Does the All-China Federation of Industry and Commerce Align Private Firms with the Goals of the People's Republic of China's Belt and Road Initiative?

Jeffrey B. Nugent and Jiaxuan Lu*

This paper demonstrates that the largest business association of private firms in the People's Republic of China (PRC), the All-China Federation of Industry and Commerce (ACFIC), has induced its members to help achieve the goals of the PRC's extremely ambitious but risky Belt and Road Initiative (BRI) since its inauguration in 2013. Through its newspaper, the ACFIC has drawn the attention of its member firms to countries participating in the BRI, which has led to increased trade between provinces in the PRC and BRI-participating countries emphasized by the ACFIC's newspaper. The results show that the PRC's exports have been encouraged substantially more than its imports, which could be a cause for concern for the sustainability of the BRI. The results were obtained through various specially designed versions of the gravity model and have shown to be robust to the use of various methods for mitigating possible estimation biases.

I. Introduction

When the initiatives that countries take to achieve certain objectives are massive, multinational, and laden with serious challenges, coordination among the relevant parties, both public and private, can be difficult since each participating firm or agency has its own objectives. The Belt and Road Initiative (BRI) of the People's Republic of China (PRC), inaugurated by President Xi Jinping in Kazakhstan in 2013, includes more than 50 partner countries across the continents

of Asia, Europe, and Africa. It is one of the largest projects ever attempted and will remain of great importance to the world for decades to come. Yet, with uncertainties concerning its real objectives—and with participating countries of different sizes, development levels, and political orientations—achieving sufficient intra-BRI coordination is especially challenging.

Lei and Nugent (2018) made the case that the PRC's government-controlled business association, the All-China Federation of Industry and Commerce (ACFIC), had served well as a coordinating device between the Government of the PRC and the country's private firms from 2007 to 2011. This was when Beijing sharply changed its economic objectives from "Going Outward" to "Going Inward" to escape the adverse effects of the 2008–2009 global financial crisis on important exporting countries. Yet, that experience had nothing to do with the BRI and the PRC's leadership of it.

Given the BRI's ambitious goals, the many countries involved, and uncertainties about the extent to which coordination among all governments, firms, and agencies can be successful, ongoing analysis of the BRI's progress and the problems confronted will be needed and will require a wide variety of research perspectives. However, given the serious concerns about its political and financial viability for some BRI countries identified in the following section, we deem it crucial to examine the initiative's early experience to identify the magnitude of the risks involved and how it might be improved, and possibly even to reconsider whether the BRI is still worth pursuing. This paper's objective is, therefore, to undertake an analysis of the extent to which the ACFIC has been successful in aligning its member firms with the government's BRI objectives and the need for possible reforms.

The remainder of the paper is organized as follows. Section II provides background on business associations in general and the ACFIC in particular, as well as on the BRI and some of its challenges. Section III outlines the steps to be followed in our overall evaluation of the ACFIC as a coordination device in achieving the BRI's goals. Section IV develops the econometric models, including the methods designed to deal with potential estimation biases. Section V describes the data used and displays the results from the regression analysis. Section VI conducts robustness checks to resolve selection, heteroskedasticity, and "confounding" issues. Section VII evaluates the extent to which the ACFIC's trade-promoting effects may differ between BRI and non-BRI countries. Finally, section VIII concludes.

II.   Background on Business Associations, the All-China Federation of Industry and Commerce, and the Belt and Road Initiative

Can business associations be counted upon to help guide private firms to exert healthy influences on the economy to achieve the desired objectives of the state

and society? One cannot help but be skeptical about this since business associations are often believed to hurt the local economy by offering monopolistic protection, triggering corruption and criminal groups, reducing bureaucratic efficiency, and encouraging cartels that raise prices for consumers and reduce allocative efficiency (Doner and Schneider 2000). Moreover, they may use their collective power to influence local politics to attain benefits for themselves and undermine good governance (Bräutigam, Rakner, and Taylor 2002). On the other hand, business associations can benefit the general public by introducing regulations favoring market development and protecting businesses from default, criminal activity, insolvency, and unreasonable governmental interference (Bennett 1998, Önis and Türem 2001). They may be especially helpful in assisting new and small firms to adopt innovations and break into value chains. As experiences in Eastern Europe showed during and after the 1980s, new, freestanding, bottom-up, private-sector-oriented business associations came to play an essential role in the region's transition from central planning to free markets (Sukiassyan and Nugent 2011). Indeed, they can serve as a coordination device between governments and their private sectors by sharing information and encouraging mutual understanding and sustainable economic growth (Johnson, McMillan, and Woodruff 2000).

However, the ACFIC is very different from most business associations in that it is entirely government controlled, being run by the Communist Party of China (CPC), and yet its member firms are private. All private firms are eligible to become ACFIC members, and large ones are especially encouraged to join by national and local governments, and CPC officials. While the membership fees for province-level ACFIC are not high (around $3,000 per year), the largest cost to members is in terms of the time required to attend the association's meetings, use the services offered, and connect to national and local government offices, and other firms. By the end of 2016, there were 3 million ACFIC member firms, accounting for about 10% of all Chinese private firms. Taking advantage of the ACFIC, member firms have lobbied for more favorable government policies, especially those concerning private property rights. The association has also assisted its members to be better informed of new government policies to facilitate connections between business owners and government officials. Given the controversy concerning business associations in general and the uniqueness of the situation in the PRC, we endeavor to contribute to the literature by exploring ACFIC's effectiveness in achieving coordination between government agencies and firms in this new and especially challenging BRI context.

Not surprisingly, there is disagreement in the economics literature over how helpful the PRC's top-down ACFIC has been to private firms and the extent to which it has succeeded in inducing private firms to attain the government's economic objectives. For instance, Jia (2014) and Ma, Rui, and Wu (2015) employed standard econometric techniques, including propensity score matching, to suggest that the ACFIC's most useful function is to allow owners and managers of private firms to win positions in the CPC or government, but not to boost the performance of

their firms. Yet, taking advantage of some surveys that compare ACFIC member firms with nonmember firms in multiple respects, Lei and Nugent (2018) employed various estimation techniques to show quite robustly that the ACFIC did play a significant role in helping its member firms change their focus rather radically from the government's earlier goal of promoting outward-looking exports to the subsequent goal of prioritizing inward-looking investments between 2007 and 2011 (i.e., before the BRI's inauguration). The reason for the sudden change was to prevent the PRC's economy from falling victim to the 2008–2009 global financial crisis that did serious damage to the firms and economies of other exporting countries. Their study also identified the mechanism behind the success in achieving a sharp change in objectives by providing information to member firms about both the new government objectives and possible means of attaining them.

However, due to limited information on the geographical destination of firm-level sales and investments available in the Chinese Private Enterprise Survey, which was the dataset utilized in previous studies, and the absence of any recent survey results, it was not possible to use that data to examine the role of the ACFIC in recent years. As explained below, as an alternative source of relevant data, we use data published by the PRC's province-level statistical agencies to see if the ACFIC has succeeded in encouraging its member firms to trade with countries favored by the association in a way that would be consistent with the government's BRI objectives.

As noted above, the BRI is of enormous importance, not only to the PRC but also to the rest of the world. Announced by President Xi Jinping while visiting Kazakhstan in September 2013, the initiative is designed to develop transportation, logistics, and other infrastructure to link the PRC with BRI-identified countries across the world. By sharply reducing the cost of exporting and importing goods and services across this enormous network of countries, the BRI is expected to stimulate industrial production and technological improvements, not only in the PRC but also throughout Eurasia and Africa (Dunford and Liu 2019). To help accomplish this, the Asian Infrastructure Investment Bank, the China Development Bank, and the Export–Import Bank of China were formed, and they have all been growing rapidly since their establishment (Yu 2017). For instance, by the end of 2018, 152 countries had joined the BRI in some capacity and 96 of them had joined the Asian Infrastructure Investment Bank as members. The accumulated investments of these institutions amounted to at least $1 trillion by the end of 2018, and this total is expected to grow to more than $2 trillion to finance the BRI's infrastructural needs (Hillman 2018). If the BRI develops as expected, it will perhaps become the largest international investment project ever created and serve as an integrating force for Eurasia and much of the world.

However, the BRI faces enormous challenges. One is that many developed countries, especially the United States (US) and the United Kingdom, seem to be moving in directions less friendly to global trade. These trends toward

de-integration could possibly spread to Asia and Africa, negatively affecting their initially positive attitudes toward the BRI. Additionally, as large numbers of Chinese workers have been moving into BRI countries to facilitate local construction and other infrastructural activities, resentment has arisen among the nationals of host countries like Pakistan (Solangi 2018) and Viet Nam (Elmer 2018). Newspaper articles (e.g., Lee 2019) have also called attention to the concerns of the US, India, and Japan over the PRC's recent establishment of military bases in Djibouti, where each of these countries had already established its own base. Other studies have claimed that without addressing the different needs of various BRI countries for importing or exporting labor over time, or facilitating internal labor mobility, the BRI could contribute to rising geographic and income inequalities (Gill, Lall, and Lebrand 2019; Bruni 2019). In light of these challenges, the future of the PRC's involvements in these countries is increasingly uncertain. Concerning the allocative efficiency of different regions within the PRC, Gibson and Li (2018) employed data envelopment analysis and other statistical tools to demonstrate that distributing too much effort and resources to low productivity areas in the western PRC along transport routes to other BRI countries could jeopardize the overall efficiency of the PRC's economy and the sustainability of its remarkable growth.

Given both its great economic potential and substantial political and economic risks, multiple studies focusing on the BRI's trade and investment facilitation mechanisms have been conducted. Herrero and Xu (2017); Kohl (2019); and Baniya, Rocha, and Ruta (2019) have employed gravity models to argue that the initiative has sharply increased trade volumes between most participating economies since 2013. Bird, Lebrand, and Venables (2019) have constructed spatial equilibrium models for BRI regions suggesting that the initiative could substantially improve the real incomes of the participating developing economies. Wiederer (2018) and de Soyres et al. (2018) have collected firsthand data from countries involved in the initiative and find that logistical costs have, as intended, been falling rapidly since 2013. Yet, since most logistical and infrastructural activities have been those of the public sector, these studies have done little to determine whether private firms have been participating sufficiently for the BRI to be successful.[1]

It is the combination of the importance of the private sector's involvement to make BRI successful and uncertainty about whether the PRC's growing private sector will become sufficiently engaged in the prioritized activities that motivates our primary research question: "Has the ACFIC yet come to play a significant role in assuring sufficient participation of the PRC's private firms in alignment with the country's BRI objectives?"

---

[1]While some studies have shown that the private sector is involved in trade and investment with BRI countries (Cheng 2018, ACFIC 2018, Zhai 2018), other analysts, such as Hillman (2018), have doubted this.

III. Steps for Evaluating the All-China Federation of Industry and Commerce's Role in the Belt and Road Initiative

To answer our central question, we break our analysis into two parts. First, we seek to determine if the ACFIC has been successful in increasing exports and imports primarily with the countries it seems to prioritize. Then we determine if, since the BRI's inauguration in 2013, the ACFIC has increased its priority toward BRI countries in general. In view of the "one-way road" argument raised by US Vice President Mike Pence at the 2018 Asia–Pacific Economic Cooperation summit (Tarabay and Choe 2018) and echoed in several other countries, we also investigate whether the BRI has mainly benefited the PRC's exports to, rather than its imports from, BRI countries.[2] This would seem especially important as Hurley, Morris, and Portelance (2018) concluded that the negative outcomes for individual BRI partners are so large as to raise their debt levels enough to trigger defaults by up to eight participating BRI countries.

The focus of the paper is, therefore, on testing the validity of the following three hypotheses:

(i) The ACFIC's promotion of trade activities with any non-PRC country is positively related with the extent to which the ACFIC calls attention to that country in its newspaper, the *China Business Times*, which acts as a proxy for the ACFIC's policy direction.

(ii) Since the inauguration of the BRI in 2013, the ACFIC has emphasized BRI countries to a larger extent than non-BRI countries in its mostly trade-encouraging news reports, thus implying that the ACFIC encourages its member private firms to trade with BRI countries, though not necessarily equally.

(iii) The ACFIC promotion of trade with BRI countries has resulted in greater exports from the PRC than imports to the PRC.

IV. Econometric Models

A. Province-Level Gravity Model of International Trade

Since the pioneering efforts of Jan Tinbergen (1962), gravity models have served as the most common means of analyzing bilateral trade patterns, which are

---

[2]The analyses to date have been mixed on this. Chen and Lin (2018) and Dunford and Liu (2019) deny it, while tending to confirm it are Huang (2016) for BRI countries in general; Irshad, Xin, and Arshad (2015) for Pakistan; Yu (2017) for Myanmar; and Kohl (2019) for Europe.

essential to the BRI. According to his specification, bilateral trade volumes from region i to region j, T_{ij}, could be expressed as

$$T_{ij} \equiv K \frac{GDP_i^a GDP_j^b}{D_{ij}^c} \tag{1}$$

where GDP_i is a proxy for the economic size (gross domestic product [GDP]) of region i, GDP_j is a proxy for that of region j, D_{ij} is the distance (a proxy for trading cost) between i and j, and K is a positive constant.

Anderson (1979) provided a theoretical framework for the model by incorporating a Cobb–Douglas utility function. Anderson and van Wincoop (2003) extended that model by using a constant elasticity of substitution utility function, whereby the exports from region i to region j, x_{ij}, could be expressed as

$$x_{ij} = \frac{y_i y_j}{y_W} \left(\frac{t_{ij}}{P_i P_j} \right)^{1-\sigma} \tag{2}$$

where y_W is the economic size of the world, measured by GDP, y_i and y_j are the GDPs of regions i and j, respectively, t_{ij} is the trading cost between regions i and j, P_i and P_j are the relative consumer prices of regions i and j, and σ is the elasticity of substitution in the constant elasticity of substitution utility function.

Since this paper's primary concern is the economic influence of the ACFIC on cross-border trade, we conduct province-level analyses by treating region i as a PRC province and region j as a country or region outside of the PRC. This allows us to detect variations in the ACFIC's influence on both exports and imports across different province–country pairs. While the ACFIC can do little to directly affect the economic size of a province or country, it can reduce the information and other trading costs (or levels of distrust) between PRC provinces and the countries it prioritizes in its official newspaper. Therefore, unless otherwise noted, we assume that the ACFIC affects the relationship in equation (2) only by lowering the trading cost t_{ij}.

Following the insight provided by Maurel and Afman (2010) in their examination of the effect of establishing foreign missions on trading activities, we specify trading cost t_{ij} as

$$t_{ij} \equiv \left(ACFIC_i CBT_j \right)^k d_{ij}^\rho \tag{3}$$

where $ACFIC_i$ is the number of ACFIC members in province i, CBT_j is the frequency of the name of country j appearing in the *China Business Times*, a newspaper entirely controlled by the ACFIC, and d_{ij} is the distance between province i and country j. The larger CBT_j, the more favorable country j should be in the ACFIC's eyes. Accordingly, $ACFIC_i CBT_j$ could be perceived as a proxy for the magnitude of the ACFIC's influence on the bilateral trade between the province–country pair ij, with $ACFIC_i$ by itself reflecting ACFIC's power over

private firms in province i. ρ is expected to be positive as geographical distance increases transportation costs, and k should be negative as the ACFIC's influence on bilateral economic interactions, weighted by CBT_j, should be positive.

Plugging equation (3) into equation (2) and transforming it into logarithmic form, we obtain

$$ln\left(\frac{x_{ij}}{y_i y_j}\right) = (1 - \sigma)\,k\,ln\big(ACFIC_i CBT_j\big) + (1 - \sigma)\,\rho\,ln\big(d_{ij}\big) - (1 - \sigma)\,ln(y_W)$$
$$- (1 - \sigma)\,ln(P_i) - (1 - \sigma)\,ln\big(P_j\big) \tag{4}$$

Transforming equation (4) into a format suitable for empirical estimation and adding both time subscripts and control variables, we obtain

$$ln\big(x_{ij,t+1}\big) = \beta_1\,ln\big(ACFIC_{it} CBT_{jt}\big) + \beta_2\,ln(GDP_{it}) + \beta_3\,ln\big(GDP_{jt}\big)$$
$$+ \beta_4\,ln\big(Distance_{ij}\big) + \beta_5 Border_{ij} + \beta_6 Religion_{ij} + \beta_7\,ln\big(Population_{it}\big)$$
$$+ \beta_8\,ln\big(Population_{jt}\big) + \beta_9\,ln(Area_{it}) + \beta_{10}\,ln\big(Area_{jt}\big)$$
$$+ \beta_{11} SFI_{jt} + \beta_{12} ln\big(TCP_{j,t-1}\big) + \beta_0 + \pi_{ijt} + \varepsilon_{ijt} \tag{5}$$

where the dependent variable, $x_{ij,t+1}$, could alternatively represent exports from i to j or imports from j to i in year $t + 1$; $ACFIC_{it}$ is the number of ACFIC members in province i in year t; CBT_{jt} is the frequency of the name of country j appearing in the *China Business Times* in year t; GDP_{it} and GDP_{jt} are the GDPs of province i and country j in year t, respectively; $Distance_{ij}$ is the geographical distance between province i and country j; $Border_{ij}$ and $Religion_{ij}$ are dummy variables indicating whether province i and country j share a common border or a common dominant religion as suggested by Lewer and Van den Berg (2007) (given that some province-level administrative districts in the PRC are Muslim); $Population_{it}$ and $Population_{jt}$ are the populations of province i and country j, respectively, in year t; and $Area_{it}$ and $Area_{jt}$ are the geographic sizes of provinces i and country j, respectively, in year t. To broaden the analysis from a traditional version of the gravity model, we also include (i) SFI_{jt}, the state fragility index of country j in year t, as an indicator of the country's level of political instability in that year; and (ii) $TCP_{j,t-1}$, the total turnover of Chinese-contracted projects in country j in year $t - 1$. The remaining terms include β_0, the intercept; π_{ijt}, the interacted fixed effect for the region in the PRC in which province i is located (Eastern PRC, Central PRC, or Western PRC), for the continent where country j is located, and for year t, and finally, ε_{ijt}, the residual. From equation (4), $\beta_1 \equiv (1 - \sigma)k$ and $\beta_4 \equiv (1 - \sigma)\rho$.

If the model yields the expected results, the treatment effects quantified by β_1, β_2, and β_3 should be positive, but β_4 should be negative to be consistent with the gravity model. β_5 and β_6 should be positive because commonality in border and religion should reduce trading costs. β_7 and β_8 can be either positive or negative

since the relevance of population sizes and their effects after controlling for GDP are ambiguous. β_9 and β_{10} are expected to be negative because larger land areas increase the distance between the centers in the two regions. β_{11} should be negative because the insecurity of a country may serve as a hidden cost (Blomberg and Hess 2006), and β_{12} should be positive since the reduction in trading costs through logistics, transportation improvements, and information dissemination has been a major thrust of the BRI (Rehman and Ding 2019). Additionally, we allow for fixed effects for year and for both province and country to capture unobserved effects. Finally, the dependent variable, $x_{ij,t+1}$, is designated to be 1 year after the year in which the independent variables are measured so as to mitigate simultaneity and/or reverse causality problems.

B. Two-Stage Least Squares Strategy Based on the Province-Level Gravity Model

While equation (5) provides a suitable econometric model, it may be subject to endogeneity bias. For instance, it could be possible that CPC membership affects both $ACFIC_{it}$ and trade but with no direct connection between them. To alleviate this type of imprecision, we devise a two-stage least squares (2SLS) estimation with an instrumental variable. Using equation (5) as the second stage, following the method employed by Lei and Nugent (2018) for the ACFIC's coordination effects prior to the BRI's inauguration, the first stage for $ln(ACFIC_{it}CBT_{jt})$ becomes

$$
\begin{aligned}
ln\left(ACFIC_{it}CBT_{jt}\right) = {} & \alpha_1 \, ln\left(PrivateFirm_{it}CBT_{jt}\right) + \alpha_2 \, ln(GDP_{it}) + \alpha_3 \, ln\left(GDP_{jt}\right) \\
& + \alpha_4 \, ln\left(Distance_{ij}\right) + \alpha_5 Border_{ij} + \alpha_6 Religion_{ij} \\
& + \alpha_7 \, ln\left(Population_{it}\right) + \alpha_8 \, ln\left(Population_{jt}\right) + \alpha_9 \, ln(Area_{it}) \\
& + \alpha_{10} \, ln\left(Area_{jt}\right) + \alpha_{11} SFI_{jt} + \alpha_{12} ln\left(TCP_{j,t-1}\right) \\
& + \alpha_0 + \pi_{ijt} + \varepsilon_{ijt} \tag{6}
\end{aligned}
$$

where $PrivateFirm_{it}$ is the number of private firms in province i in year t; it corresponds to $ACFIC_{it}$, the number of private firms that are members of the ACFIC in province i. We use $ln(PrivateFirm_{it}CBT_{jt})$ as the instrumental variable in equation (6) because the number of private firms in a province, which has no direct link with trade, provides a reasonable proxy for the number of ACFIC member firms in that province and, hence, for the ACFIC's potential influence on the trade of province i with country j. By including all exogenous variables in the second stage along with the instrument, any correlation between the error term and other independent variables that could bias the estimates can be reduced (Wooldridge 2010, 89–90).

C.   Exports-versus-Imports Comparison by Incorporating an Interaction Term

To compare the magnitude of the ACFIC's effects on exports with that on imports, following Dunlevy (2006), we incorporate an interaction term in the regression model of equation (5):

$$
\begin{aligned}
ln\big(Export_{ij,t+1}\big) = {} & \gamma_1 \, ln\big(ACFICCBT_{ijt}\big) + \gamma_2 \, ln\big(ACFICCBT_{ijt}\big) \, Type_{ijt} \\
& + \gamma_3 \, ln(GDP_{it}) + \gamma_4 \, ln\big(GDP_{jt}\big) + \gamma_5 \, ln\big(Distance_{ij}\big) \\
& + \gamma_6 Border_{ij} + \gamma_7 Religion_{ij} + \gamma_8 \, ln(Population_{it}) \\
& + \gamma_9 \, ln\big(Population_{jt}\big) + \gamma_{10} ln\,(Area_{it}) + \gamma_{11} \, ln\big(Area_{jt}\big) \\
& + \gamma_{12} SFI_{ijt} + \gamma_{13} ln\,\big(TCP_{ij,t-1}\big) + \gamma_0 + \pi_{ijt} + \varepsilon_{ijt} \qquad (7)
\end{aligned}
$$

where i represents the origin and j the destination. If $Type_{ijt} = 1$, i is a PRC province and j a non-PRC country, and $ACFICCBT_{ijt}$ is the number of ACFIC members in province i times the frequency of the name of country j appearing in the China Business Times in year t; if $Type_{ijt} = 0$, i is a foreign country and j a PRC province, and $ACFICCBT_{ijt}$ is the number of ACFIC members in province j multiplied by the frequency of the name of country i appearing in the China Business Times in year t. Other variables are the same as those in preceding equations. If $\gamma_2 > 0$ and is statistically significant, this would support the "one-way road" argument.

V. Data Sources and Statistical Analysis

A.   Data Sources

To carry out econometric analysis for the ACFIC's effects on trade, we rely on bilateral trade data from province-level statistical yearbooks between 2010 and 2017. The values from 2010 to 2017 are used for the dependent variable and those from 2009 to 2016 for the lagged trade variables appearing as explanatory variables. Combining all available trade data for the 8-year interval allows us to construct a dataset with more than 20,000 observations.

The greatest data collection challenge is with respect to the measures of $ACFIC_{it}$ and CBT_{jt}. For $ACFIC_{it}$, we utilize the yearbooks published by the ACFIC since 2009. In each yearbook, each province-level ACFIC branch has an annual report on its membership, though it does not in every case disclose the precise number of members in that year. After inspecting these reports, we found information to be missing for 40 out of 248 province–year observations. For CBT_{jt}, programming techniques were used to identify all country names on the website of the *China Business Times*, the entries were then read, and their numbers recorded

for each country and year from 2009 to 2016. Many of these news notes include the kind of information that should encourage member firms to consider activities in these countries, and hence, these newspaper-oriented trends could serve as a valid proxy for the policy direction of the ACFIC's influence over its member firms in general. In other words, the ACFIC should affect its member firms in the same way as its newspaper influences its readers. Appendix 1 presents an English translation of a typical news article in *China Business Times*. Data sources for the control variables are indicated in Table 1, which also reports descriptive statistics for all variables.

B. Exports and Imports

We report the ordinary least squares (OLS) results of our regression analysis for $x_{ij,t+1}$, being the log of exports from province i to country j in year $t+1$ in columns (1) and (2) of Table 2. Similarly, columns (3) and (4) report the OLS results for imports. The odd-numbered columns contain no fixed effects, while the even-numbered columns include interacted fixed effects for year, PRC province, and non-PRC country to capture the time-invariant unobserved variables. Missing values are omitted because they could represent unrecorded, rather than 0, values. The possible selection bias caused by this truncation will be addressed in section VI.

As shown in the first row, the coefficient of $ln(ACFIC_{it}CBT_{jt})$ is positive and statistically significant in all columns, indicating the ability of the ACFIC to influence its member firms to increase exports to and imports from the non-PRC countries frequently covered in its mouthpiece, the *China Business Times*. Additionally, as expected, the parameter estimates of the GDP terms, border and religion dummies, and the lagged turnover of contracted projects are all positive and statistically significant, while those for the distance and state fragility index are negative and statistically significant. The large *R*-squared values also demonstrate the model's relatively high explanatory power. Following the method employed by Lei and Nugent (2018), but in this quite different context, we test for the stability of the coefficient of $ln(ACFIC_{it}CBT_{jt})$ by calculating the ratio of the *R*-squared value obtained with $ln(ACFIC_{it}CBT_{jt})$ as an independent variable to the *R*-squared value obtained in equation (5) without it (i.e., when $\beta_1 = 0$ for equation [5]). As suggested by Altonji, Elder, and Taber (2005) and Oster (2017), this ratio, represented by δ, measures how large the impact of unobserved variables must be to invalidate the identified treatment effect of $ln(ACFIC_{it}CBT_{jt})$ in Table 2. For this to be so, δ ought to be at least 1. As shown in the last row of Table 2, all specifications yield greater-than-one values of δ, demonstrating that unobserved variables are unlikely to nullify our statistical results.

Despite the strong statistical significance of most of the explanatory variables displayed in Table 2, these results could be subject to various endogeneity biases. Therefore, in Table 3, using equation (6) as the first stage equation and

Table 1. **Descriptive Statistics**

Dependent Variables	No. of Observations	Mean	Standard Deviation	Min	Max	Source
Log of exports	13,605	10.317	3.061	0.000	19.385	Provincial-level yearbooks
Log of imports	9,065	10.181	3.504	0.000	17.695	Provincial-level yearbooks
Independent Variables	**No. of Observations**	**Mean**	**Standard Deviation**	**Min**	**Max**	**Source**
$ln(ACFIC_{it})$	203	11.328	0.961	7.688	12.682	ACFIC yearbooks
$ln(CBT_{jt})$	1,229	2.558	1.800	0.000	7.974	China Business Times website
$ln(GDP_{it})$	248	19.121	1.013	15.681	20.920	National Bureau of Statistics of China
$ln(GDP_{jt})$	1,438	17.320	2.315	10.368	23.552	World Bank World Development Indicators
$ln(Distance_{ij})$	1,878	8.832	0.650	4.716	9.899	Google Maps and CEPII
$Border_{ij}$	1,861	0.007	0.083	0.000	1.000	Google Maps and CEPII
$Religion_{ij}$	1,861	0.028	0.166	0.000	1.000	Organization of Islamic Cooperation
$ln(Population_{it})$	248	17.319	0.847	14.901	18.516	National Bureau of Statistics of China
$ln(Population_{jt})$	1,438	15.574	2.116	9.253	21.004	World Bank World Development Indicators
$ln(Area_{it})$	31	12.016	1.225	9.031	14.305	National Bureau of Statistics of China
$ln(Area_{jt})$	298	11.110	2.682	0.693	16.611	World Bank World Development Indicators
SFI_{jt}	1,325	8.309	6.225	0.000	25.000	Quality of Government database
$ln(TCP_{j,t-1})$	1,426	7.142	2.509	−1.204	13.445	National Bureau of Statistics of China
Instrumental Variables	**No. of Observations**	**Mean**	**Standard Deviation**	**Min**	**Max**	**Source**
$ln(PrivateFirm_{it})$	186	11.934	1.244	7.312	14.253	National Bureau of Statistics of China

ACFIC = All-China Federation of Industry and Commerce, CEPII = Centre d'Etudes Prospectives et d'Informations Internationales.

Notes: The time range of the dependent variables is from 2010 to 2017; those for the independent and instrumental variables, except the log of CBT_{jt}, are from 2009 to 2016. The time range of the log of CBT_{jt} is from 2009 to 2017 because it becomes a dependent variable in section V. The variables measured by currency values are in thousand current United States dollars. Land area is measured in square kilometers.

Source: Authors' calculations.

Table 2. **Ordinary Least Squares Estimates**

Explanatory Variables	Exports		Imports	
	(1)	(2)	(3)	(4)
$ln(ACFIC_{it}CBT_{jt})$	0.263***	0.265***	0.280***	0.257***
	(0.029)	(0.026)	(0.058)	(0.054)
$ln(GDP_{it})$	0.861***	1.716***	1.366***	1.762***
	(0.057)	(0.062)	(0.110)	(0.111)
$ln(GDP_{jt})$	0.417***	0.479***	0.761***	0.867***
	(0.046)	(0.044)	(0.098)	(0.090)
$ln(Distance_{ij})$	−0.315***	−0.431***	−0.620***	−0.586***
	(0.060)	(0.056)	(0.111)	(0.105)
$Border_{ij}$	3.572***	3.451***	3.155***	3.686***
	(0.606)	(0.575)	(0.842)	(0.810)
$Religion_{ij}$	1.897***	2.568***	1.443***	1.856***
	(0.223)	(0.223)	(0.536)	(0.500)
$ln(Population_{it})$	0.591***	−0.448***	−0.084	−0.604***
	(0.075)	(0.078)	(0.154)	(0.146)
$ln(Population_{jt})$	0.266***	0.205***	−0.279***	−0.270***
	(0.046)	(0.046)	(0.095)	(0.090)
$ln(Area_{it})$	−0.650***	−0.488***	−0.970***	−0.798***
	(0.031)	(0.023)	(0.060)	(0.046)
$ln(Area_{jt})$	−0.079***	−0.078***	0.194***	0.179***
	(0.021)	(0.020)	(0.038)	(0.036)
SFI_{jt}	−0.038***	−0.038***	−0.065***	−0.079***
	(0.011)	(0.011)	(0.024)	(0.022)
$ln(TCP_{j,t-1})$	0.126***	0.129***	0.090**	0.092***
	(0.020)	(0.019)	(0.035)	(0.032)
Fixed effects	No	Province Country Year	No	Province Country Year
No. of observations	8,504	8,504	6,599	6,599
F-statistic	443.889	961.344	194.546	361.034
R-squared	0.717	0.685	0.552	0.514
δ	1.012	1.015	1.010	1.011

Notes: Standard errors clustered at the level of province–country pair are included in parentheses.
Significance level = *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.
Source: Authors' calculations.

equation (5) as the second stage, we report 2SLS estimates. Panel A of the table displays the second-stage results, and panel B displays the fist-stage results. The setting of fixed effects in Table 3 is the same as in Table 2. The treatment effect of $ln(ACFIC_{it}CBT_{jt})$ is again statistically significant and slightly larger than in Table 2, while the effects of the other explanatory variables are similar. At the bottom of Table 3, following Stock, Wright, and Yogo (2002), we also report the Cragg–Donald statistics, which are the same as the F-statistics testing the significance of the instrumental variable in the first-stage equations given that there is only one such variable. Since the Cragg–Donald statistics are much larger than their corresponding critical values shown in parentheses, our use

Table 3. **Two-Stage Least Squares Estimates**

	Exports		Imports	
Explanatory Variables	**(1)**	**(2)**	**(3)**	**(4)**
A. Second stage; dependent variable: $ln(Export_{ij,t+1})$ and $ln(Import_{ij,t+1})$				
$ln(ACFIC_{it}CBT_{jt})$	0.336***	0.378***	0.381***	0.288***
	(0.034)	(0.032)	(0.068)	(0.066)
$ln(GDP_{it})$	0.827***	1.721***	1.581***	2.389***
	(0.072)	(0.066)	(0.129)	(0.125)
$ln(GDP_{jt})$	0.372***	0.399***	0.672***	0.837***
	(0.050)	(0.048)	(0.103)	(0.104)
$ln(Distance_{ij})$	−0.236***	−0.271***	−0.543***	−0.740***
	(0.063)	(0.060)	(0.115)	(0.115)
$Border_{ij}$	3.513***	3.335***	3.288***	3.287***
	(0.597)	(0.586)	(0.829)	(0.834)
$Religion_{ij}$	1.991***	2.838***	1.582***	1.463***
	(0.233)	(0.256)	(0.541)	(0.467)
$ln(Population_{it})$	0.576***	−0.508***	−0.379**	−1.333***
	(0.091)	(0.084)	(0.175)	(0.154)
$ln(Population_{jt})$	0.267***	0.226***	−0.273***	−0.320***
	(0.048)	(0.049)	(0.098)	(0.100)
$ln(Area_{it})$	−0.645***	−0.507***	−0.953***	−0.732***
	(0.033)	(0.025)	(0.062)	(0.046)
$ln(Area_{jt})$	−0.087***	−0.086***	0.187***	0.170***
	(0.022)	(0.021)	(0.038)	(0.037)
SFI_{jt}	−0.033***	−0.026**	−0.059**	−0.070***
	(0.012)	(0.012)	(0.024)	(0.024)
$ln(TCP_{j,t-1})$	0.117***	0.113***	0.093***	0.108***
	(0.021)	(0.020)	(0.035)	(0.035)
B. First stage; dependent variable: $ln(ACFIC_{it}CBT_{jt})$				
$ln(PrivateFirm_{it}CBT_{jt})$	1.001***	1.015***	0.988***	0.975***
	(0.009)	(0.009)	(0.010)	(0.010)
$ln(GDP_{it})$	−0.896***	−0.976***	−0.898***	−1.031***
	(0.018)	(0.020)	(0.019)	(0.024)
$ln(GDP_{jt})$	0.030***	0.008	0.034**	0.072***
	(0.011)	(0.011)	(0.013)	(0.014)
$ln(Distance_{ij})$	−0.025	0.074***	−0.029	−0.145***
	(0.016)	(0.016)	(0.019)	(0.019)
$Border_{ij}$	−0.067	−0.029	−0.093	−0.237*
	(0.100)	(0.097)	(0.103)	(0.131)
$Religion_{ij}$	−0.115***	−0.173***	−0.003	−0.074
	(0.043)	(0.038)	(0.087)	(0.083)
$ln(Population_{it})$	0.518***	0.592***	0.603***	0.746***
	(0.027)	(0.024)	(0.031)	(0.028)
$ln(Population_{jt})$	−0.002	0.021*	−0.006	−0.040***
	(0.012)	(0.013)	(0.015)	(0.015)
$ln(Area_{it})$	0.162***	0.135***	0.138***	0.097***
	(0.010)	(0.008)	(0.013)	(0.010)
$ln(Area_{jt})$	0.000	0.007	0.001	−0.002
	(0.006)	(0.006)	(0.007)	(0.007)
SFI_{jt}	−0.001	−0.008***	−0.002	0.001
	(0.003)	(0.003)	(0.003)	(0.003)

Continued.

Table 3. *Continued.*

Explanatory Variables	Exports		Imports	
	(1)	(2)	(3)	(4)
$ln(TCP_{j,t-1})$	0.008*	0.004	0.013**	0.030***
	(0.005)	(0.005)	(0.005)	(0.006)
Fixed effects	No	Province Country Year	No	Province Country Year
No. of observations	6,203	6,203	4,870	4,870
Cragg–Donald statistic	25,938	23,083	19,117	14,459
(Critical value)	(16.38)	(16.38)	(16.38)	(16.38)
First-stage R-squared	0.957	0.947	0.950	0.932
Second-stage R-squared	0.702	0.786	0.549	0.640

Notes: Standard errors clustered at the level of province–country pair are included in parentheses. Significance level = *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$. The critical value of the Cragg–Donald statistic in each parentheses corresponds to the 10% maximal IV size.
Source: Authors' calculations.

of $ln(PrivateFirm_{it}CBT_{jt})$ as the instrumental variable seems validated and the conclusion from Table 2 confirmed.

In summary, through its official newspaper's country-specific news coverage, the ACFIC has encouraged its member firms to increase exports and imports with the countries it prioritizes. According to Tables 2 and 3, if the OLS and 2SLS estimates are unbiased as assumed, a 1% increase in the frequency a country's name appearing in the *China Business Times* would be expected to increase the PRC's trade activities with that country by around 0.3%. In view of the large volumes of PRC exports and imports across the globe, this level of magnitude of the impact on trade is impressive. Therefore, this result convincingly demonstrates the large influence of the ACFIC on the trading destinations of its member firms.

C. Exports versus Imports

Next, we conduct a comparative analysis between exports and imports based on the technique articulated in equation (7). These estimates are reported in Table 4.[3] Those in columns (1) and (2) contain no fixed effects, and those in columns (3) and (4) contain interacted fixed effects for year, province, and country. For comparison purposes, columns (1) and (3) are the baseline regressions without the interaction term with $Type_{ijt}$, while columns (2) and (4) estimate coefficients with the interaction term included as in equation (7). The primary objective in this comparison is to examine the likelihood of a positive γ_2, the coefficient of the interaction term, to determine whether the effects of $ACFIC_{it}CBT_{jt}$ on exports are greater than those on imports.

---

[3]Since the log of $ACFIC_{it}CBT_{jt}$ appears twice in equation (7), greatly complicating matters, we choose not to carry out 2SLS estimation in this case.

Table 4. **Estimates of Exports-versus-Imports Comparison**

Explanatory Variables	(1)	(2)	(3)	(4)
$ln(ACFICCBT_{ijt})$	0.251***	0.193***	0.193***	0.135***
	(0.036)	(0.036)	(0.032)	(0.033)
$ln(ACFICCBT_{ijt})Type_{ijt}$		0.100***		0.102***
		(0.005)		(0.005)
$ln(GDP_{it})$	0.945***	1.167***	1.253***	1.485***
	(0.052)	(0.055)	(0.050)	(0.054)
$ln(GDP_{jt})$	0.792***	0.666***	1.082***	0.954***
	(0.053)	(0.052)	(0.051)	(0.050)
$ln(Distance_{ij})$	−0.218***	−0.209**	−0.214***	−0.212***
	(0.080)	(0.081)	(0.070)	(0.072)
$Border_{ij}$	3.268***	3.540***	3.626***	3.884***
	(0.716)	(0.733)	(0.739)	(0.757)
$Religion_{ij}$	0.707**	0.563*	1.480***	1.255***
	(0.306)	(0.308)	(0.284)	(0.282)
$ln(Population_{it})$	0.176***	−0.139**	−0.013	−0.322***
	(0.068)	(0.067)	(0.065)	(0.065)
$ln(Population_{jt})$	−0.076	0.261***	−0.229***	0.119**
	(0.053)	(0.054)	(0.053)	(0.054)
$ln(Area_{it})$	−0.321***	−0.177***	−0.362***	−0.231***
	(0.027)	(0.027)	(0.025)	(0.023)
$ln(Area_{jt})$	−0.138***	−0.323***	−0.185***	−0.381***
	(0.022)	(0.022)	(0.020)	(0.021)
SFI_{ijt}	0.022*	0.019	0.055***	0.054***
	(0.013)	(0.013)	(0.013)	(0.013)
$ln(TCP_{ij,t−1})$	0.094***	0.099***	0.078***	0.087***
	(0.022)	(0.023)	(0.022)	(0.022)
			Province	Province
Fixed effects	No	No	Country Year	Country Year
No. of observations	15,103	15,103	15,103	15,103
F-statistic	317.004	308.884	678.995	614.109
R-squared	0.522	0.562	0.479	0.521
δ	1.012	1.090	1.009	1.099

Notes: Standard errors clustered at the level of province–country pair are included in parentheses.
Significance level $= {}^{*}p < 0.1, {}^{**}p < 0.05, {}^{***}p < 0.01$.
Source: Authors' calculations.

Consistent with hypothesis (3) stated in section III, γ_2 is positive and statistically significant in columns (2) and (4). The coefficient of $ln(ACFIC_{it}CBT_{jt})$ is also positive, indicating that the ACFIC promotes both exports and imports with the specific countries it prefers, albeit exports more than imports, and that the coefficients of the economic size variables are positive, while the coefficient of bilateral distance is negative. The coefficients of most control variables are also consistent with those found in the previous tables except that most of the coefficients on SFI_{ijt} are positive and statistically significant.

We also compute the value of δ to test the stability of the coefficient of $ln(ACFIC_{it}CBT_{jt})$ and that of the interaction term. In columns (1) and (3), the

definition of δ is the same as that displayed in Table 2. δ is slightly different in columns (2) and (4) because it is defined as the ratio of the R-squared value with $\gamma_1 \neq 0$ and $\gamma_2 \neq 0$ to that with $\gamma_1 = \gamma_2 = 0$. Simply put, δ compares the R-squared values before and after incorporating any term related to $ACFIC_{it}CBT_{jt}$ or $Type_{ijt}$. Since all values of δ are larger than 1, the estimates of the treatment effects are statistically valid.

In summary, the estimation results support hypothesis (3) in section III and show that the ACFIC seems to have the effect of encouraging its member firms to conduct export activities to a greater extent than import activities with the countries it prioritizes in the *China Business Times*. Numerically, while a 1% increase in $ACFIC_{it}CBT_{jt}$ is expected to increase exports from province i to country j by 0.24%, it is only expected to increase the imports of province i from country j by 0.14%. Consequently, this 0.1 percentage points difference could lead to a trade surplus in province i and a trade deficit in country j.

VI. Robustness Checks

As pointed out when discussing our treatment of missing data for exports and imports in the previous section, omitting observations for trade with zeroes can evade the problem arising when the log of zero is undefined, but it cannot assure econometric validity. To resolve this issue in a rigorous manner, we use two alternative methods: Heckman (1979) selection and Poisson pseudo-maximum-likelihood (PPML) models. Furthermore, based on the fixed-effects model and the Arellano–Bond estimation, we add the lagged dependent variable as an independent variable to help deal with confounding and endogeneity biases.

A. Heckman Selection Model

The Heckman selection model is an econometric maneuver to correct for bias caused by nonrandomly selected samples. In the context of trade, independent variables with missing observations could possess properties different from those with nonmissing observations. Consequently, omitting them might have led to considerable imprecision. Following the earlier applications of the Heckman selection model to the gravity model by Bikker and de Vos (1992) and Head and Mayer (2010), we construct a Heckman-augmented, two-step gravity model. In the first step, the probability of a trade interaction being recorded between province–country pair ij is estimated by using a probit model:

$$Any\_x_{ij,t+1} = \phi \begin{pmatrix} ln\left(ACFIC_{it}CBT_{jt}\right), ln(GDP_{it}), ln\left(GDP_{jt}\right), ln\left(Distance_{ij}\right), \\ Border_{ij}, Religion_{ij}, ln(Population_{it}), ln\left(Population_{jt}\right), \\ ln(Area_{it}), ln\left(Area_{jt}\right), SFI_{jt}, ln\left(TCP_{j,t-1}\right) \end{pmatrix}$$

(8)

where $Any\_x_{ij,t+1} = 1$ if there is a record of the relevant cross-border economic activity (i.e., exports, imports, or exports-versus-imports, depending on the definition of x_{ij}) between province i and country j, and $Any\_x_{ij,t+1} = 0$ if such a record does not exist. The symbol ϕ indicates that this is a probit-estimating operation rather than a linear function. In short, the first step could be understood as a selection process, detecting the commonalities among those with missing observations and preparing to correct for the biases resulting from these commonalities. Then, in the second step, we use an estimating equation similar to the combination of equations (5) and (7), but without fixed effects to avoid excessive complexity. Also, the inverse Mills ratio, λ_{ijt}, computed for each observation based on the first stage is added as an additional regressor because if β_{13}, the coefficient of the inverse Mills ratio λ_{ijt}, is statistically significant, then the OLS estimations might well be subject to selection biases (Heckman 1979; Helpman, Melitz, and Rubinstein 2008). Thus, the new equation for this second step is expressed as

$$
\begin{aligned}
ln(x_{ij,t+1}) = {}& \beta_1 \, ln(ACFIC_{it}CBTCBT_{jt}) + \eta \, ln(ACFICCBT_{ijt}) \, Type_{ijt} \\
& + \beta_2 \, ln(GDP_{it}) + \beta_3 \, ln(GDP_{jt}) + \beta_4 \, ln(Distance_{ij}) + \beta_5 Border_{ij} \\
& + \beta_6 Religion_{ij} + \beta_7 \, ln(Population_{it}) + \beta_8 \, ln(Population_{jt}) \\
& + \beta_9 \, ln(Area_{it}) + \beta_{10} \, ln(Area_{jt}) + \beta_{11} SFI_{jt} + \beta_{12} \, ln(TCP_{j,t-1}) \\
& + \beta_{13}\lambda_{ijt} + \beta_0 + \varepsilon_{ijt}
\end{aligned}
\tag{9}
$$

where $\eta = 0$ except when the equation is employed for the exports-versus-imports comparison.

Table 5 presents the regression results based on equation (8) for the first stage and equation (9) for the second stage for each of the different measures of x_{ij} (exports, imports, or exports-versus-imports). Columns (1) and (2) show the results for exports and imports, respectively. Columns (3) and (4) show the results of the exports-versus-imports comparison without and with the interaction term, respectively. As shown, the inverse Mills ratio is only statistically significant in columns (1) and (4), implying that our earlier estimates for imports can be trusted at least from the perspective of selection bias. After incorporating the inverse Mills ratio as an additional regressor, the implications drawn from the results in section V still hold true for both exports and the exports-versus-imports comparison even though there no longer remains strong statistical evidence to support some components of the gravity model, especially in column (1). Since the treatment effects represented by the parameters β_1 and η remain positive and hover around 0.25 in all specifications, the results robustly confirm all findings in section V.

Table 5. **Heckman Selection Model**

Explanatory Variables	Exports (1)	Imports (2)	Exports versus Imports	
			(3)	(4)
$ln(ACFIC_{it}CBT_{jt})$	0.290***	0.279***	0.245***	0.190***
	(0.022)	(0.031)	(0.019)	(0.017)
$ln(ACFICCBT_{ijt})Type_{ijt}$				0.090***
				(0.005)
$ln(GDP_{it})$	1.420***	1.367***	0.917***	1.116***
	(0.096)	(0.104)	(0.034)	(0.036)
$ln(GDP_{jt})$	0.084	0.766***	0.762***	0.640***
	(0.055)	(0.082)	(0.027)	(0.025)
$ln(Distance_{ij})$	−0.072	−0.618***	−0.151***	−0.120**
	(0.054)	(0.074)	(0.058)	(0.053)
$Border_{ij}$	2.701***	3.165***	3.111***	3.321***
	(0.304)	(0.401)	(0.237)	(0.227)
$Religion_{ij}$	2.015***	1.444***	0.678***	0.520***
	(0.135)	(0.240)	(0.125)	(0.120)
$ln(Population_{it})$	−0.052	−0.087	0.147***	−0.151***
	(0.114)	(0.163)	(0.042)	(0.033)
$ln(Population_{jt})$	0.154***	−0.264***	−0.096**	0.198***
	(0.036)	(0.048)	(0.038)	(0.047)
$ln(Area_{it})$	−0.878***	−0.968***	−0.347***	−0.226***
	(0.038)	(0.040)	(0.019)	(0.024)
$ln(Area_{jt})$	−0.058***	0.185***	−0.152***	−0.325***
	(0.016)	(0.020)	(0.016)	(0.014)
SFI_{jt}	0.007	−0.064***	0.038**	0.043***
	(0.009)	(0.015)	(0.016)	(0.014)
$ln(TCP_{j,t-1})$	0.082***	0.085***	0.086***	0.087***
	(0.015)	(0.021)	(0.013)	(0.012)
Inverse Mills ratio	−2.303***	−0.011	−0.449	−0.605**
	(0.309)	(0.348)	(0.332)	(0.302)
No. of observations	20607	19819	40426	40426
No. of observations (Selected)	8420	6516	14936	14936
No. of observations (Nonselected)	12187	13303	25490	25490

Notes: Standard errors are included in parentheses. Significance level $= {}^{*}p < 0.1, {}^{**}p < 0.05,$
${}^{***}p < 0.01.$
Source: Authors' calculations.

B.   Poisson Pseudo-Maximum-Likelihood Estimation

However, since the coefficients of economic size and bilateral distance variables in the gravity model augmented by Heckman selection were not always statistically significant, we implement PPML estimation to reexamine the suitability of the gravity model. First introduced by Silva and Tenreyro (2006), the PPML method estimates the gravity equation in its multiplicative form to simultaneously solve the problem of zero flows and to mitigate the presence of heteroskedasticity. Mathematically, the estimating equation for PPML is

$$x_{ij,t+1} = exp \left[\beta_1 \, ln\big(ACFIC_{it}CBTCBT_{jt}\big) + \eta \, ln\big(ACFICCBT_{ijt}\big) \, Type_{ijt} + \beta_2 \, ln(GDP_{it}) \right.$$
$$+ \beta_3 \, ln\big(GDP_{jt}\big) + \beta_4 \, ln\big(Distance_{ij}\big) + \beta_5 Border_{ij} + \beta_6 Religion_{ij}$$
$$+ \beta_7 \, ln(Population_{it}) + \beta_8 \, ln\big(Population_{jt}\big) + \beta_9 \, ln(Area_{it})$$
$$\left. + \beta_{10} \, ln\big(Area_{jt}\big) + \beta_{11} SFI_{jt} + \beta_{12} \, ln\big(TCP_{j,t-1}\big) + \beta_0 + \pi_{ijt} + \varepsilon_{ijt} \right] \qquad (10)$$

where $\eta = 0$ except when the equation is employed for the exports-versus-imports comparison.

Table 6 reports the PPML estimation results. As in Table 5, columns (1) and (2) correspond to exports and imports, respectively. Columns (3) and (4) contain the results for the exports versus imports comparison. Unlike the OLS or 2SLS estimations using R-squared values to quantify the percentage of the variance explained by the independent variables, Table 6 employs pseudo R-squared, a proxy for the regular R-squared, the estimates of which are displayed at the bottom of the table. Accordingly, δ becomes the ratio of the pseudo R-squared value with $\beta_1 \neq 0$ to that with $\beta_1 = 0$ in columns (1) through (3), and the ratio of the pseudo R-squared values with $\beta_1 \neq 0$ and $\beta_2 \neq 0$ to that with $\beta_1 = \beta_2 = 0$ in column (4).

According to Table 6, when this somewhat more rigorous variant of the gravity model is used, we find that the corresponding treatment effect of the ACFIC and its newspaper on the PRC's exports is around 30% higher than that in the OLS estimates obtained from Table 2, and the treatment effect on the PRC's imports remains at roughly the same level. In addition, although the estimated coefficient on the interaction term, η, in Table 6 is smaller than the OLS estimates from Table 4, it is still positive and statistically significant. The features of the gravity model also seem to hold, and the pseudo R-squared values are larger than the R-squared values in the previous tables. Thus, despite some changes in magnitudes, the directions of all the findings regarding the ACFIC's treatment effects on trade in section V are confirmed by Table 6.

C.   Are Past Economic Interactions Confounders?

Thus far, our statistical analysis has confirmed that the hypothesized correlations between the ACFIC's pair-wise (province–country) influences exerted by $ln(ACFIC_{it}CBT_{jt})$ on both exports and imports between the same pairs in the next year are both statistically significant and free of selection and heteroskedasticity biases. We have also dealt with the potential endogeneity of $ACFIC_{it}$ with an instrumental variable approach. Yet, these discovered relationships might still not be causal if the assumptions used to eliminate biases are incorrect and/or if there exists any other variable linking the dependent and any of the independent variables, such as CBT_{jt}, in our models. For example, some previous province–country economic interactions might have impacted both the ACFIC's

Table 6. **Poisson Pseudo-Maximum-Likelihood Estimates**

	Exports	Imports	Exports versus Imports	
Explanatory Variables	(1)	(2)	(3)	(4)
$ln(ACFIC_{it}CBT_{jt})$	0.388***	0.294***	0.191***	0.184***
	(0.055)	(0.079)	(0.064)	(0.066)
$ln(ACFICCBT_{ijt})Type_{ijt}$				0.015*
				(0.008)
$ln(GDP_{it})$	1.618***	1.132***	0.845***	0.900***
	(0.216)	(0.338)	(0.099)	(0.113)
$ln(GDP_{jt})$	0.515***	0.509***	0.946***	0.897***
	(0.084)	(0.136)	(0.110)	(0.103)
$ln(Distance_{ij})$	−0.414***	−0.630***	−0.456***	−0.456***
	(0.090)	(0.164)	(0.154)	(0.154)
$Border_{ij}$	3.448***	3.529***	2.711***	2.713***
	(0.339)	(0.732)	(0.485)	(0.486)
$Religion_{ij}$	2.919***	1.811***	1.699***	1.699***
	(0.414)	(0.621)	(0.509)	(0.509)
$ln(Population_{it})$	0.302	0.477	0.013	−0.051
	(0.261)	(0.409)	(0.111)	(0.121)
$ln(Population_{jt})$	0.028	−0.153	−0.081	−0.028
	(0.069)	(0.122)	(0.107)	(0.100)
$ln(Area_{it})$	−0.673***	−0.830***	−0.230***	−0.209***
	(0.069)	(0.111)	(0.051)	(0.053)
$ln(Area_{jt})$	−0.093***	0.069**	−0.176***	−0.195***
	(0.029)	(0.028)	(0.038)	(0.039)
SFI_{jt}	−0.056***	−0.123***	−0.020	−0.020
	(0.018)	(0.033)	(0.022)	(0.022)
$ln(TCP_{j,t-1})$	0.197***	0.191***	0.133***	0.133***
	(0.037)	(0.060)	(0.041)	(0.041)
Fixed effects	Province Country Year	Province Country Year	Province Country Year	Province Country Year
No. of observations	20607	19819	40426	40426
Pseudo R-squared	0.864	0.775	0.768	0.769
δ	1.049	1.063	1.061	1.062

Notes: Standard errors clustered at the level of province–country pair are included in parentheses. Significance level: *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.
Source: Authors' calculations.

current influence on that pair and that pair's future economic interactions. If so, this would imply that the correlations identified above could be spurious.

To address this type of potential threat, we use a fixed-effects model and a dynamic panel data approach by including $ln(x_{ij,t})$, the lagged value of the dependent variable, in the set of independent variables. Mathematically, the new econometric equation can be expressed as

$$ln(x_{ij,t+1}) = \alpha_1\, ln(x_{ij,t}) + \alpha_2\, ln(ACFIC_{it}CBT_{jt}) + W'_{ijt}\xi + \pi_t + \pi_{ij} + \varepsilon_{ijt}$$

(11)

where $x_{ij,t+1}$ represents the economic interactions (exports or imports) between province i and country j in year $t + 1$, $x_{ij,t}$ is the lagged value of $x_{ij,t+1}$ in year t, W_{ijt} is the set of other control variables identified in equation (5), π_t is the fixed effect for year t, and π_{ij} is the interacted fixed effect for province i and country j (not just for their corresponding PRC region and continent). There is only one lagged value of the dependent variable because the timeliness of news is assumed. Based on equation (11), we endeavor to employ various estimation techniques to examine whether the coefficient of $ln(ACFIC_{it}CBT_{jt})$, α_2, is positive, statistically significant, and not overridden by the presence of $ln(x_{ijt})$, so that the results of this exercise would at least be indicative of the robustness of the conclusions from the previous sections.

We first use standard fixed-effects models to estimate equation (11), the results of which are reported in the first four columns of Table 7. Columns (1) and (3) exclude the control variable set W_{ijt}, and columns (2) and (4) include it. While x_{ij} represents the exports from province i to country j in columns (1) and (2), in columns (3) and (4) it represents the imports by province i from country j. According to the four columns, adding the 1-year lagged value of the dependent variable does not override the finding that the coefficient of $ln(ACFIC_{it}CBT_{jt})$ is positive and statistically significant, implying that the ACFIC has managed to exert substantial effects on the trading activities between province i and country j even after controlling for the influence of past economic interactions.

Moreover, we truncate our dataset into a balanced panel data and conduct a Harris–Tzavalis unit root test designed for samples with short time periods but many cross-sectional units (Harris and Tzavalis 1999). This test helps ensure that the premise of stationarity for the practice of including lagged dependent variable is not violated as suggested by Keele and Kelly (2006). As shown at the bottom of the table, all the p-values from the Harris–Tzavalis unit root tests for the dependent variables (exports or imports) are far smaller than 5%, thereby rejecting the null hypothesis of the existence of unit roots. Thus, the dependent variables are stationary, and the use of their lagged values legitimate.

While the results from the first four columns in Table 7 are quite satisfying, they could be exposed to the Nickell bias (Nickell 1981) in that the difference between each dependent or independent variable and its mean across years within a cross-sectional unit could create a correlation between the independent variables and the error term. To mitigate this imprecision, Arellano and Bond (1991) devised a dynamic panel data approach, which takes the first differences of the dependent, lagged dependent, and independent variables, utilizes the first differences of the lagged dependent and lagged independent variables as instruments, and estimates the entire system with the generalized method of moments. Since our panel dataset contains a small number of time periods and a large number of cross-sectional units, which is of the type for which this Arellano–Bond estimator was designed, we believe that its use is appropriate in this context and serves to minimize

Table 7. **Dynamic Panel Data Analysis (Dependent Variables: Exports and Imports in Year $t + 1$)**

Dependent Variables	Fixed-Effects Estimation				Arellano–Bond Estimation	
	(1)	(2)	(3)	(4)	(5)	(6)
	$x_{ij,t}$ as Export	$x_{ij,t}$ as Export	$x_{ij,t}$ as Import	$x_{ij,t}$ as Import	$x_{ij,t}$ as Export	$x_{ij,t}$ as Import
$ln(x_{ij,t})$	0.896***	0.800***	0.855***	0.806***	0.273**	0.440***
	(0.007)	(0.009)	(0.008)	(0.009)	(0.139)	(0.152)
$ln(ACFIC_{it}CBT_{jt})$	0.109***	0.069***	0.116***	0.074***	1.140***	0.992**
	(0.009)	(0.012)	(0.013)	(0.020)	(0.212)	(0.475)
$ln(GDP_{it})$		0.422***		0.242***		
		(0.052)		(0.093)		
$ln(GDP_{jt})$		0.073***		0.060*		
		(0.017)		(0.031)		
$ln(Distance_{ij})$		−0.032		−0.074		
		(0.032)		(0.050)		
$Border_{ij}$		0.658***		0.776***		
		(0.130)		(0.219)		
$Religion_{ij}$		0.431***		0.449***		
		(0.076)		(0.171)		
$ln(Population_{it})$		−0.132**		−0.001		
		(0.059)		(0.118)		
$ln(Population_{jt})$		0.068***		−0.006		
		(0.018)		(0.031)		
$ln(Area_{it})$		−0.122***		−0.217***		
		(0.015)		(0.034)		
$ln(Area_{jt})$		−0.026***		0.016		
		(0.008)		(0.013)		
SFI_{jt}		−0.011***		−0.025***		
		(0.004)		(0.008)		
$ln(TCP_{j,t-1})$		0.027***		0.015		
		(0.008)		(0.014)		
Fixed effects	Province Country Year	Province Country Year	Province Country Year	Province Country Year	Province Country Year	Province Country Year
No. of observations	6,685	6,685	4,958	4,958	6,229	4,535
Harris–Tzavalis statistics	0.159***	0.159***	0.083***	0.083***		
Hansen test (p-value)					[0.529]	[0.004]
Serial correlation of order 1 (p-value)					[0.000]	[0.000]
Serial correlation of order 2 (p-value)					[0.274]	[0.127]

Notes: Standard errors clustered at the level of province–country pair are included in parentheses. Significance level $= {}^{*}p < 0.1,\ {}^{**}p < 0.05,\ {}^{***}p < 0.01$.
Source: Authors' calculations.

the endogeneity bias driven by past trading activities in our panel data, thereby enhancing the credibility of the findings of the substantial effects exerted by the ACFIC.

The last two columns of Table 7 display the results of the Arellano–Bond estimation on equation (11). Following Arellano and Bond (1991), we perform serial correlation tests to determine whether this estimator's assumption that the differenced error term is first-order, but not second-order serially correlated, is satisfied. As shown at the bottom of the table, both p-values for the first-order serial correlations are smaller than 1%, and both for the second-order are larger than 10%, so the serial correlation tests are passed. Moreover, to avoid overidentification caused by having too many strong instruments, we collapse the generalized method of moments style instruments and restrict the lagged periods to year $t - 6$ and year $t - 7$ to be sufficiently far away from year t, as suggested by Wintoki, Linck, and Netter (2012). These procedures help us eventually obtain the greater-than-10% p-value of the Hansen test for exports, but the p-value of the Hansen test for imports is still smaller than 1%. Thus, though the overidentifying condition for exports is satisfied, that for imports is still violated. These statistical tests ensure the appropriateness of the Arellano–Bond estimation for exports but cast doubt on this practice for imports. In summary, although the estimates of α_2 are both positive and statistically significant for exports and imports, we are only confident that the estimates are free of possible bias in the case of exports. Numerically, we find that the estimates of α_2 in both columns are larger than 0.5, which suggests that the values of the coefficient on $ln(ACFIC_{it}CBT_{jt})$ in previous tables might be underestimated.

As there could still be other estimation biases, the implications drawn from this subsection do not guarantee that the ACFIC's influences on the province–country pair and that pair's future trade activities are causal. Yet, the results based on this practice of including the lagged value of the dependent variable and applying the Arellano–Bond estimation still increase the credibility of both the estimates presented and the econometric methods used throughout this study, especially in the case of exports.

VII. Has the ACFIC Promoted Relations between the PRC and BRI Countries? Difference-in-Differences Analysis

Even after the discussion above of how the ACFIC influences the PRC's foreign trade with the countries it seems to favor, hypothesis (2) about the BRI remains untested. This section concentrates on whether since 2013 the ACFIC has come to prioritize BRI countries in the *China Business Times*. Only if BRI countries have indeed become the ACFIC's increasingly favored targets since 2013 may we safely conclude that the ACFIC has encouraged its member firms to trade more with BRI countries.

To identify the change in the global distribution of the ACFIC's frequently mentioned targets before and after the BRI's initiation, we combine an autoregressive model of order one (AR[1]) with the difference-in-differences (DiD) method to determine whether the BRI or related geographical information has a causal relationship with CBT_j.[4] Formally,

$$CBT_{jt} = \varphi_1 \, CBT_{j,t-1} + \varphi_2 D_j + \varphi_3 Post_t + \varphi_4 D_j Post_t + \varphi_5 \, ln\big(GDP_{jt}\big)$$
$$+ \varphi_6 \, ln\big(Population_{jt}\big) + \varphi_7 g_{jt} + \varphi_8 n_{jt} + \varphi_0 + \varepsilon_{ijt} \qquad (12)$$

where D_j is the dummy for country j being a BRI member, $Post_t = 0$ if $t \leq 2013$ or $Post_t = 1$ if $t > 2013$, g_{jt} is the GDP growth rate of country j in year t, and n_{jt} is the population growth rate of country j in year t. As alternatives to the dummy for the BRI as a whole as the dependent variable, we also create dummy variables for D_j for four different subregions of the BRI: Central Asia and the Caucasus, Africa, Eastern Europe, and Southeast Asia. Applying the model to the four subregions separately, we can determine whether there is any difference between these regions in terms of φ_4, the coefficient on $D_j Post_t$. As in Card and Krueger (1994) and other DiD empirical studies, if φ_4 is positive, this would indicate that the ACFIC has increased its reports about the countries defined by the dummy variable D_j since the inauguration of the initiative in 2013, or the opposite if φ_4 is negative.

The regression estimates based on equation (12) are reported in Table 8.[5] Each column reports the results for the dummy D_j and its interaction with $Post_t$ for a different set of BRI countries. Column (1) is for BRI membership as a whole, column (2) is for BRI countries in Africa, column (3) for those in Central Asia and the Caucasus, column (4) for those in Eastern Europe, and column (5) for those in Southeast Asia.

The entries in the first row of the table represent the effects of the CBT_j in the previous year, which are indeed all positive and strong, revealing considerable persistence of this AR(1) model. The estimate of the parameter φ_2 is negative in most specifications although not always statistically significant, suggesting that BRI countries have received smaller amounts of attention from the ACFIC than other large trading partners of the PRC such as the US and Japan. This is a reasonable finding because most BRI countries are developing countries. The result that the estimated values of φ_3 are also negative indicates that the ACFIC has decreased its overall news reports about non-PRC countries, consistent with its "Going Inward" strategy since 2009 as documented by Lei and Nugent (2018). In none of the columns are the coefficients of GDP growth or population growth statistically significant, indicating that the ACFIC's attention to a specific country does not necessarily depend on that country's economic or demographic status.

---

[4]See Wooldridge (2010, 197) for explanations and examples of the AR(1) model and Angrist and Pischke (2008, 227–46) for the DiD model.

[5]Appendix Figure A2 confirms that our DiD model satisfies the parallel trend assumption.

Table 8. **Difference-in-Difference Estimates of the All-China Federation of Industry and Commerce's Prioritization in the China Business Times**

Explanatory Variables	BRI (1)	Africa (2)	Central Asia and Caucasus (3)	Eastern Europe (4)	Southeast Asia (5)
$CBT_{j,t-1}$	0.940^{***}	0.940^{***}	0.940^{***}	0.939^{***}	0.940^{***}
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
D_j	-13.959^{*}	-8.959^{***}	-7.371^{***}	-7.317^{*}	4.752
	(5.624)	(2.406)	(2.006)	(3.089)	(4.281)
$Post_t$	-49.487^{***}	-23.822^{***}	-20.761^{***}	-21.134^{***}	-19.086^{***}
	(14.585)	(5.582)	(4.716)	(4.991)	(4.746)
$D_j Post_t$	40.931^{**}	20.559^{***}	21.019^{***}	14.874^{*}	-2.503
	(14.698)	(5.702)	(4.846)	(6.225)	(8.091)
$ln(GDP_{jt})$	1.098^{*}	0.549	0.729	0.655	0.688
	(0.452)	(0.497)	(0.447)	(0.448)	(0.432)
$ln(Population_{jt})$	0.234	0.473	0.407	0.464	0.355
	(0.319)	(0.280)	(0.256)	(0.255)	(0.239)
g_{jt}	-21.676	-21.035	-23.616	-25.908	-25.899
	(22.204)	(21.361)	(22.109)	(20.835)	(20.527)
n_{jt}	-53.893	-51.396	-58.668	-69.335	-51.615
	(37.050)	(42.369)	(39.428)	(47.293)	(39.036)
No. of observations	985	985	985	985	985
F-statistic	42,047.26	47,125.74	46,984.37	44,900.18	50,166.27
R-squared	0.968	0.967	0.967	0.967	0.967

BRI = Belt and Road Initiative.
Notes: Standard errors clustered at the country level are included in parentheses. Significance level = $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.
Source: Authors' calculations.

Most importantly, however, φ_4 is positive in all columns except the two for Southeast Asia, which demonstrates that since 2013 the ACFIC has indeed boosted its relative attention to the BRI in general and to Africa, Central Asia and the Caucasus, and Eastern Europe (but not Southeast Asia) in particular.

Combining this finding with the conclusion drawn from previous sections, it would appear that the ACFIC has induced its member firms to engage in more trade with BRI countries since 2013. This statistical implication persuasively demonstrates that the ACFIC has substantially helped the central government to align its member firms with the national objective of developing the BRI, at least based on the information disseminated by the ACFIC's newspaper. However, this impact has been quite unequal across different groups of BRI countries.

VIII. Conclusion

The results presented in sections V, VI, and VII have demonstrated that the ACFIC has managed to induce its member firms from the private sector in the PRC's different provinces to engage in both exports and imports with the countries that the ACFIC has stressed in its newspaper, the *China Business Times*. On average, a 1% increase in the newspaper's level of dissemination of the positive opportunities

in a non-PRC country has increased the PRC's trade activities in that country by around 0.3% (and perhaps more as indicated in Tables 6 and 7). The results have also been quite robust to different model specifications and means of dealing with possible econometric problems, although the implications for exports are likely to be more reliable than those for imports based on the Arellano–Bond estimates. The last step in the analysis showed that, although the ACFIC has been posting fewer news articles about other countries in recent years, reflecting the continuation of its "Going Inward" strategy, its focus on news about BRI countries has not decreased. In addition, from the use of the interaction term that compares the ACFIC's effects on exports with those on imports, we find fairly strong evidence that the ACFIC's influence on the PRC's exports to BRI countries has been substantially larger than on its imports from those countries.

Given the vulnerability of such a massive program as the BRI to so many different risks, especially with regard to debt default risks that have been rising in several BRI countries, the Government of the PRC and the ACFIC might do well to be concerned by the evidence presented here of the unequal balance of payment effects between the PRC and many of its BRI partners. The results suggest that some attention should be given to policies that could increase imports into the PRC from these BRI countries to prevent them from defaulting on loans or experiencing other macroeconomic crises. In cases where business associations in other BRI countries appear to have some potential to act as a coordinating entity, it may also be useful to see if the ACFIC can coordinate with, or even train members of, such business associations in other BRI countries to increase their ability to coordinate with member firms. The PRC may also want to increase its imports of labor-intensive goods and services from other BRI countries so as to focus on its Made in China 2025 strategic plan.

We admit, however, that this analysis has been conducted based on incomplete data, especially in terms of being limited to the first 5 years of the BRI's implementation. Hence, regular updates of the present analysis, including on efficiencies within the PRC, will be needed and preferably also extended to commodity-specific and/or firm-specific trade and investment among BRI countries.

References

All-China Federation of Industry and Commerce. 2018. "Report on Top 500 Chinese Private Firms (中国民营企业500强调研分析报告)." Beijing. [In Chinese]

Altonji, Joseph G., Todd E. Elder, and Christopher R. Taber. 2005. "Selection on Observed and Unobserved Variables: Assessing the Effectiveness of Catholic Schools." *Journal of Political Economy* 113 (1): 151–84.

Anderson, James E. 1979. "A Theoretical Foundation for the Gravity Equation." *American Economic Review* 69 (1): 106–16.

Anderson, James E., and Eric van Wincoop. 2003. "Gravity with Gravitas: A Solution to the Border Puzzle." *American Economic Review* 93 (1): 170–92.

Angrist, Joshua D., and Jörn-Steffen Pischke. 2008. *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton: Princeton University Press.

Arellano, Manuel, and Stephen Bond. 1991. "Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations." *Review of Economic Studies* 58 (2): 277–97.

Baniya, Suprabha, Nadia Rocha, and Michele Ruta. 2019. *Trade Effects of the New Silk Road: A Gravity Analysis*. World Bank.

Bennett, Robert J. 1998. "Business Associations and Their Potential Contribution to the Competitiveness of SMEs." *Entrepreneurship and Regional Development* 10 (3): 243–60.

Bikker, Jacob A., and Aart F. de Vos. 1992. "An International Trade Flow Model with Zero Observations: An Extension of the Tobit Model." *Brussels Economic Review* 135: 379–404.

Bird, Julia Helen, Mathilde Sylvie Maria Lebrand, and Anthony J. Venables. 2019. *The Belt and Road Initiative: Reshaping Economic Geography in Central Asia?* Washington, DC: World Bank.

Blomberg, S. Brock, and Gregory D. Hess. 2006. "How Much Does Violence Tax Trade?" *Review of Economics and Statistics* 88 (4): 599–612.

Bräutigam, Deborah, Lise Rakner, and Scott Taylor. 2002. "Business Associations and Growth Coalitions in Sub-Saharan Africa." *Journal of Modern African Studies* 40 (4): 519–47.

Bruni, Michele 2019. "The Belt and Road Initiative: Demographic Trends, Labour Markets and Welfare Systems of Member Countries." Global Labor Organization Discussion Paper No. 300.

Card, David, and Alan B. Krueger. 1994. "Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania." *American Economic Review* 84 (4): 772–93.

Chen, Maggie Xiaoyang, and Chuanhao Lin. 2018. *Foreign Investment across the Belt and Road: Patterns, Determinants, and Effects*. Washington, DC: World Bank.

Cheng, Xiaobo, ed. 2018. *Big Data Report of Trade Cooperation under the Belt and Road Initiative* 2018. Beijing: State Information Center of China. [In Chinese]

de Soyres, François, Alen Mulabdic, Siobhan Murray, Nadia Rocha, and Michele Ruta. 2018. *How Much Will the Belt and Road Initiative Reduce Trade Costs?* Washington, DC: World Bank.

Doner, Richard F., and Ben Ross Schneider. 2000. "Business Associations and Economic Development: Why Some Associations Contribute More Than Others?" *Business and Politics* 2 (3): 261–88.

Dunford, Michael, and Weidong Liu. 2019. "Chinese Perspectives on the Belt and Road Initiative." *Cambridge Journal of Regions, Economy and Society* 12 (1): 145–67.

Dunlevy, James A. 2006. "The Influence of Corruption and Language on the Pro-Trade Effect of Immigrants: Evidence from the American States." *Review of Economics and Statistics* 88 (1): 182–86.

Elmer, Keegan. 2018. "Anti-China Protests in Vietnam Set to Aggravate Tensions with Beijing." June 13. https://www.scmp.com/news/china/diplomacy-defence/article/2150653/anti-china-protests-vietnam-set-aggravate-tensions.

Gibson, John, and Chao Li. 2018. "The Belt and Road Initiative and Comparative Regional Productivity in China." *Asia and the Pacific Policy Studies* 5 (2): 168–81.

Gill, Indermit, Somik Y. Lall, and Mathilde Lebrand. 2019. "Winners and Losers along China's Belt and Road." Brookings Institution, June 21. https://www.brookings.edu/blog/future-development/2019/06/21/winners-and-losers-along-chinas-belt-and-road/.

Harris, Richard D.F., and Elias Tzavalis. 1999. "Inference for Unit Roots in Dynamic Panels Where the Time Dimension is Fixed." *Journal of Econometrics* 91 (2): 201–26.

Head, Keith, and Thierry Mayer. 2010. "Illusory Border Effects: Distance Mismeasurement Inflates Estimates of Home Bias in Trade." In *The Gravity Model in International Trade: Advances and Applications.* Cambridge: Cambridge University Press.

Heckman, James J. 1979. "Sample Selection Bias as a Specification Error." *Econometrica* 47 (1): 153–61.

Helpman, Elhanan, Marc Melitz, and Yona Rubinstein. 2008. "Estimating Trade Flows: Trading Partners and Trading Volumes." *Quarterly Journal of Economics* 123 (2): 441–87.

Herrero, Alicia Garcia, and Jianwei Xu. 2017. "China's Belt and Road Initiative: Can Europe Expect Trade Gains?" *China & World Economy* 25 (6): 84–99.

Hillman, Jonathan E. 2018. "How Big is China's Belt and Road?" Center for Strategic and International Studies, April 3. https://www.csis.org/analysis/how-big-chinas-belt -and-road.

Huang, Yiping. 2016. "Understanding China's Belt & Road Initiative: Motivation, Framework and Assessment." *China Economic Review* 40: 314–21.

Hurley, John, Scott Morris, and Gailyn Portelance. 2018. "Examining the Debt Implications of the Belt and Road Initiative from a Policy Perspective." Center for Global Development Policy Paper 121.

Irshad, Muhammad Saqib, Qi Xin, and Hamza Arshad. 2015. "One Belt and One Road: Does China-Pakistan Economic Corridor Benefit for Pakistan's Economy?" *Journal of Economics and Sustainable Development* 6 (24): 200–07.

Jia, Nan. 2014. "Are Collective Political Actions and Private Political Actions Substitutes or Complements? Empirical Evidence from China's Private Sector." *Strategic Management Journal* 35 (2): 292–315.

Johnson, Simon, John McMillan, and Christopher Woodruff. 2000. "Entrepreneurs and the Ordering of Institutional Reform: Poland, Slovakia, Romania, Russia and Ukraine Compared." *Economics of Transition* 8 (1): 1–36.

Keele, Luke, and Nathan J. Kelly. 2006. "Dynamic Models for Dynamic Theories: The Ins and Outs of Lagged Dependent Variables." *Political Analysis* 14 (2): 186–205.

Kohl, Tristan. 2019. "The Belt and Road Initiative's Effect on Supply-Chain Trade: Evidence from Structural Gravity Equations." *Cambridge Journal of Regions, Economy and Society* 12 (1): 77–104.

Lee, Jeong-ho. 2019. "How the Tiny African Nation of Djibouti Became the Linchpin in China's Belt and Road Plan." April 28. https://www.scmp.com/news/china/diplomacy /article/3007924/how-tiny-african-nation-djibouti-became-linchpin-chinas-belt.

Lei, Zhenhuan, and Jeffrey B. Nugent. 2018. "Coordinating China's Economic Growth Strategy via Its Government-Controlled Association for Private Firms." *Journal of Comparative Economics* 46 (4): 1273–93.

Lewer, Joshua J., and Hendrik Van den Berg. 2007. "Estimating the Institutional and Network Effects of Religious Cultures on International Trade." *Kyklos* 60 (2): 255–77.

Ma, Guangrong, Oliver Meng Rui, and Yiping Wu. 2015. "A Springboard into Politics: Do Chinese Entrepreneurs Benefit from Joining the Government-Controlled Business Associations?" *China Economic Review* 36: 166–83.

Maurel, Mathilde, and Emiel Afman. 2010. "Diplomatic Relations and Trade Reorientation in Transition Countries." In *The Gravity Model in International Trade: Advances and Applications*. Cambridge: Cambridge University Press.

Nickell, Stephen. 1981. "Biases in Dynamic Models with Fixed Effects." *Econometrica* 49 (6): 1417–26.

Önis, Ziya, and Umut Türem. 2001. "Business, Globalization and Democracy: A Comparative Analysis of Turkish Business Associations." *Turkish Studies* 2 (2): 94–120.

Oster, Emily. 2017. "Unobservable Selection and Coefficient Stability: Theory and Evidence." *Journal of Business & Economic Statistics* 37 (2): 1–18.

Rehman, Faheem Ur, and Yibing Ding 2019. "The Nexus between Outward Foreign Direct Investment and Export Sophistication: New Evidence from China." *Applied Economics Letters* 1: 1–9.

Silva, J.M.C. Santos, and Silvana Tenreyro. 2006. "The Log of Gravity." *Review of Economics and Statistics* 88 (4): 641–58.

Solangi, Murtaza. 2018. "Why are Separatist Militants Violently Targeting Chinese in Pakistan?" November 24. https://www.scmp.com/week-asia/geopolitics/article/2174837/why-are-separatist-militants-violently-targeting-chinese.

Stock, James H., Jonathan H. Wright, and Motohiro Yogo. 2002. "A Survey of Weak Instruments and Weak Identification in Generalized Method of Moments." *Journal of Business & Economic Statistics* 20 (4): 518–29.

Sukiassyan, Grigor, and Jeffrey B. Nugent. 2011. "Lobbying or Information Provision: Which Functions of Associations Matter Most for Member Performance?" *Eastern European Economics* 49 (2): 30–63.

Tarabay, Jamie, and Sang-Hun Choe. 2018. "Xi and Pence Stake Out Trade Positions in Dueling Speeches at Pacific Rim Forum." *New York Times*, November 17.

Tinbergen, Jan. 1962. *Shaping the World Economy: Suggestions for an International Economic Policy*. New York: Twentieth Century Fund.

Wiederer, Christina K. 2018. *Logistics Infrastructure along the Belt and Road Initiative Economies*. Washington, DC: World Bank.

Wintoki, M. Babajide, James S. Linck, and Jeffry M. Netter. 2012. "Endogeneity and the Dynamics of Internal Corporate Governance." *Journal of Financial Economics* 105 (3): 581–606.

Wooldridge, Jeffrey M. 2010. *Econometric Analysis of Cross Section and Panel Data*. Cambridge: MIT Press.

Yu, Hong. 2017. "Motivation behind China's "One Belt, One Road" Initiatives and Establishment of the Asian Infrastructure Investment Bank." *Journal of Contemporary China* 26 (105): 353–68.

Zhai, Fan. 2018. "China's Belt and Road Initiative: A Preliminary Quantitative Assessment." *Journal of Asian Economics* 55: 84–92.

Appendix 1. English Translation of a Sample Article in the *China Business Times* Dedicated to the Construction of the Interconnected Information Infrastructure in Africa

"We believe that more than 150 thousand kilometers of optical cables will be laid in the next 15 to 20 years, and the consumption of cable-related goods in Africa will be greater than 100 billion US dollars." In the eyes of Wang Jianyi, the chairman of Zhejiang's Federation of Industry and Commerce as well as the chairman of Futong Group's board of directors, Africa is a continent full of hope. He

is very optimistic about the future of the interconnected information infrastructure in Africa.

Founded in 1987 and headquartered in Hangzhou, Zhejiang, Futong Group is a Chinese private firm focusing on high-tech manufacturing. Its industrial specializations include optical fiber communication and electric power transmission, and its research specializations include energy storage, high-temperature superconductor and submarine photoelectric composite cable. Today, Futong Group has 1 international headquarters, 3 regional headquarters, 31 factories, 15 national high-tech subsidiaries and more than 12,000 registered employees.

In recent years, following the Belt and Road Initiative, hundreds of Chinese companies have been participating in the construction of foreign interconnected information infrastructure. Futong Group is one of the participants as well as the beneficiaries.

Futong's development in Africa exemplifies the company's recent globalization. In countries such as Kenya, Nigeria, Seychelles, and Angola, Futong's products have been widely applied to local telecommunication, electrical transmission, automobile manufacturing, mobile terminal, and household electrical appliances.

According to chairman Wang, Chinese private firms are very competitive in fields such as optical fiber transmission and terminal equipment. Given these advances, Chinese firms are able to lead the construction of the interconnected information infrastructure in Africa.

Futong's long-term goal is to become an international cable manufacturing conglomerate respected by the society and promoting global sustainable development. African continent is a wonderful market from chairman Wang's perspective. Following the "Made in China 2025" strategy, Futong has been actively participating in the construction of information infrastructure in multiple African countries to realize the upgrade of local optical communication industry and build a world-class cluster of advanced manufacturing.

"The industrialization in Africa and the manufacturing reform in (the province of) Zhejiang are highly complementary, and there is a perfect synergy between them." According to chairman Wang, the industrialization in Africa should rely on Zhejiang's advances in manufacturing, automotive and information technology. As the chairman of Zhejiang's Federation of Industry and Commerce, he expresses that Zhejiang's Federation of Industry and Commerce is very willing to advocate the economic cooperation between China and Africa and accelerate the industrialization of African countries.

Chairman Wang also argues that Chinese private firms need to agglomerate together when they are developing their business in Africa. In other words, taking advantage of constructing industrial parks, Chinese private firms should develop orderly industrial chains instead of doing business on their own.

Wang's proposal is inspired by his conglomerate's recent experiences of globalization. Futong Group, together with other Chinese private firms, has developed an eight-squared-kilometer high-end industrial park in Mexico. Through combining each company's advantages, they together formed orderly industrial chains and competed with other countries' firms.

As a Chinese poem goes, the immense sea allows fish to leap at liberty, and the vast sky allows birds to fly at liberty. 2018 is the fifth anniversary of the Belt and Road Initiative. As the cornerstone of information interconnection, information infrastructure is an important component in the development of the Belt and Road Initiative. Following the Belt and Road Initiative and develop industrial parks in foreign countries, Chinese firms such as Futong Group obtain a greater amount of opportunities for their business development.

Futong Group's Official Website (in English): http://www.futonggroup.com.cn/en/

Source: Li, Renping. 2018. "Futong Group Wants to Become an International Cable Manufacturing Conglomerate." *China Business Times*, September 18. http://epaper.cbt.com.cn/epaper/uniflows/html/2018/09/18/01/01_68.htm. [In Chinese]

Appendix 2

Figure A2.   **Parallel Trend Test for Difference-in-Difference Estimates of the All-China Federation of Industry and Commerce's Prioritization in the China Business Times**
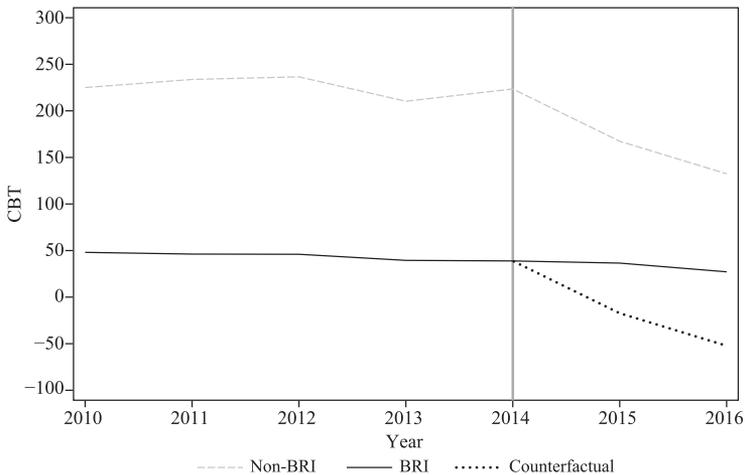
BRI = Belt and Road Initiative, CBT = China Business Times.
Notes: The vertical axis represents $CBT_{j,t}$, the frequency of the name of country j appearing in the *China Business Times* in year t. The horizontal axis represents year t. The dashed line represents the average $CBT_{j,t}$ of all non-BRI countries. The solid line represents the average $CBT_{j,t}$ of all BRI countries. The vertical line represents the threshold when the BRI intervention began to take effect. The dotted line represents the counterfactual average $CBT_{j,t}$ of all BRI countries if the BRI did not exist.
Source: Authors' calculations.