The impact of China's One Belt One Road initiative on international trade in the ASEAN region

Nam Foo [a,*]

Hooi Hooi Lean [b]

Ruhul Salim [a]

[a,] School of Economics, Finance and Property, Curtin Business School, Curtin University, Perth, Western Australia.

[b] Economics Program, School of Social Sciences, Universiti Sains Malaysia, Penang, Malaysia.

[*] *Corresponding author: Dr. Nam Foo, Sessional Lecturer, School of Economics, Finance and Property, Curtin Business School, Curtin University, Perth, Western Australia. Tel.: (61) 403662915. E-mail: nam.foo@curtin.edu.au,*

The impact of China's One Belt One Road initiative on international trade in the ASEAN region

Abstract

This study explores the potential effects of China's 'One Belt One Road' (OBOR) policy on trade flows in ASEAN countries and China. We use the augmented gravity model of international trade and data on ASEAN countries and China from 2000 to 2016. The empirical results show that the coefficient of the OBOR dummy is positive and statistically significant, which implies that this policy benefits both ASEAN countries and China in terms of increased trade flows among these countries. In addition, the coefficients of other control variables, such as a common language, a common border, and distance, have the expected signs, and all are statistically significant. Thus, the OBOR policy initiative could be a promising mechanism for trade facilitation in these countries in the years to come.

Keywords: ASEAN; China; International Trade; Investment; One Belt One Road

JEL classification code*:* F13, F14

The impact of China's One Belt One Road initiative on international trade in the ASEAN region

1. Introduction

At the end of 2013, President Xi Jinping of the People's Republic of China (PRC) announced that the Chinese government intended to create a new global Chinese strategy, the so-called One Belt One Road (OBOR) plan. This plan follows in the footsteps of the ancient Silk Road Economic Belt and the twenty-first Century Maritime Silk Road initiative. The OBOR initiative includes countries from Asia, Europe, Africa, and the Middle East. It aims to deepen economic and security cooperation among participating countries through hyper-efficient infrastructure and new institutional linkages. According to Chinese authorities, the OBOR initiative comprises five major goals for cooperation among the participating countries: to coordinate international trade development policies, to forge infrastructure and facilities networks via the Asian and European continents, to strengthen investment and trade partnerships, to enhance financial cooperation among the participants and to deepen social and cultural exchanges through trade partnerships (Villafuerte et al. 2016).

China, which is a leader in this initiative, has already invested and built an institutional framework for OBOR. The Asian Infrastructure Investment Bank (AIIB) and the New Development Bank (formerly referred to as the BRICS Development Bank) have played significant roles in the implementation of OBOR. The initiative of this belt and road plan is to develop a win-win economic strategy by promoting the collaborative expansion of regional infrastructure, trade and investment in order to boost collective economic growth and improve living standards in the region.

In addition to investments from state-owned enterprises, the OBOR initiative also relies on substantial involvements from private sector investors such as The Hong Kong and Shanghai Banking Corporation (HSBC) and KPMG (Klynveld Peat Marwick Goerdeler). Furthermore, the Chinese government also intends to create a Silk Road Fund to fund and support trade and economic cooperation under the OBOR framework. Despite supporting economic developments in the region, this new government initiative plays a key role in diversifying foreign reserves and encourages Chinese companies to invest and bid for contracts in member countries.

The OBOR strategy is one of the world's largest economic initiatives. It involves more than sixty countries, which comprise forty-five percent of the world's population or USD 13

trillion in the combined gross domestic product (GDP). Among these countries are the countries of the Association of Southeast Asian Nations (ASEAN), which, as a group, is the largest trading partner with China (Villafuerte et al., 2016; Sebastian, 2017). The OBOR initiative connects all these member countries with a complex network of roads, rails and pipelines. The Chinese government itself has promised to invest $1.4 billion in port infrastructure, spreading from the coast of mainland China through the South China Sea, the Strait of Malacca, across the Indian Ocean, and into the Arabian Sea and Persian Gulf (Mustafic, 2016).

Political cooperation has played a critical role in the OBOR strategy (Du & Zhang, 2018). The importance of the OBOR initiative is commonly considered infrastructure-led. The OBOR member countries can receive substantial infrastructure investment from China to substantiate the availability and quality of cross-border logistics facilities. Hence, the investment in the infrastructure of Chinese investors in OBOR countries can mitigate the disadvantages and improve the infrastructure distance of the host countries from China.[1] Accordingly, ASEAN countries can benefit from this Chinese initiative with substantial Chinese infrastructure investment the Master Plan of ASEAN Connectivity (MPAC). Examples include the Singapore-Kunming Rail Link (SKRL) high-speed rail project, which was first proposed in 1996, the high-speed railway between Singapore and Kuala Lumpur and, in Laos, a high-speed rail from Kong Ming to Vientiane and between Phnom Penh and Ho Chi Minh City in Vietnam (Jetin, 2017).

In light of these major developments in ASEAN countries and the initial OBOR plan, the objective of this study is threefold: examine the economic impact of international trade between ASEAN nations and China as a result of the OBOR initiative, discusses some bilateral trade issues and consider their further development under the initiative, and investigate the effect of OBOR and the 'anticipation' effect of the OBOR initiative on intra-regional and extra-regional trade flows by comparing trade patterns before and after the commencement of the OBOR process.

ASEAN and China have a long history of bilateral economic relations. To fully understand the current situation, it is necessary to revisit this on-going economic link by considering recent changes in the region. The main contribution of this article is to demonstrate the economic impacts of the bilateral relationship between ASEAN member countries and

[1] The logistics facilities are important not just about connecting infrastructure but also because it includes regulation of services, sustainability, resilience, and trade facilitation.

China on MPAC. By addressing these issues, researchers have raised questions about whether the OBOR policy will further improve the ASEAN-China bilateral relationship. What will be the impact and magnitude of ASEAN economies before and after the OBOR initiative?

The remainder of this article proceeds as follows. Section 2 presents an overview of the ASEAN connectivity and China in association with the OBOR initiative. Section 3 discusses data sources and the modified extended gravity model that applies to bilateral trade between ASEAN countries and China. Section 4 analyses the estimation results, and Section 5 concludes the paper.

2. An overview of ASEAN connectivity and China's OBOR initiative

Historically, Southeast Asian countries were China's major trading partners as early as the third century. The recently announced plan by Chinese President Xi Jinping in 2013 was welcomed by these ASEAN nations. The OBOR initiative comprises two routes. One is the Silk Road Economic Belt (SREC), which connects China and Europe through Central Asia and the Middle East. The other is the Maritime Silk Road (MSR), which connects countries in the Pacific, Southeast Asia, South Asia, and Africa through the South China Sea and the Indian Ocean. Figure 1 demonstrates the percentage share of total trade that can benefit China and the world resulting from the belt and road initiative.

[Figure 1 Insert Here]

The OBOR initiative led by the Chinese government aims to develop its landlocked Western Chinese provinces and allow them to gain access to major trading partners in Southeast Asian and Middle Eastern nations. The primary role of the MSR is also to promote economic cooperation and connectivity with these neighboring countries by reviving the ancient maritime Silk Road. Table 1 shows sub-regions and countries that lie along the OBOR route.

[Table 1 Insert Here]

Blanchard and Flint (2017) argue that these two initiatives are contemporary connectivity projects entailing significant interrelated infrastructure such as ports, highways, railways, and pipelines that have the potential to transform the global geopolitical landscape. The major aims of this initiative are to promote free trade agreements to remove barriers to the exchange of goods, to negotiate aid accords for projects and to conclude bilateral investment treaties that can create the appropriate ecosystem for infrastructure deals, to liberalize markets for foreign investors and to make agreements that allow greater cargo and passenger flights and establish or bolster strong institutions in the ASEAN region.

The initial OBOR initiative is an infrastructure-led integration scheme. A study by Du and Zhang (2018) states that the quality and availability of infrastructure in belt and road countries is imperative. This initiative, in turn, plays a critical role in improving trade development through government policies, especially trade liberalization policies. Schinas and Westarp (2017) highlight that the OBOR strategy is an initiative to enhance trade flow activities between countries. Their study concludes that the OBOR initiative, particularly the maritime Silk Road, offers both economic (increase trade flows) and environmental (CO_2 emission reduction) benefits.

The ASEAN region includes both mainland and archipelagic territories with differential importance for land and maritime connectivity. This unique geographical landscape has resulted in ASEAN nations' internal and external trade depending heavily on land transport, which is mostly by road (Chia, 2016). In this situation, the ASEAN region has to connect efficient infrastructure systems to enhance the objective of the ASEAN Economic Community (AEC) Blueprint, which was adopted in 2007, and the MPAC, which was adopted in 2010. The objective of the MPAC is to promote free trade and economic integration agreements through various dimensions of land, maritime and aviation connectivity. In addition, the MPAC is also able to streamline the AEC's complex national policies and regulatory frameworks and address different challenges of implementation and infrastructure project financing, including the Chinese OBOR initiative and the AIIB, in this region. In a very recent study, Boffa (2018) finds that the OBOR initiative will improve connectivity between China and the OBOR countries and thereby reduce trade costs. This will likely increase not only trade but also vertical specialization linkages in the East Asian region from exporting and importing countries.

ASEAN nations are among China's major trading partners and have a long international diplomatic history with China. Figure 2 shows this relationship between ASEAN countries and China. ASEAN countries, in particular, have gaps in the availability and quality of the infrastructure needed to support economic competitiveness. Transport connectivity is a major issue. A lack of developed and efficient transport networks in ASEAN countries can affect the region's logistics performance and the time and cost of trading across borders. Table 2 presents ASEAN countries' and China's rankings on the International Logistical Performance Index (LPI).[2][3]

[2] China is included in the table to show how China influences ASEAN economies in general.

[3] The LPI ranking is an interactive benchmarking tool created to help countries identify the challenges and opportunities they encounter in current international trade. It aims to improve and assess a nation's trade logistics

[Insert Figure 2 Here]

[Insert Table 2 Here]

A sound transport network is imperative because logistics performance is essential for the region to retain strong competitiveness and trade integration. A sound trade logistics performance also offers physical access to resources and enables producers to take advantage of opportunities in domestic and overseas markets, which can improve economies of scale and specialization in ASEAN countries. The Chinese belt and road initiative offers another trade opportunity for ASEAN countries to connect the region and the world via economic integration. Jetin (2017) believes that the Chinese OBOR initiative delivers good news for ASEAN economies, which require infrastructure investments to implement MPAC. According to Liu's (2016) survey, there is more than a 70 percent likelihood that ASEAN countries will benefit from this initiative. In Southeast Asia itself, Chinese companies comprise 17 percent of total infrastructure investment across the region (Mooney, 2016).

For ASEAN countries, the Chinese belt and road initiative offers another opportunity to expand the trade of its member countries' goods and services and find a new market to bolster economic growth via Chinese trade relations (Devadason & Govindaraju, 2017). For instance, Singapore, the regional major trading financial center, has seen this initiative as an opportunity for their businesses to operate out of Singapore and to play a more significant role as a major financial center for foreign investors who want to explore new businesses in the neighboring market. Similarly, Malaysia has seen this initiative as an opportunity for regional leading players to participate in project financing. Other, newer members of ASEAN, such as Vietnam, see this initiative as a rising opportunity for engineering, insurance and other fields of business, such as maritime, and have already amended their prudential regulations to capitalize on the maritime growth prospects.[4] More importantly, this initiative signals a change in Chinese foreign policy in which trading priority will be given to neighboring countries (Hong, 2015). The links between China and ASEAN countries that have already been established via trade and investment can be incorporated under both the OBOR and AIIB.

performance. The ranking provides numerical evidence on how easy or difficult it is for these countries to transport their trade merchandise, typically manufactured products, in unitized form. The six main indicators, namely, the efficiency of customs and borders, the quality of infrastructure, the price of the international shipment, the competence of logistics services, the ability to track consignments and frequency, and the schedule or expected delivery time are applied in the survey. The LPI's survey is summarized on a five-point scale. This scale is used to conduct assessments of logistics professionals worldwide with regard to trade with the country (The World Bank, 2018).

[4]The Chinese believe that this initiative is an avenue for the country to redirect its domestic overcapacity (such as steel, cement, and aluminum) and capital by banking on ASEAN countries' infrastructure needs, apart from other geopolitical reasons, e.g., energy security.

It is also important for ASEAN countries to enhance their connectivity to achieve significant economic growth, enhance intra-regional trade, and attract investment. This pursuit is particularly important for those member countries that lack capital. Unity among ASEAN countries is a key objective.[5] Therefore, the OBOR initiative is one of the master plans in which the Chinese see a potentially large market for ASEAN. Significant Chinese investment can reduce the high regional maritime transport costs and maximize external economic cooperation, especially because there are a number of Chinese companies that intend to invest and inject substantial capital into ASEAN's infrastructure development projects, including connectivity and port building.

3. Methodology and data

3.1 Data sources

In this study, the data used in the model are imports, exports, GDP, GDP per capita, common language, land border and the distance between economies. Data in this study consist of annual data covering the period from 2000 to 2016. This period is chosen because the data must cover a broad enough time span to smooth out the effects of business cycles, economic shocks, and trade imbalances such as the global financial crisis (GFC) in 2008 and the oil price shock and a sharp decline in energy prices between 2014 and 2016. The data are used to develop a picture of comprehensive bilateral trade flow and to make estimations and projections of the effect of OBOR in the ASEAN region.

To make estimates based on these data, we used a number of sources. Data were obtained from a number of secondary sources to construct a panel dataset, which pairs with each ASEAN member country and China. Various data sources included ASEAN statistics, The World Bank's *World Development Indicators* (WDI), the International Monetary Fund's (IMF's) *Direction of Trade Statistics,* and Google Maps for distance estimation. For analysis of bilateral trade between ASEAN and China, we used data sourced from the World Integrated Trade Solution (WITS) database for pairs of each ASEAN member country and China. Table 3 depicts the data descriptions and data sources for this study.

[Insert Table 3 Here]

[5]The AEC blueprint associates with the latest MPAC in response to the region's need to be better connected physically, institutionally, and in terms of people-to-people connections. Enhanced connectivity in ASEAN countries will contribute to a more competitive and resilient region because this blueprint and plan can bring people, goods, services, and capital closer among ASEAN member countries.

3.2 The extended gravity model

The core methodology applied in this study is the augmented gravity model approach. The gravity equation has experienced something of a revival in recent years. The empirical research using this model has been successfully and widely applied to the flow of inter-regional, intra-regional and international trade for over twenty years. The advantage of this model is that it can offer a natural framework and a useful multivariate approach for examining the impact of regional trading blocs on the level and direction of bilateral trade flow.

The purpose of pairing the ASEAN countries with China in this study is because the economies of Southeast Asian nations are of great importance to China. In addition, the geographical proximity of these nations to China is a key focus of the belt and road plan and of ASEAN countries' burgeoning economies. Since August 1967, the ASEAN bloc has undergone important economic development. In addition, economic relations between the ASEAN and Chinese economies have grown stronger since 2016, and two-way investment has exceeded US$160 billion, with ASEAN countries remaining a major destination for Chinese companies (Wong, 2017). We therefore believe that a new study that examines developments since the implementation of the ASEAN-China Free Trade Area (or ASEAN-China FTA) in 2000 and the OBOR initiative in 2013 is needed.[6]

Simple examples of the application of a conventional gravity-type model to the intra-regional bias of selected regional groupings (one being ASEAN) include Hamilton et al. (1992), Sharma and Chua (2000), and Kabir and Salim (2016). Applying the gravity model to examine the potential impact of European Union (EU) tourist inflows under OBOR initiatives, a more recent study by Jannaschk-Schmitz (2019) suggests that infrastructures such as roads, railways and air services connected to this initiative have had a significant influence on EU tourist flows.

Bikker (1987), Frankel and Wei (1998), Endoh (1999a, b), Soloaga and Winters (2001), Carrere (2004), Kabir and Salim (2011), and Sheng et al. (2014) have used the extended gravity model and presented useful empirical evidence regarding international trade flow, particularly in ASEAN countries. Among these empirical studies, the ASEAN region is one of the most actively researched areas in the field involving the application of the standard gravity model and extended gravity model used by prominent researchers. This research direction has been of particular interest among international economists since the ASEAN-China FTA will come

[6]This summit was held in November 2000; in it, the leaders of ASEAN and China both agreed to study the implications of China being admitted to the World Trade Organization (WTO) and how this economic relationship can be improved as a result of economic cooperation and integration (Chirathivat, 2002).

into effect on January 1, 2010.[7] Other free trade zones that have drawn international research interest among those using these models are the North American Free Trade Agreement (NAFTA) and the European Union (EU) (Hamilton et al., 1992; Frankel et al., 1995).

Studies using the conventional gravity model have been well developed. The standard gravity model has been widely applied to analyze and predict economic variables in bilateral trade flows (Kabir et al., 2017). In the earliest version of the standard gravity model, bilateral exports from the origin nation's geographical area can be explained by economic masses proxied by the nation's income and distance. Although there are controversies about the underlying theory of the gravity model, the standard gravity model has gained wide usage in recent decades because of the rigorous theoretical foundation it has built. The model also has a strong track record of success in forecasting intra-regional bilateral trade flows of various commodities (Deardorff, 1984).

From a theoretical perspective, the conventional gravity model can offer a simple statistical estimation of the impact of a free trade agreement on bilateral trade in ASEAN countries. However, the model does not capture the salient features of the expanding component of trade in the OBOR plan, in which considerable investment has been made in a large number of projects, such as ports and roads, which enhances ASEAN-China connectivity. Therefore, this study contributes to the literature by using the augmented gravity model to explicitly account for this connectivity plan. The augmented gravity model offers an advantage with the ability to capture factors (such as intra-industry trade, e.g., economic size and scale economies, and the reallocation of resources following trade liberalization) that the standard gravity model cannot accommodate.

3.3 Model specification

Frankel and Wei (1998) argue that it is useful to have a theory that defines a "norm" of bilateral trade volume based on economic, geographic, and cultural factors. The specification of the gravity model assumes that there is a trade flow from an originating country *i* to a destination country *j*. The trade between two countries is determined by supply conditions at a country of origin *i*, by demand conditions at the destination of a reciprocal country *j,* and by simulating or restraining forces relating to the specific trade flow between countries *i* and *j*. In other words, the level of a country's exports depends on its GNP and on its openness ratio (total exports to

[7]The ASEAN-China free trade area encompasses a population of 1.9 billion. It is one of the largest economic zones in any existing regional trading bloc. Based on the size of GDP, this bloc has also been counted as one of the major free trade regions after the North American Free Trade Agreement (NAFTA) and the European Union (EU).

total production), which is negatively affected by the population size. Therefore, larger economies such as the United States and China have less of a need to trade to gain from specification or scale economies. In contrast, destination countries (*j*'s) with a need for imports will require higher GNP to generate higher demand, and a larger population can help to develop self-sufficiency by improving GNP to receive more imports from country *i*.

Following Sheng et al. (2014), the augmented gravity model can be written as

$$lnimport_{jkt} = \theta_0 + \sum_h \alpha_h M_{jt}^h + \sum_m \beta_m X_{kt}^m + \sum_n \gamma_n Z_{jkt}^n + \theta_1 OBOR_{jkt} + \theta_2 WTO_{M\,jt} + \theta_3 WTO_{X\,kt} + \pi_1 lnexport_{jt} + \pi_2 lnimport_{j-kt} + \varepsilon_{jkt} (1)$$

where $lnimport_{jkt}$ is the natural logarithm of the value of country *j*'s imports from country k at time *t*. M_{jtS} and X_{ktS} consist of time-varying importer- and exporter-specific variables, respectively. These two variables are the natural logarithms of GDP and GDP per capita. The purpose of these variables is to capture importer- and exporter-specific characteristics, such as economic size, income level and consumer preferences. In Equation (1), the first variable, GDP, is particularly important to serve as a proxy for production capacity for an exporter market and market size for an importer. Another variable, GDP per capita, is used to serve as a proxy for income level and consumption preferences. Z_{jkt} is a parameter used to estimate proxies for multilateral resistance or transaction costs associated with trading. Variables are used to serve as proxies include distance between j and k and dummies for common language, shared borders and islands. $WTO_{M\,jt}$ is a dummy variable for importer j who is a WTO member, while $WTO_{X\,kt}$ is a dummy variable for exporter k who is also a WTO member.

The OBOR dummy variables aim to capture the additional benefit of trade integration between ASEAN countries and China. The $OBOR_{jkt}$ takes on a value of 1 if j and k belong to a common OBOR trade area in year *t*. Because ASEAN nations are China's major trading partner and in the OBOR zone, we can use the value of 1 to estimate the trading benefit to ASEAN countries and China under this initiative. Otherwise, the value of 0 will be applied. The importance of this dummy variable is to determine the coefficient and an overall reflection of the OBOR policy within ASEAN countries and China since its announcement by the Chinese government in 2013.

The model is the framework that is most often used. To better capture the features of the trade component, two variables have been added to the model. The first is the natural

logarithm of an importer's total imports, $lnimport_{j-kt}$, and the other is the natural logarithm of an importer's total exports, $lnexport_{jt}$. The purpose of the first additional variable is to account for complementary or substitution effects of trade between a trading country pair and a third country. The theoretical justification is that a country's comparative advantage means it has a choice of whether to emphasize the substitutability or complementarity of products. The substitution effect occurs if country k and the rest of the world, -k, compete with each other; that is, the coefficient of $lnexport_{j-kt}$ is negative. If country *j* increases its imports from -*k* and -*k* competes with *k*, the *j* will import less from *k*. In contrast, the complementary effect occurs if j increases its imports from -k at the same level as its imports from k increase; that is, the coefficient of $lnimport_{j-kt}$ is positive.

The objective of the second variable, $lnexport_{jt}$, is to estimate the sensitivity of imports to a change in trade volume for an importer's exports. In this way, the variable can play a significant role in expanding trade volume within and outside an OBOR trade area because of the existence of cross-country production linkages among OBOR member countries and between member and non-member countries. The variable shows that if product fragmentation and component trade are crucial, then the coefficient of $lnexport_{jt}$ is expected to be positive and significant. This variable, $lnexport_{jt}$, that is used to identify the sensitivity and coefficient of trade volume in one importer's exports can result in an increase in the demand of cross-country production linkages for the total import volume inside and outside the OBOR zone.

Although Equation (1) can be used to investigate total bilateral trade flows in the OBOR zone, the model is unable to examine the trade creation hypothesis that is specific to component trade flow. In contrast, an augmented gravity model can be used to explain bilateral trade between an ASEAN country and a specific trading partner, in this case, China. The augmented gravity model incorporates the distance (or so-called remoteness) of each ASEAN country from its Chinese trading partner and the direct bilateral distance.

Several empirical studies (e.g., Elliot and Ikemoto, 2004 and Kabir and Salim, 2011) used ASEAN, EU, NAFTA and Asia Pacific Economic Cooperation (APEC) countries to examine bilateral trade. The motivation for applying this research to a group of ASEAN nations and China is to investigate the bilateral trade between ASEAN and China under the OBOR initiative. In addition, the idea is to explore whether China's initiative can improve the regional economy as well as the trade influences in non-OBOR nations. We follow the study by Sheng et al. (2014), who used the value of intra-industry trade as the dependent variable that estimates

the bilateral component of trade.[8] We modify the augmented gravity model in Equation (1) in the following model.

$$lnintra_{import_{jkt}} = \theta_0 + \sum_h \alpha_h M_{jt}^h + \sum_m \beta_m X_{kt}^m + \sum_n \gamma_n Z_{jkt}^n + \theta_1 OBOR_{jkt} + \theta_2 WTO_{M_{jt}} + \theta_3 WTO_{X_{jt}} + \pi_1 lnexport_{jt} + \pi_2 lnimport_{j-kt} + \varepsilon_{jkt} (2)$$

where $lnintra_{import_{jkt}}$ is the logarithm of the value of intra-industry imports of country *j* from country *k* at time *t*.[9] The importance of equation (2) is to capture the trade multiplier in the OBOR zone through $lnimport_{j-kt}$ and $lnexport_{jt}$.

To conduct further analysis, Equations (1) and (2) are used as a benchmark by running a pooled ordinary least squares (OLS) regression followed by applying a random effect panel regression model. Then, heteroscedasticity-robust standard errors (SEs) are used in all estimations because the panel fixed-effect regression that controls for the trade-pair fixed effect ($\varepsilon_{jkt} = u_{jk} + v_{jkt}$) can lead to biased estimates.

4. Analysis of empirical results

As noted, this study conducted an analysis based on two models. The first gravity model was used to analyze the OBOR trade flow in the ASEAN region, followed by the second model, which is the augmented gravity model using a country pair to examine the OBOR trade flow in the region. The key point of the gravity model is that a large country pair with close distance tends to trade more. Country pairs that are further apart are likely to trade less because of substantial transportation and shipping costs. For our model calibrations, the study highlights the OBOR initiative by comparing the outcomes of OBOR and non-OBOR zone countries. The non-OBOR countries are selected from the Organization for Economic Co-operation and Development (OECD) nations. These selected countries are Australia, Canada, Japan, the UK and the US.[10] The total number of observations is 1505 in both pooled ordinary least squares

[8] There is no general agreement on the definition of component trade. It is also difficult to obtain data to calculate bilateral component trade for all paired countries. We use the value of bilateral intra-industry trade obtained via the World Bank WITS index series for this study.

[9] The bilateral intra-industry trade variable in this study is obtained via OECD Stan Bilateral Trade Database by Industry and End-use category (BTDIxE) as well as the ASEANStats Data Portal. These databases calculate the bilateral intra-industry trade in US$100 million. It estimates values of imports and exports of goods broken down by industrial sectors and by end-use categories. The research applied the aggregate data to conduct an empirical analysis.

[10] The purpose of conducting this comparison is to ensure that the impact of OBOR policy on trade volume between OBOR and non-OBOR zone countries are investigated and offer convincing outcomes in this study.

(OLS) and random effect regressions analysis. In Equations (1) and (2), *j* represents importing countries, *k* denotes exporting countries, and *t* identifies time periods from 2000 to 2016.

The fundamental concepts of the gravity model are aimed at understanding the correlations among the bilateral trade variables among trading countries. To do so, it is critical to transform the variables into logarithms. Additionally, when conducting the empirical analysis, it is important to control country-pair effects because pooled OLS estimates are inherently biased. Table 4 shows the results for bilateral trade where the dependent variable is $lnimport_{jkt}$.

[Insert Table 4 Here]

Table 4 shows the empirical outcome of bilateral trade flow between ASEAN economies and China using different estimation methods. These methods are as follows (in columns): (i) pooled OLS and (ii) panel random effects. Specifically, these two methods are estimated based on Equation (1). The results indicate that the bilateral trade flows between ASEAN countries and China have positive correlations, which is evidence of the long history of the international trade partnership among these countries. In addition, dummy variables used in this study, e.g., common language, land border and distance, provide evidence that these countries share similar interests in relation to bilateral trade flows. In fact, it shows that Chinese investments play a significant role and have an impact on the ASEAN economies. One of the prominent examples of significant Chinese investment is the Malaysian East Coast Rail link (ECRL). This project is funded and built by Chinese state firms and aims at improving the regional route.

In the standard gravity model, GDP and GDP per capita of both importing and exporting countries are positive and significant, consistent with the traditional gravity model, which states that GDP per capita has a positive correlation with bilateral trade flows. The proximity variable, *ln(distance),* shows a negative correlation, indicating that the greater the geographical distance between two countries is, the less likely the countries are to trade. Our empirical results confirm that countries that share a common language and border trade more among each other. In addition, if a country lies within the same economic free trade zone, bilateral trade can increase by approximately 40 percent, as shown in Table 4.

The main objective of this study is to investigate the impact of OBOR on ASEAN economies through bilateral international trade. It should be noted that the model included members of the WTO as well as OBOR as dummy variables. We included WTO member countries as well as countries in the OBOR zone to increase the sample size. Since the OBOR initiative began in 2013, the length of the sample period will be very short. Therefore, it is

useful to explain the outcome of the bilateral trade flow between ASEAN countries and China in detail if the study incorporates dummy variables into the WTO and the OBOR initiatives.

The OBOR initiative is a new economic and strategic policy led by China, and the data used in this analysis cover only a very short time period. However, the empirical results show a significant level of bilateral trade flows within the ASEAN region. Indeed, the initiative draws similar conclusions according to the standard gravity model. The results of the OBOR initiative show that the bilateral trade relationship between ASEAN countries and China is strongly correlated. This initiative certainly offers trade opportunities among the ASEAN member countries and China.

Table 5 presents the results from Equation (2), the modified gravity model, to explain the component of trade in ASEAN countries. The results show negative coefficients for importers' GDP per capita and positive coefficients for the OBOR dummy, which are different from those for the results obtained using the standard gravity model in Table 4. The coefficients for the rest of the variables (e.g., GDP, distance and common language) are similar to those obtained in Table 4. However, the coefficients of these standard variables are smaller than the results found in the standard gravity model in Table 4. These results are consistent with the common wisdom that conventional trade determinants have the lowest power to explain component trade or cross-country trade (Sheng et al. 2014). However, the coefficients for both $lnexport_{jkt}$and $lnimport_{j-k}$ demonstrate very small trade volume between trading partners after pairing these countries.

[Insert Table 5 Here]

Given these empirical outcomes, we argue that the trade benefits within ASEAN countries are strongly connected to China's OBOR initiative. The analyses suggest that this initiative does seem to support the improvement of bilateral trade partnerships between ASEAN countries and China in both importers and exporters. Other than the coefficients of these two variables ($lnexport_{jkt}$ and $lnimport_{j-k}$), there are no substantial changes in the results presented in Tables 4 and 5. We can argue that an increase in the total exports of country *j* increases its imports from country *k* and comprises a small fraction of a country's bilateral trade under this initiative. It is imperative to discuss the OBOR dummy in relation to the $lnexport_{jkt}$ and $lnimport_{j-k}$ variables. The finding shows that OBOR initiatives make a significant impact on inter-country trade in the ASEAN region. Thus, the OBOR policy, to some extent, could be considered a promising solution for trade facilitation in ASEAN countries.

Our empirical results are comparable with those of Zhang and Wang (2015) study. Our results show that the coefficient of the OBOR dummy is statistically significant at a 5% level of significance. The coefficients of the OBOR dummy variable range between 0.003 and 0.039. While Zhang and Wang did not find significant relationships between China and ASEAN FTA, the coefficient obtained is 0.0651. Thus, compared to Zhang and Wang's results, our results are robust and imply a positive and significant outcome in the China-ASEAN OBOR initiative. However, our results are consistent with those of Devadason (2010), who shows a positive and significant bilateral trade relationship between China and ASEAN countries.

As we have found, the impact of the OBOR initiative is important for both China and ASEAN international trade, which could play a critical role in wider international trade policy in the context of an evolving trade war between China and the US. Given the importance of the OBOR trade policy, it is worth analyzing its impact on the trade policy regimes of other nations in the non-OBOR zone. Hence, we analyze 5 non-OBOR nations such as Australia, Canada, Japan, the UK and the US. All these countries are members of the OECD.

[Insert Table 6 Here]

[Insert Table 7 Here]

The estimation results of the OBOR trade policy between China and non-OBOR countries are presented in Tables 6 and 7. Table 6 illustrates the result of the bilateral trade flows in non-OBOR zone countries, while Table 7 displays the outcomes of the cross-country bilateral trade flows of the non-OBOR countries. Surprisingly, the results indicate that the OBOR dummy is statistically significant at the conventional 5% level of significance. From Tables 5 and 6, it is apparent that approximately 20% of trade will increase between China and other non-OBOR countries due to the OBOR initiative. The results imply that the OBOR initiative of the Chinese trade policy also has a significant impact on non-OBOR countries. Thus, these results are promising for both OBOR and non-OBOR countries to increase trade among these countries.

Finally, we use some diagnostic tests, and it is likely that there could be multicollinearity problems in Equations (1) and (2). The potential multicollinearity between variables such as total imports, $lnimport_{j-kt}$, and total exports, $lnexport_{jt}$, for imported country j could change the robustness and lead to biased estimates. Therefore, we conducted a multicollinearity test using the Pearson product-moment correlation coefficient and variance inflation factor (VIF). However, our results show no sign of multicollinearity among the independent variables. Thus, we may argue that our results are robust and reliable in the absence of multicollinearity.

We may argue that the OBOR initiative can open another avenue for ASEAN member countries to strengthen their economic ties within the regional block and outside the block. This possibility is particularly important in the wake of current uncertain economic climate, given that the US has announced tariffs on Chinese goods. Many observers believe that the bold statement of this initiative is formulated not only to counter the American 'Pivot to Asia' strategy but also serve as a rather novel and alternative strategy to the current international institutional policies characterized by prevailing US interests (Ploberger, 2017). Hsueh (2016) argues that regional trade agreements have both a trade-creation effect and a trade-diversion effect because the liberalization of trade policies plays key roles in bilateral trade between country *j* and country *k,* which may be compensated for by the replacement bilateral trade flows between country *j* and country *h*, or between country *k* and country *h*, and so on. Previous empirical findings by Jiang (2008) and Ravenhill and Jiang (2009) also confirm that preferential trade agreements (PTAs) or the OBOR policy can sometimes trade liberally or sometimes be protectionist. However, this phenomenon depends on how the member states collaborate on such policies in the ASEAN region. In general, countries that share similar comparative advantages will usually benefit from these agreements. In contrast, for countries that have very different economic perspectives and development, the OBOR will have a limited effect on facilitating trade in the region. The argument of the comparative advantage among the ASEAN member countries and China as a result of the OBOR initiative has remained debatable.

5. Conclusion

The OBOR initiative, led by the Chinese government, has potential benefits for regional economies. This initiative further facilitates China's engagement with Southeast Asia. Against this backdrop, we use the traditional augmented gravity model and the modified extended gravity model incorporating OBOR policy and data on ASEAN countries and China from 2000 to 2016 to investigate the potential effects of the OBOR policy on trade flows and integration in these economies. The main finding is that the OBOR initiative has a positive impact on trade flows. Additionally, trade integration among these economies remains positive. The study concludes that not only ASEAN countries but also other non-OBOR nations benefit from this promising initiative through higher international trade.

Nonetheless, there is controversy regarding this policy from different economic viewpoints and perspectives. We argue that the empirical findings of this study may contribute to a comprehensive discussion of bilateral trade partnerships between China and ASEAN

economies. Hence, the findings of this study are useful for ASEAN policymakers. We argue that given the current transformation of economies in ASEAN countries, policymakers in this region should consider the OBOR initiative and connect strongly with their own ASEAN master plan. The joint declaration on the strategic partnership between ASEAN countries and China in 2012 is a good example. China has become an important cooperation partner in political, economic and security issues in this region. In addition, we strongly believe that a joint strategic partnership between ASEAN countries and China under the belt and road initiative is the only way that intra-regional trade in ASEAN countries can improve. ASEAN countries can use this initiative to help and encourage China to economically develop some of the lesser-developed areas within the ASEAN region as an important part of the OBOR initiative.

There are some caveats to this research. Industry-specific data for this region are scarce. To study a specific issue and effective mechanisms in ASEAN bilateral trade, further industry-specific investigation through the understanding of the micro-level effect of OBOR on ASEAN trade flows and the protectionist effect that may operate during and after the OBOR plan is needed. In addition, it is worth discussing the capacity of a nation's fiscal position to incorporate OBOR funding, but we reserve this topic for researchers to discuss in future studies.

References

ASEAN. (2016). Web Database Query. *Aseanstats*. http://www.aseanstats.org

Bikker, J. A. (1987). An International Trade Flow Model with Substitution: An Extension of the Gravity Model' *Kyklos*, 40(3), 315-337, doi:10.1111/j.1467-6435.1987.tb00683.x

Blanchard, J.-M. F., & Flint, C. (2017). The Geopolitics of China's Maritime Silk Road Initiative. *Geopolitics, 22*(2), 223-245. doi:10.1080/14650045.2017.1291503

Boffa, M. (2018) *Trade linkages between the belt and road economies*, Policy Research Working Paper#8423, The World Bank, Washington D.C., USA.

Carrère, C. (2004). African Regional Agreements: Impact on Trade with or without Currency Unions. *Journal of African Economies, 13*(2), 199-239. doi:10.1093/jae/ejh010

Chia, S. Y. (2016). ASEAN Economic Integration and Physical Connectivity. *Asian Economic Papers, 15*(2), 198-215. doi:10.1162/ASEP_a_00438

Chirathivat, S. (2002). ASEAN–China Free Trade Area: background, implications and future development. *Journal of Asian Economics, 13*(5), 671-686. doi:https://doi.org/10.1016/S1049-0078(02)00177-X

Deardorff, Alan V. (1984). Chapter 10 Testing Trade Theories and Predicting Trade Flows. *Handbook of International Economics.* Elsevier, 467-517.

Devadason, E. (2010). Asean–China Trade Flows: Moving Forward with Acfta. *Journal of Contemporary China*, 19(66), 653-74.

Devadason, P. & Govindaraje, V. C. (2017). What Does the 'One Belt, One Road' Initiative Mean for ASEAN? *Asia Research News, 3rd May 2017.*

Du, Julan and Yifei Zhang. 2018. "Does One Belt One Road Initiative Promote Chinese Overseas Direct Investment?" *China Economic Review*, 47, 189-205.

Elliott, R. J. R., & Ikemoto, K. (2004). AFTA and the Asian Crisis: Help or Hindrance to ASEAN Intra-Regional Trade? *Asian Economic Journal, 18*(1), 1-23. doi:10.1111/j.1467-8381.2004.00179.x

Endoh, M. (1999a). Trade creation and trade diversion in the EEC, the LAFTA and the CMEA: 1960-1994. *Applied Economics, 31*(2), 207-216. doi:10.1080/000368499324435

Endoh, M. (1999b). The transition of postwar Asia-Pacific trade relations. *Journal of Asian Economics, 10*(4), 571-589. doi:https://doi.org/10.1016/S1049-0078(00)00033-6

Frankel, J., Stein, E., & Wei, S.-j. (1995). Trading blocs and the Americas: The natural, the unnatural, and the super-natural. *Journal of Development Economics, 47*(1), 61-95. doi:https://doi.org/10.1016/0304-3878(95)00005-4

Frankel, J., & Wei, S.-j. (1998). Regionalization of World Trade Currencies: Economics and Politics. In J. Frankel (Ed.), *The Regionalization of the World Economy* (pp. 189-219). Chicago and London: The University of Chicago Press.

Hamilton, C. B., Winters, L. A., Hughes, G., & Smith, A. (1992). Opening up International Trade with Eastern Europe. *Economic Policy, 7*(14), 78-116. doi:10.2307/1344513

Hong, Z. (2015). *China's New Maritime Silk Road: Implications and Opportunities For Southeast Asia*. Trends in Southeast Asia, (2015 #03). Singapore.

Hsueh, C. (2016). Taiwan's Perspective on China's "One Belt, One Road" Strategy. *Journal of Contemporary East Asia Studies, 5*(2), 37-60. doi:10.1080/24761028.2016.11869096

Jetin, B. (2017). One Belt-One Road Initiative and ASEAN Connectivity: Synergy Issues and Potentialities. *Working Paper No.30. Institute of Asian Studies*, Gadong.

Jannaschk-Schmitz, P. (2019). China's One Belt One Road Initiative and Its Potential for the Tourism Industries in Africa, Asia and Europe: A Gravity Model Approach. *Faculty of Social Sciences: Institute of Economics Studies.* Prague: Charles University.

Jiang, Y. (2008). Australia-China Fta: China's Domestic Politics and the Roots of Different National Approaches to Ftas. *Australian Journal of International Affairs*, 62(2), 179-95.

Kabir, M., Salim, R., & Al-Mawali, N. (2017). The gravity model and trade flows: Recent developments in econometric modelling and empirical evidence. *Economic Analysis and Policy, 56*, 60-71. doi:https://doi.org/10.1016/j.eap.2017.08.005

Kabir, S. and Salim, R. (2016) Can a Common Currency Induce Intra-Regional Trade? The South-East Asian Perspective, *Review of Urban & Regional Development Studies*, 28(3):218-234

Kabir, M. and Salim R. (2011) Analysing the Potential Effects of Preferential Liberalisation in the Asian Emerging Economies, *International Economic Journal*, 25(2): 191-213.

Liu, P. (2016). What are the prospects for China's One Belt, One Road initiative? *ACCA Think Ahead, AB Magazine,* (1 April 2016). Retrieved from http://www.accaglobal.com/an/en/member/member/accounting-business/2016/04/insights/one-belt.html

Mooney, T. (2016). Southeast Asian infrastructure benefits heavily from One Belt One Road. *Fairplay 7 June 2016.*

Mustafic, A. (2016). China's One Belt, One Road and Energy Security Initiatives: A Plan to Conquer the World? *Inquiry, 2*(2), 153-190.

Ploberger, Christian. (2017). One Belt, One Road – China's new grand strategy. *Journal of Chinese Economic and Business Studies* 15 (3):289-305. doi: 10.1080/14765284.2017.1346922.

Ravenhill, J and Jiang, Y. (2009). China's Move to Preferential Trading: A New Direction in China's Diplomacy. Journal of Contemporary China, 18(58), 27-46.

Schinas, Orestis and Arnd Graf von Westarp. 2017. "Assessing the Impact of the Maritime Silk Road." Journal of Ocean Engineering and Science, 2(3), 186-95.

Sebastian, M. A. (2017). China, ASEAN and the MSR: A southeast Asian perspective [Press release]

Sharma, S. C., & Chua, S. Y. (2000). ASEAN: economic integration and intra-regional trade. *Applied Economics Letters, 7*(3), 165-169. doi:10.1080/135048500351726

Sheng, Y., Tang, H. C., & Xu, X. (2014). The impact of the ACFTA on ASEAN–PRC trade: estimates based on an extended gravity model for component trade. *Applied Economics, 46*(19), 2251-2263. doi:10.1080/00036846.2014.899676

Soloaga, I., & Alan Wintersb, L. (2001). Regionalism in the nineties: what effect on trade? *The North American Journal of Economics and Finance, 12*(1), 1-29. doi:https://doi.org/10.1016/S1062-9408(01)00042-0

Subramanian, A., & Wei, S.-J. (2007). The WTO promotes trade, strongly but unevenly. *Journal of International Economics*, *72*(1), 151-175. doi:https://doi.org/10.1016/j.jinteco.2006.07.007

Tweed, D., & Arnold, L. (2016). QuickTake Q&A: How China's New Silk Road Leads Back to Beijing. Retrieved from https://www.bloomberg.com/news/articles/2016-08-01/quicktake-q-a-how-china-s-new-silk-road-leads-back-to-beijing

Villafuerte, J., Corong, E., & Zhuang, J. (2016). *The One Belt, One Road Initiative: Impact on Trade and Growth*. Paper presented at the 19th Annual Conference on Global Economic Analysis, Washington.

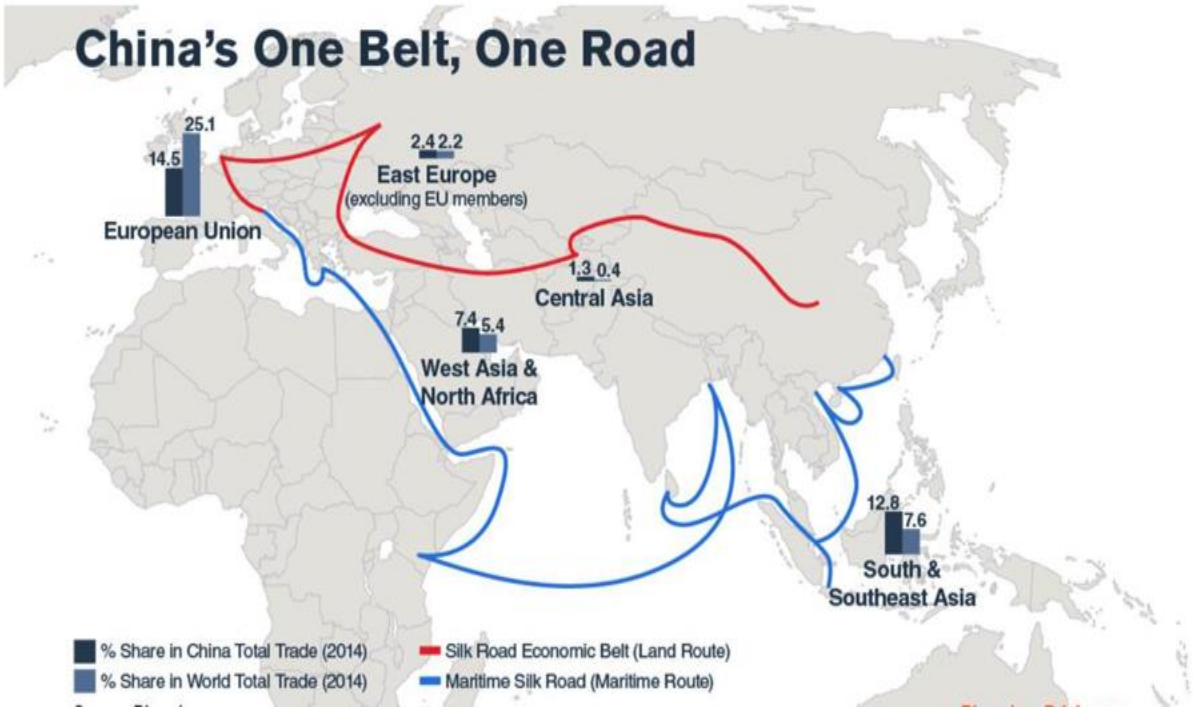
Wong, P. (2017). How China's belt and road is transforming Asean. *South China Morning Post*.

World Bank, . 2018. Logistic Performance Index. Washington: The World Bank Group

World Bank. (2016). LPI Global Ranking from Word Bank

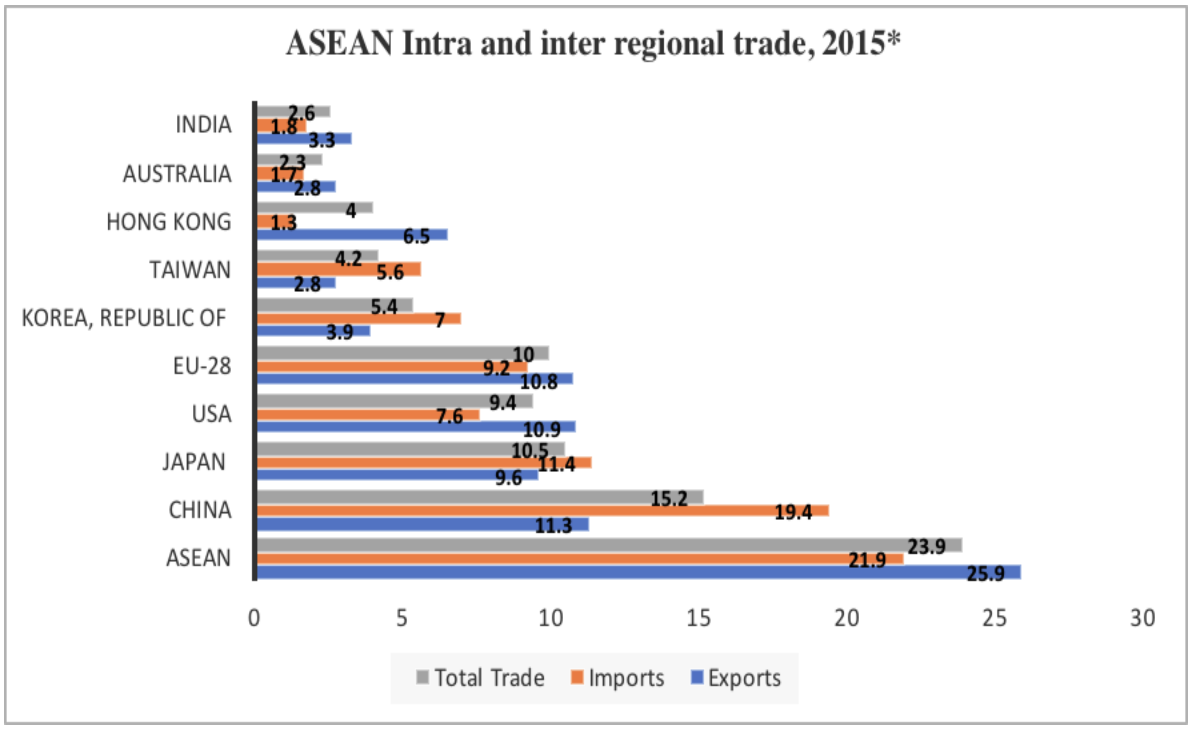
Zhang, Y and S. Wang. (2015). Trade Potential of China's Export to ASEAN: The Gravity Model Using New Economic Mass Proxies. Journal of Systems Science and Information, 3(5), 411-20.

Figure 1: The Chinese Belt and Road Initiative



Source: Tweed and Arnold, 2016

Figure 2: ASEAN countries' top ten trading partner countries/regions, 2015



Note: * represents the % share of total ASEAN trade
Source: ASEANstats, 2016

Table 1: Member countries in the OBOR initiative area

Regions	Countries along the OBOR
Central Asia	Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Turkmenistan
Mongolia and Russian Federation	Mongolia, Russian Federation
Southeast Asia	Vietnam, Lao PDR, Cambodia, Thailand, Malaysia, Singapore, Indonesia, Brunei, Philippines, Myanmar, East Timor
South Asia	India, Pakistan, Bangladesh, Afghanistan, Nepal, Bhutan, Sri Lanka, Maldives
Middle East and Europe	Poland, the Czech Republic, Slovakia, Hungary, Slovenia, Croatia, Romania, Bulgaria, Serbia, Montenegro, Macedonia, Bosnia and Herzegovina, Albania, Estonia, Lithuania, Latvia, Ukraine, Belarus, Moldova
West Asia and the Middle East	Turkey, Iran, Syria, Iraq, the United Arab of Emirates, Saudi Arabia, Qatar, Bahrain, Kuwait, Lebanon, Oman, Yemen, Jordan, Israel, Armenia, Georgia, Azerbaijan, Egypt

Table 2: ASEAN and China: International logistical performance index (LPI) ranking 2016

	LPI	Customs	Infrastructure	International shipments	Logistics & quality	Tracking tracing	Time lines
Singapore	5	4.18	4.2	3.96	4.09	4.05	4.40
China	**27**	**3.32**	**3.75**	**3.7**	**3.62**	**3.68**	**3.90**
Malaysia	32	3.17	3.45	3.48	3.34	3.46	3.65
Thailand	45	3.11	3.12	3.37	3.14	3.2	3.56
Indonesia	63	2.69	2.65	2.90	3.00	3.19	3.46
Vietnam	64	2.75	2.70	3.12	2.88	2.84	3.50
Brunei	70	2.78	2.75	3.00	2.57	2.91	3.19
Philippines	71	2.61	2.55	3.01`	2.70	2.86	3.35
Cambodia	73	2.62	2.36	3.11	2.60	2.70	3.30
Myanmar	113	2.43	2.33	2.23	2.36	2.57	2.86
Lao PDR	152	1.85	1.76	2.18	2.10	1.76	2.68

Source: World Bank, 2016

Table 3: Data descriptions and sources

Variable name	Description	Source
lnimport	Log of real bilateral trade in US$100 million (c.i.f. price)	World Integrated Trade Solution (WITS), The World Bank
lnintra_import	Log of real bilateral intra-industry trade in US$100 million (c.i.f. price), estimated by using an exporter and importer index multiplying the real bilateral trade	WITS, The World Bank and the author's own estimation using STATA
ln(real GDP_{jt})	Log of real gross domestic product (GDP) of the importer	WITS, The World Bank
ln(real GDP per $\text{capita}_{\text{ljt}}$)	Log of real GDP per capita of the importer	WITS, The World Bank
ln(real GDP_{Kt})	Log of real GDP of the exporter	WITS, The World Bank
ln(real GDP per $\text{capita}_{\text{lKt}}$)	Log of real GDP per capita of the exporter	WITS, The World Bank
ln(distance)	Log of distance	Subramanian and Wei (2007) and Google Map
Common language dummy	Take a value of 1 if trading partners share a common language, 0 otherwise	Subramanian and Wei (2007)
Dummy for land border	Take a value of 1 if trading partners share a border, 0 otherwise	Subramanian and Wei (2007)
Importer WTO member	Take a value of 1 if the importer is a World Trade Organisation (WTO) member, 0 otherwise	Authors' own calculations
Exporter WTO member	Take a value of 1 if the exporter is a World Trade Organisation (WTO) member, 0 otherwise	Authors' own calculations
Island dummy	Take a value of 0 if neither of the trading partners is an island, 1 one of the trading partners is an island country, 2 both are islands	Subramanian and Wei (2007)
Land border dummy	Take a value of 1 if the trading partners share a common border, 0 otherwise	Subramanian and Wei (2007)
OBOR dummy	Take a value of 1 if the trading partners are in the same OBOR trading zone, 0 otherwise	Authors' own calculations
$\text{lnexport}_{\text{j}}$	Log of the real export of *j* to the world	Authors' own calculations
$\text{lnimport}_{\text{j-k}}$	Log of the real import of *j* from countries other than *k*	Authors' own calculations

Source: Original data adapted from Subramanian and Wei (2007) and updated with various sources, as indicated.

Table 4: Regression for bilateral trade flows in ASEAN-China OBOR countries

Variables	OLS (1) coefficient	Panel random effects (2) coefficient
Dependent variable: $lnimport_{jkt}$		
ln(real GDP$_{jt}$)	0.377**	0.636**
	(0.030)	(0.059)
ln(real GDP per capita$_{jt}$)	0.713**	0.214
	(0.072)	(0.145)
ln(real GDP$_{kt}$)	-0.005	0.053
	(0.029)	(0.033)
ln(real GDP per capita$_{kt}$)	-0.079	0.029
	(0.068)	(0.140)
ln(distance)	-3.109**	-2.464
	(0.343)	(1.533)
Common language dummy	-0.042	0.043
	(0.060)	(0.282)
Land border dummy	-0.629**	-0.640
	(0.116)	(0.405)
Importer WTO member dummy	0.037	0.040**
	(0.078)	(0.074)
Exporter WTO member dummy	-0.076	0.019
	(0.234)	(0.163)
Island dummy	0.152**	0.067
	(0.052)	(0.256)
OBOR dummy	0.197**	0.197**
	(0.003)	(0.000)
lnexport$_{jkt}$	0.002**	0.001
	(0.000)	(0.000)
lnimport$_{j-k}$	-0.002**	-0.002**
	(0.000)	(0.000)
Constant	0.053	-2.745
	(0.655)	(2.999)
n	1505	1505
R^2	0.871	0.770

Note: Heteroscedasticity-adjusted standard errors in parentheses. Notes: ** represents a 5% level of significance.

Table 5: Regression for cross-country bilateral trade flows in ASEAN-China OBOR countries

Variables	OLS (1) coefficient	Panel random effects (2) coefficient
Dependent variable: $lnintra_{import_{jkt}}$		
ln(real GDP$_{jt}$)	0.039**	0.035
	(0.015)	(0.023)
ln(real GDP per capita$_{jt}$)	-0.200**	-0.101**
	(0.011)	(0.014)
ln(real GDP$_{kt}$)	0.050**	-0.001
	(0.018)	(0.030)
ln(real GDP per capita$_{kt}$)	0.260**	0.225**
	(0.031)	(0.071)
ln(distance)	-0.441**	-1.246**
	(0.173)	(0.524)
Common language dummy	0.082**	0.042
	(0.024)	(0.114)
Land border dummy	-0.057	0.109
	(0.034)	(0.128)
Importer WTO member dummy	-0.121**	-0.140**
	(0.039)	(0.046)
Exporter WTO member dummy	-0.418**	-0.178
	(0.111)	(0.180)
Island dummy	-0.093**	-0.037**
	(0.026)	(0.096)
OBOR dummy	0.003	0.039
	(0.024)	(0.023)
lnexport$_{jkt}$	0.002**	0.003**
	(0.000)	(0.000)
lnimport$_{j-k}$	-0.001**	-0.001**
	(0.001)	(0.000)
Constant	0.640**	1.349
	(0.334)	(0.979)
n	1400	1400
R^2	0.9626	0.951

Note: Heteroscedasticity-adjusted standard errors in parentheses. Notes: ** represents a 5% level of significance.

Table 6: Regression for bilateral trade flows in Non-OBOR zone countries

Variables	OLS (1) coefficient	Panel random effects (2) coefficient
Dependent variable:$lnimport_{jkt}$		
ln(real GDP$_{jt}$)	-2.620**	-2.754**
	(0.585)	(1.003)
ln(real GDP per capita$_{jt}$)	-0.594**	-0.451
	(1.188)	(0.738)
ln(real GDP$_{kt}$)	-0.175**	0.816
	(0.076)	(0.443)
ln(real GDP per capita$_{kt}$)	0.932**	-0.077
	(1.167)	(0.160)
ln(distance)	0.0001**	0.963**
	(0.267)	(0.473)
Common language dummy	(omitted)	(omitted)
Land border dummy	(omitted)	(omitted)
Importer WTO member dummy	(omitted)	(omitted)
Exporter WTO member dummy	(omitted)	(omitted)
Island dummy	3.550**	3.523**
	(0.143)	(0.255)
OBOR dummy	0.210**	0.197**
	(0.065)	(0.065)
lnexport$_{jkt}$	1.231**	1.241**
	(1.150)	(0.596)
lnimport$_{j-k}$	3.398**	3.467**
	(1.311)	(1.487)
Constant	-42.224**	-50.934**
	(2.064)	(7.967)
n	85	85
R^2	0.974	0.973

Note: Heteroscedasticity-adjusted standard errors in parentheses. Notes: ** represents a 5% level of significance.

Table 7: Regression for cross-country bilateral trade flows in non-OBOR zone countries

Variables	OLS (1) coefficient	Panel random effects (2) coefficient
Dependent variable: $lnintra_{import_{jkt}}$		
ln(real GDP$_{jt}$)	-2.754**	-2.754**
	(0.538)	(1.003)
ln(real GDP per capita$_{jt}$)	-0.451	-0.451
	(1.120)	(0.738)
ln(real GDP$_{kt}$)	0.816	0.816
	(1.097)	(0.443)
ln(real GDP per capita$_{kt}$)	-0.077	-0.077
	(0.099)	(0.160)
ln(distance)	0.963**	0.963**
	(0.277)	(0.473)
Common language dummy	(omitted)	(omitted)
Land border dummy	(omitted)	(omitted)
Importer WTO member dummy	(omitted)	(omitted)
Exporter WTO member dummy	(omitted)	(omitted)
Island dummy	3.522**	3.523**
	(0.132)	(0.255)
OBOR dummy	0.20**	0.197**
	(0.058)	(0.065)
lnexport$_{jkt}$	1.241	1.241**
	(1.096)	(0.596)
lnimport$_{j\text{-}k}$	3.470**	3.467**
	(1.217)	(1.487)
Constant	-50.934**	-50.934**
	(3.937)	(7.967)
n	85	85
R^2	0.973	0.973

Note: Heteroscedasticity-adjusted standard errors in parentheses. Notes: ** represents a 5% level of significance.