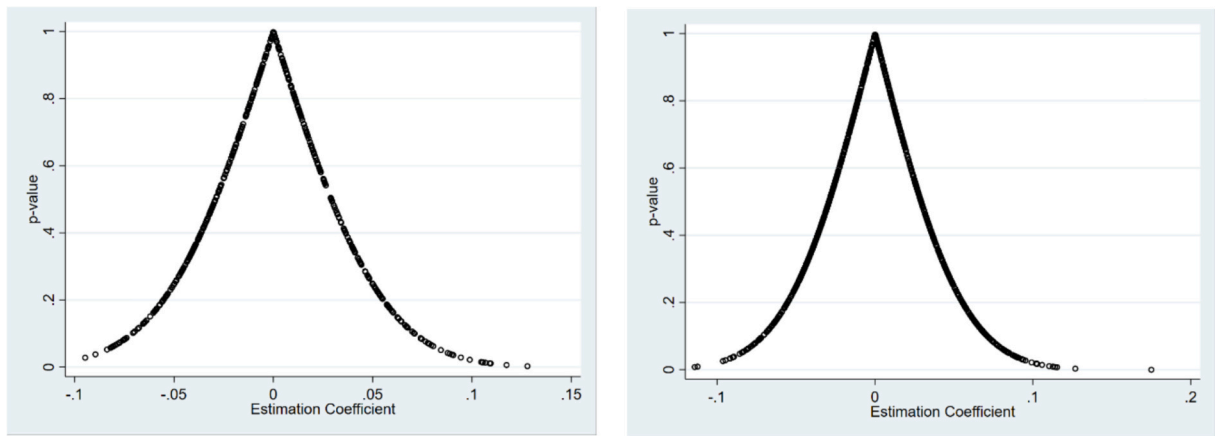
Fig. 4. Placebo test for 500 times and 1000 times simulation, respectively.

Table 4
The effect of BITs on CBMA: non-random selection estimates.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Anno	Acco	Anno	Acco	Anno	Acco	Anno	Acco
BITs	0.2475**	0.1496**	0.4599***	0.2755***	0.4494***	0.2681***	0.2501***	0.1508**
	(0.0994)	(0.0735)	(0.0987)	(0.0731)	(0.1002)	(0.0748)	(0.0948)	(0.0707)
OECD×Trend	0.0580***	0.0343***					0.0621***	0.0366***
	(0.01133)	(0.0077)					(0.0111)	(0.0076)
CONF×Trend			0.0580***	0.0338***			0.0651***	0.0388***
			(0.0188)	(0.0121)			(0.0184)	(0.0119)
BORD×Trend					0.0169	0.0022	0.0161	0.0018
					(0.0151)	(0.0091)	(0.0134)	(0.0082)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of countries	127	127	127	127	127	127	127	127
Time Period	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019
Country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2032	2032	2032	2032	2032	2032	2032	2032
R^2	0.6954	0.6475	0.6797	0.6384	0.6697	0.6325	0.7103	0.6554

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

fixed effects, there are still unobservable factors cannot be fully captured. To address this issue, we conduct an indirect placebo test and specify the following model.

$$\widehat{\beta} = \beta + \theta \times \frac{cov(Treat_{it}, \varepsilon_{it}|C)}{var(Treat_{it}|C)} \tag{3}$$

Where C represents the controlled variables, and θ represents the influence of unobservable factors. Since the list of countries that have signed BITs with China (and entry into force) is randomly generated, $\beta = 0$. If not, the value is 0, meaning that the baseline results are influenced by unobservable factors and can be biased. We randomly assign the control group and treatment groups for 500 and 1000 times. Fig. 4 presents the p-value distribution of estimates, which shows that the promotion effect of BITs on CBMA activities is not affected by unobservable factors.

4.2.3. Non-random selection test

The ideal condition of conducting a DID analysis is that the countries that have signed BITs with China are random in our context. However, the countries that have signed BITs are not random since the decisions are also related to their geographical location, political environment, economic development and cultural background. The inherent country characteristics can have an impact on the international investment environment with the time trend, which can lead to estimation bias. To mitigate the selection bias issue, therefore, we introduce the interaction term between country characteristics and time trend including whether the target country is OECD country (OECD), Confucian cultural country (CONF), and bordering country with China (BORD). As presented in Table 4, the results are largely consistent with the baseline estimates.

Table 5
The effect of BITs on CBMA: PSM-DID estimates.

	Radius matching		Kernel matching		Proximity matching	
	(1)	(2)	(3)	(4)	(5)	(6)
	Anno	Acco	Anno	Acco	Anno	Acco
BITs	0.4174***	0.2292***	0.4174***	0.2292***	0.4174***	0.2292***
	(0.0569)	(0.0467)	(0.0569)	(0.0467)	(0.0569)	(0.0467)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Number of countries	127	127	127	127	127	127
Time Period	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019
Country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2032	2032	2032	2032	2032	2032
R^2	0.6488	0.6178	0.6488	0.6178	0.6118	0.6210

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

Table 6
The effect of BITs on CBMA: controlling for BRI and DTAA.

	(1)	(2)	(3)	(4)	(5)	(6)
	Anno	Acco	Anno	Acco	Anno	Acco
BITs	0.4174***	0.2292***	0.3973***	0.2258***	0.3973***	0.2258***
	(0.1055)	(0.0769)	(0.1056)	(0.0755)	(0.1056)	(0.0755)
BRI × Trend	0.0291***	0.0196***			0.0257***	0.0190***
	(0.0084)	(0.0060)			(0.0089)	(0.0063)
DTAA×Trend			0.0122	0.0021	0.0122	0.0021
			(0.0077)	(0.0054)	(0.0077)	(0.0054)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Number of countries	127	127	127	127	127	127
Time Period	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019
Country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2032	2032	2032	2032	2032	2032
R^2	0.6431	0.6460	0.6765	0.6461	0.6765	0.6461

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

Table 7
The effect of BITs on CBMA: additional robustness tests.

	Lagged		PPML		Tail-shrunk	
	(1)	(2)	(3)	(4)	(5)	(6)
	Anno	Acco	Anno	Acco	Anno	Acco
BITs	0.4356***	0.2206**	0.2131***	0.0565	0.4074***	0.2335***
	(0.1129)	(0.0862)	(0.0825)	(0.0941)	(0.0848)	(0.0588)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2032	2032	2032	2032	2032	2032
Time Period	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019
Country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Number of countries	127	127	127	127	127	127
R^2	0.7093	0.6799	0.5521	0.4712	0.6393	0.5935

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

4.3. Robustness checks

4.3.1. PSM-DID estimates

To further ensure the baseline results are convincing and robust, we conduct a DID analysis with propensity score matching method (PSM-DID) with different matching methods including proximity matching, radius matching, and kernel matching in this section. In doing so, we aim to reduce the sample differences before and after the entry into force of BITs and alleviate the endogeneity problem caused by self-selection bias. The empirical results are shown in Table 5. The coefficients of BITs in all columns maintain the positive sign, indicating that the baseline results still hold to various matching methods of PSM-DID.

Table 8
The effect of BITs on CBMA: heterogeneity analyses accounting for host country characteristics.

	Conducive institutions		Weak institutions		Developed countries		Developing countries	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Anno	Acco	Anno	Acco	Anno	Acco	Anno	Acco
BITs	0.4303***	0.2250***	0.2324**	0.1524	0.3205**	0.1506	0.2819**	0.1674*
	(0.1224)	(0.0858)	(0.1152)	(0.1173)	(0.1551)	(0.1058)	(0.1330)	(0.1010)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of countries	127	127	127	127	127	127	127	127
Time Period	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019
Country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2032	2032	2032	2032	2032	2032	2032	2032
R^2	0.6584	0.6022	0.7029	0.6969	0.6787	0.6325	0.6708	0.6554

Notes: 1. Robust standard errors are in parentheses; 2. ***, **, and * indicate the significance levels of 1%, 5%, and 10%, respectively.

4.3.2. Excluding other investment policies

Another concern regarding the effect of BITs is the impact of other investment policies during the sample period. Launched in 2013, the Belt and Road Initiative (BRI) aims to expand the international network of economic cooperation between China and the rest of the world. Therefore, we take the potential impact of BRI and the double tax avoidance agreements (DTAA) into account. By controlling the interaction terms between the major policies and the time trend, we reassess the impact of BITs on CBMA activities. Table 6 reports the empirical results with control for BRI and DTAA, which again shows that BITs have significant promoting effect on outbound CBMA activities including both announced CBMA and accomplished CBMA.

4.3.3. Other robustness tests

To further verify the main results, we conduct additional robustness tests. First, BITs may display a hysteresis effect. We therefore deal with the variables of bilateral BITs with one-stage hysteresis. Second, the data for CBMA in terms of both announced and accomplished CBMA are of zero value in some years, hence we employ pseudo-Poisson maximum likelihood (PPML) estimation method for reverification which can address the zero-value issue. Third, in order to eliminate the disturbance of outliers, we tail-shrink top 5% and bottom 5% observations of the samples. As shown in Table 7, the results are largely consistent with our baseline findings.

4.4. Heterogeneity analyses

In this section, we conduct heterogeneity analyses based on institutional environment and economic development of the target countries. As shown in Table 8, columns (1)–(4) report the estimated results for the comparison between the target countries with constructive institutional environment and weak institutional environment. The coefficients of BITs in columns (1)–(2) are greater than those in columns (3)–(4), which means that the promoting effect of BITs singed between China and countries with conducive institutional environment is stronger than that of BITs singed between China and countries with weak institutional environment. In spite of BITs, international investment tends to flow into conducive institutional environment with effective legal systems emphasizing protection of property rights instead of extractive institutional environment with severe corruptions (Estrin et al., 2016; Istiak and Serletis, 2018; Bhagwat et al., 2021). We argue that even with BITs, the risks of economic, social and political uncertainty are still higher in countries with weak institutions than in countries with constructive institutions, which lowers the investment incentive and impedes the CBMA activities.

Columns (5)–(8) of Table 8 report the estimated results for the effect of BITs in developed and developing countries. The results show that there are no significant differences regarding the effect of BITs in developed and developing countries. The effect of BITs on announced CBMA in developed countries is slightly stronger than that in developing countries while the effect of BITs on accomplished CBMA is statistically insignificant. Taken together, these findings reveal that institutional environment plays a more essential role in CBMA activities than economic issues, which supports the current literature with more focus on institutions.

5. Underlying mechanisms

As aforementioned, the content in the BITs matters (Boffa et al., 2019; Heid and Vozzo, 2020). Although BITs signed by various countries have similar structure and content after the revision of the BIT template by the United States in 2004, not all BITs are the same. On the one hand, due to the differences in negotiation level and investment demand, each treaty has different patterns. On the other hand, with the development of the global economy, the context of BITs will be revised according to the actual economic fluctuations. Admittedly, political relationship can significantly shape the effectiveness of BITs (Desbordes and Vicard, 2009). For example, the patterns of the BITs signed between China and Russia are comprehensive and in-depth due to their special political

Table 9
Score of specific terms in BITs based on text analysis.

Dimension	Information Point	Specific term	Minimum score	Maximum score
Definition and category of investment	Definition of investment	Whether to limit investment	0.5	1
	Enumerate investments	Whether list the types of assets	0	1
	Indirect investment	Whether include indirect investment	0	1
	Investment form	Whether the change of investment form affects the nature of investment	0	1
	Profit reinvestment	Whether include reinvestment of income or profit	0	1
	Time range	Whether applicable to investment before the entry into force of the contract	0	1
	Admission stage	Quality of investment facilitation measures in the access stage	0	1
	Investment promotion	Whether include investment promotion measures	0	1
Fair and equitable treatment	Fair and equitable	Whether include a fair and equitable treatment clause	0	1
	Applicable standard	Whether in line with the principles of domestic law/international treaties/international law	0	1
	Combined treatment	Whether combined with MFN treatment	0	1
	Exception content	Whether include exceptions under Fair and equitable clause	0	1
	Safety protection	Whether include explicit references to protection and safety	0	1
	Discriminatory measures	Whether include unrestricted non-discrimination measures	0	1
Most-favored-nation clause	Applicable stage	Application of MFN treatment before and after the investment access stage	0	1
	Area of application	Whether covering investment/investment activities/profit/investors	0	1
	Conventional exception	Exception condition range	0	1
	Special exception	Whether include a special exception	0	1
	Preferential application	Whether national treatment and MFN treatment are applied favorably	0	1
	Independent treatment	MFN treatment independent	0	1
National treatment	Treatment mode	Whether in line with one of the five national treatment models	0	3
	Area of application	Whether covering investment/investment activities/profit/investors	0	1
	Collection conditions	Whether including cumulative collection constraints	0	1
Expropriation and compensation	Expropriation law	Whether in line with domestic law/international treaties/principles of international law	0	1
	Judicial inspection	Whether include judicial inspection of compensation collection	0	1
	Discriminatory measures	Whether is non-discriminatory	0	1
	Interest compensation	Whether include interest compensation	0	1
	MFN treatment	Whether MFN treatment applicable to expropriation	0	1
Umbrella Clause	Shareholder protection	Whether include Shareholder protection	0	1
	Umbrella Clause	Whether include protective Umbrella Clause	0	1
Settlement of dispute	Types of dispute settlement	Whether the investor-state dispute settlement type optional	0	1
	Mechanism selection	Whether the settle disputes optional	0	1

relationship. The signing date of BITs is another factor affecting the quality of BITs. For instance, The BITs between China and South Korea includes many innovative clauses due to its later signing date. Yet, the BITs between China and Turkey are less innovative due to the earlier signing date.[2] Therefore, we employ method of text analysis by taking the text of BITs as new independent variables to quantify its influence on CBMA activities and explore the internal underlying mechanisms accounting for the effects of BITs.

After reviewing all the BITs in our sample period, we select 7 indicators including definition, recognition and promotion, fairness and justice, national treatment, most favored nation treatment, expropriation, damage compensation, transfer, investment dispute settlement mechanism and umbrella based on the protocol classifications. We employ a two-stage text analysis to assess the score of BITs. In the first stage, we test whether a specific treaty contains "information points": The value is 1 if yes and otherwise 0; The second stage is to check whether there are differences when "information points" are included: The value is 0.5 if yes. Hence, the minimum value of each individual information point is 0 and the maximum value is 1. Among them, minimum value of the "investment definition is 0.5. Note that the maximum value of specific clause "treatment model" maximum value is set to 3. Table 9 presents the scores of specific terms in BITs.

To explore the underlying mechanisms from the content of BITs, we specify the following equation.

$$Y_{it} = \alpha + \beta_k S_{k,it} + X'_{it}\varphi + \tau_i Trend_t + \eta_i + \mu_i + \varepsilon_{it} \tag{4}$$

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2 The new version of the treaties between China and Turkey became effective in 2020, but it is outside the sample period of our study.

Table 10

Text analysis for the effect of BITs on announced CBMA.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Anno	Anno	Anno	Anno	Anno	Anno	Anno
S1	0.0857***						
S2		0.1170***					
S3			0.1027***				
S4				0.6699***			
S5					0.1000***		
S6						0.5372***	
S7							0.2486***
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of countries	127	127	127	127	127	127	127
Time Period	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019
Country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2032	2032	2032	2032	2032	2032	2032
R^2	0.6737	0.6733	0.6719	0.6699	0.6723	0.6693	0.6725

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

Table 11

Text analysis for the effect of BITs on accomplished CBMA.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Acco	Acco	Acco	Acco	Acco	Acco	Acco
S1	0.0489***						
S2		0.0652***					
S3			0.0588***				
S4				0.0622***			
S5					0.5637***		
S6						0.3549***	
S7							0.1414***
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of countries	127	127	127	127	127	127	127
Time Period	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019	2004–2019
Country fixed effect	No	No	No	No	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2032	2032	2032	2032	2032	2032	2032
R^2	0.6446	0.6442	0.6437	0.6426	0.6438	0.6437	0.6440

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

Where S_k is a group of variables containing the seven indicators, namely, investment definition and scopes (S1), fair and equitable treatment (S2), national treatment (S3), most-favored-nation treatment (S4), expropriation compensation (S5), umbrella (S6) and investment dispute settlement (S7). The estimated results are shown in Table 10 and Table 11 regarding the announced CBMA and accomplished CBMA.

As Table 10 shows, the coefficient of S4 is 0.6699 and statistically significant at 1% level, indicating that most-favored-nation treatment (MFN) clause has the largest impact on announced CBMA among others. The explanation for this is that MFN has ensured a conducive business and investment environment for multinationals in the host country, lowering political risks and policy uncertainty. The MFN clause can also improve the efficiency of resource allocation under free market competition. Besides, the co-efficient of S6 is 0.5372 and statistically significant at 1% level, which is the 2nd most influential indicator among others. This means that umbrella clause (S6) enhances the number of announced CBMA. In a similar vein, the umbrella clause in BITs serves to protect the legal rights of multinationals including property rights, R7D grants, which in turn stimulates the investment incentives.

As Table 11 shows, the coefficient of S5 is 0.5637 and statistically significant at 1% level, indicating that the clause of expropriation and compensation has the largest impact on accomplished CBMA among others. A possible explanation for this finding is that after the process of mergers and acquisitions commences, multinationals have shifted their focus from the host country's investment environment to capital security and compensation. Under such circumstances, the clause of expropriation and compensation is the most considered pattern in the BITs. The coefficient of S6 is 0.3549 and statistically significant at 1% level, ranking the 2nd among others. This implies that the umbrella clause still matters greatly in the course of mergers and acquisitions.

As expected, each content indicator of BITs has a significantly positive effect on both announced and accomplished CBMA, consistent with our baseline estimated outcomes in the sense that BITs have played an important role in promoting CBMA activities. Overall, these findings are well in lined with the previous studies underscoring the detrimental role of economic policy uncertainty in impeding international investment (Egger and Merlo, 2012; Clougherty and Zhang, 2021; Li et al., 2022). By decomposing BITs, we demonstrate that the underlying mechanisms vary in different stages of CBMA. While the MFN clause and umbrella clause are the

Table 12
The impact of BITs on CBMA: Firm level estimates.

	(1)	(2)	(3)	(4)
	Annof	Accof	Annof	Accof
BITs	2.421**	2.773***	0.097***	0.197***
	(0.958)	(1.024)	(0.034)	(0.020)
Size	0.618***	0.831***	0.618***	0.831***
	(0.171)	(0.222)	(0.171)	(0.224)
Fass	−1.418*	−2.133**	−1.418*	−2.133**
	(0.855)	(1.008)	(0.859)	(1.016)
Lev	0.460	−0.625	0.460	−0.625
	(0.678)	(0.879)	(0.682)	(0.887)
PB	−0.002	0.023	−0.002	0.023
	(0.0008)	(0.016)	(0.0008)	(0.016)
Audit	−0.007	0.719	−0.007	0.719
	(0.593)	(0.576)	(0.596)	(0.580)
Age	1.129**	1.101**	1.129**	1.101**
	(0.439)	(0.489)	(0.441)	(0.493)
Age^2	−0.344	−0.038	−0.344	−0.038
	(0.351)	(0.399)	(0.353)	(0.402)
SOE	−0.234	0.595	−0.234	0.595
	(0.420)	(0.642)	(0.422)	(0.647)
Time Period	2004–2019	2004–2019	2004–2019	2004–2019
Year Fixed Effect	Yes	Yes	Yes	Yes
Firm Fixed Effect	Yes	Yes	Yes	Yes
Country Fixed Effect	No	No	Yes	Yes
Observations	332,900	176,000	166,450	66,880
Pseudo R^2	0.0726	0.0840	0.1373	0.1563

Notes: 1. Robust standard errors are in parentheses; 2. ***, **, and * indicate the significance level at 1%, 5%, and 10%, respectively;3. Since BITs is an indicator at the national level, to avoid the collinearity effect brought by controlling for national fixed effect, the BITs are all interacted with the time trend.

Table 13
The effect of BITs on CBMA: developed vs developing countries.

	Developed countries		Developing countries	
	(1)	(2)	(3)	(4)
	Annof	Accof	Annof	Accof
BITs	0.390	0.203	0.088*	0.362***
	(0.785)	(0.400)	(0.053)	(0.122)
Control Variables	Yes	Yes	Yes	Yes
Time Period	2004–2019	2004–2019	2004–2019	2004–2019
Year Fixed Effect	Yes	Yes	Yes	Yes
Firm Fixed Effect	Yes	Yes	Yes	Yes
Country Fixed Effect	Yes	Yes	Yes	Yes
Observations	64,920	36,616	26,338	3345
Pseudo R^2	0.1256	0.1408	0.1218	0.1824

Notes: 1. Robust standard errors are in parentheses; 2. ***, **, and * indicate the significance level at 1%, 5%, and 10%, respectively; 3. Since BITs is an indicator at the national level, to avoid the collinearity effect brought by controlling for national fixed effect, the BITs are all interacted with the time trend.

underlying mechanisms accounting for the incentives of CBMA in the stage of pre-acquisitions, the expropriation and compensation clause drives the successful rate of CBMA.

6. Further analyses: Firm level estimates

6.1. The effect of BITs on CBMA: Firm level estimates

Previous estimates are conducted based on national level dataset. Since CBMA is firm level decision, we therefore construct firm level dataset of Chinese A-share listed companies with information on CBMA transaction, firm size, fixed asset ratio, leverage ratio, price-to-book ratio, firm age, ownership, and audit advisor to further investigate the impact of BITs on CBMA activities. Considering the high proportion of zero values in the sample, we follow Correia et al. (2020) and establish a three-dimensional PPML model with fixed effects. Meanwhile, we add country-pair fixed effect to the model, which excludes the endogenous influence brought by the economic activities of third countries and makes the regression results more convincing.

Table 14

The impact of BITs on CBMA: SOEs vs Non-SOEs.

	SOEs		Non-SOEs	
	(1)	(2)	(3)	(4)
	Annof	Accof	Annof	Accof
BITs	0.072**	0.129***	0.111**	0.183***
	(0.029)	(0.036)	(0.054)	(0.031)
Control Variables	Yes	Yes	Yes	Yes
Time Period	2004–2019	2004–2019	2004–2019	2004–2019
Year Fixed Effect	Yes	Yes	Yes	Yes
Firm Fixed Effect	Yes	Yes	Yes	Yes
Country Fixed Effect	Yes	Yes	Yes	Yes
Observations	43,216	13,618	90,300	33,440
Pseudo R^2	0.0948	0.1475	0.1446	0.1454

Notes: 1. Robust standard errors are in parentheses; 2. ***, **, and * indicate the significance level at 1%, 5%, and 10%, respectively; 3. Since BITs is an indicator at the national level, to avoid the collinearity effect brought by controlling for national fixed effect, the BITs are all interacted with the time trend.

Table 12 presents the firm level estimates for the effect of BITs on CBMA. Columns 1–2 show that BITs exert a significant and positive impact on outbound CBMA activities in terms of announced and accomplished CBMA, consistent with our aggregate level estimates. In columns 3–4, the estimated results provide strong evidence that BITs have a significant and positive impact on the CBMA with national-level fixed effect controlled. As for the control variables, the activity of CBMA is positive related with the firm size and firm age but negatively related with fixed asset ratio, In line with previous literature (Song, et al.,2011; Chowdhury and Maung, 2018; Shen et al., 2021).

6.2. Developed vs developing countries

In this section, we provide firm level empirical evidence to examine the impact of BITs on China's outbound CBMA activities in developed and developing countries. As shown in Table 13, the coefficients of BITs signed between China and developed countries are statistically insignificant. As a comparison, the coefficients of BITs signed between China and developing countries are statistically significant and positive, which indicates that BITs have more salient effect in favoring CBMA in developing countries. Interestingly, these results are seemingly contradictory to the evidence from aggregate level estimates. A possible explanation is that some developed countries such as United States and Australia attempt to limit the China's CBMA to reduce competition from China in the international market for local protectionisms and geopolitical reasons in the past decades.

6.3. Does ownership matters? SOEs vs Non-SOEs

As aforementioned, international strategies vary due to different ownerships. In this section, therefore, we examine differential effect of BITs by comparing the activities of CBMA for SOEs and Non-SOEs. As reported in Table 14, the coefficients of BITs in columns 1–2 are 0.072 and 0.129, respectively, showing a positive effect on CBMA activities including announced and accomplished CBMA for SOEs. The coefficients of BITs in columns 3–4 are 0.111 and 0.183, respectively, showing a promoting effect of BITs on CBMA activities including announced and accomplished CBMA for Non-SOEs as well. In comparison, the effect of BITs is more pronounced for non-SOEs. This is because the CBMA of SOEs are often driven more significantly by political motivation (Estrin et al., 2016; Cuervo-Cazurra and Li, 2021). SOEs need to consider national interests and political impacts regardless economic benefits whereas the CBMA of non-SOEs are primarily market driven (Jory and Ngo, 2014). These findings in turn lend credence to that the main objective of BITs is to deepen economic cooperation instead of serving political purpose.

7. Conclusions

This paper investigates how BITs affects CBMA activities on the basis of a comprehensive dataset pertaining to 127 countries from 2004 to 2019 at both national and firm level. Concentrating on the bilateral economic cooperations between the world and the largest emerging market, we provide evidence that BITs have a significant promoting impact on China's outbound CBMA activities. The positive effect of BITs varies across countries with different levels of institutional settings and economic development. Further, we demonstrate that the underlying mechanisms vary in different stages of CBMA. While the MFN clause and umbrella clause are key patterns stimulating the incentives of CBMA in the stage of pre-acquisitions, the expropriation and compensation clause drives the successful rate of CBMA. Taking the firm ownerships into account, we find that the BITs have stronger impacts on non-SOEs than SOEs, implying that the orientation of BITs is more of economic cooperation rather than political interaction.

These findings also lead to thoughtful policy implications. Overall, policymakers may actively participate in global cooperation by signing BITs with partner countries. In particular, in designing the BITs, countries may focus more on the content related to economic uncertainty as it is a major issue impeding the investment flow (i.e., CBMA), which concerns the multinationals when making CBMA decisions. Besides, while host countries should devote to improving the institutional settings to develop a conducive business

environment for international investment, home countries should encourage local firms to take the advantage of BITs by investing abroad so as to enlarge the international market and strengthen the global cooperation.

Author statement

The authors report no conflicts of interest.

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Data availability

Data will be made available on request.

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