The battle for Africa:

The effect of the "One Belt One Road" initiative and Chinese foreign direct investment on African economic growth

Master Thesis

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Abstract

This research paper empirically investigates the relationship between Chinese FDI and GDP per capita in African countries that participate in the O*ne Belt One Road* initiative. With the use of a dynamic panel data model on a sample of 54 African countries from 2006 to 2020, this paper finds that participating in the OBOR initiative significantly increases Chinese FDI in all years of joining. However, no significant results have been found regarding the effect of CFDI on an OBOR country's growth. Additionally, the study finds that the FDI value contribution by Chinese state-owned enterprises towards OBOR countries is larger compared to privately owned enterprises. Lastly, this study investigated the effect of natural resources on Chinese FDI, finding no significant results. From a managerial perspective, this study suggests that managers should take into consideration the cultural and institutional differences between China and African countries when engaging in FDI. The review of the literature and the study results suggest that further research is needed by broadening the models used to see how the OBOR strategy evaluates and how certain factors influence the African countries.

Keywords: FDI, OBOR, SOEs, China-Africa, Eclectic Framework, Fixed Effects model

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LIST OF ABBREVIATIONS

The following table describes the meaning of abbreviations and acronyms used throughout the thesis. Included is the page on which each abbreviation is used and defined.

Abbreviation	Meaning	Page
CFDI	Chinese Foreign Direct Investment	4
FDI	Foreign Direct Investment	4
GDP	Gross Domestic Product	4
OBOR	One Belt One Road	5
SOE	State Owned Enterprise	5
MNE	Multinational Enterprise	13
MoU	Memorandums of Understanding	17
RR	Resource Rents	17
FE	Fixed Effects Model	20
RE	Random Effects Model	21
GMM	Generalized Method of Moments model	21

1. INTRODUCTION

With land, there will be roads. With sea, there will be navigation.

People and trade have been interconnected ever since goods and people have been around. A remarkable point in history occurred in the 1st century BC. During the Roman Empire, luxury goods from China started to appear in the capital. In these years, the world witnessed global trade and global trade links were established (Vanham, 2019). The roads from Asia to Europe – so-called first Silk Roads – prospered both China and the Roman Empire. From then on, the world has known various waves of globalization and is now more connected than ever before. Due to this globalization and liberalization of trade, capital flows easily to one another, resulting in an increasing level of foreign direct investment (FDI) worldwide.

The second-largest economy in the world in terms of gross domestic product (GDP) is China, and China accounts for nearly 15% share of total global trade (Quer et al., 2012; UNCTAD, 2021). Although this might seem due to participating for centuries in the world economy, this has not been the case. The influence of the Communists party in China and their embeddedness within the Chinese government is substantial, and this party has only reformed China's policy and opened up to the world around four decades ago with its Open Door Policy. Before that time, Chinese firms were not able to participate in FDI projects in the world economy. Since the late 1990s, China's GDP has been growing, and the Chinese government encourages Chinese enterprises to participate in FDI with their Go Global Initiative (Buckley et al., 2007).

One of the results of the rapid growth of the Chinese economy is the increase in need for natural resources. To meet this rapidly growing demand, China has become one of the major investors in countries that are rich in natural resources. Correspondingly, Africa, a continent known for its abundance of natural resources, experienced an increase of more than 50% in Chinese FDI (CFDI) between the years 2013 and 2017 (Renard, 2011; UNCTAD, 2019). Thereby, the

relationship between China and African countries has been thriving over the years, and China has become Africa's largest partner in terms of trade (Gunessee & Hu, 2021).

An important phenomenon introduced by the Chinese government to continue China's growing outbound investment ambitions is the *One Belt One Road* (OBOR) project, which represents the (re-)creation of a new Silk Road that connects China to Africa, Asia and Europe. The objectives of the OBOR project are promoted by the Chinese government as an improvement in economic cooperation, prosperity, and peace for all the participating OBOR countries. However, the OBOR project underlines the strategy of the Chinese government to expand the reach of Chinese companies in the global market. Hence, push Chinese export markets and increase production capacity in natural resources, as well as increasing infrastructure in the participating OBOR countries (Du & Zhang, 2018). The OBOR project thereby facilitates the cooperation between China and Africa and provides a platform for Chinese FDI (Zhou, 2019).

As the OBOR is a government-inspired strategy that aims on strengthening the Chinese industry and China being characterized by a state capitalism model, the largest contributors to Chinese FDI are state-owned enterprises (SOEs) (Buckley et al., 2007). Prominent Chinese SOEs enjoy certain privileges, such as access to cheap state finance, due to their embeddedness with the domestic institutions and the Communist Party system (Sutherland, 2009). Considering the increasing demand for raw materials, CFDI activity is growing and is often conducted by SOEs. Thereby the government expands its influence in Africa to secure supplies of natural resources and increase its economic cooperation with African countries (Asche et al., 2008; Biggeri & Sanfilippo, 2009).

Over the past decades, theoretical and empirical academic literature has looked at the impact of FDI on host countries' economic growth (Adams, 2009; Bengoa & Sanchez-Robles, 2003). More specifically, due to the increase in the China-Africa economic engagement, the academic

world has garnered interest in the relationship between Africa and Chinese FDI (Biggeri & Sanfilippo, 2009; Chen et al., 2018; Kolstad & Wiig, 2011). This garnered interest has also led to debate. Some studies suggest that the increase in Chinese FDI is motivated by an abundance in natural resources and by a lack of institutions in the host country. This is problematic in terms of development and growth, as Chinese FDI fill the institutional voids of resource-rich countries, exploiting the resources and exacerbating fundamental institutional dysfunctions (Asiedu, 2006; Kolstad & Wiig, 2011). On the other hand, others argue that it has a positive long-term effect on African countries. For example, trading and receiving FDI from China boost growth rates due to increasing demand for African products. Moreover, it provides the opportunity to diversify from old trading partners, which reduces export and output volatility and boosts long-run growth rates (Busse et al., 2016; Hnatkovska & Loayza, 2004).

This debate in the literature on FDI and African growth has mainly found its empirical evidence in the sub-Saharan region and uses theories on FDI determinants (Adams, 2009; Busse et al., 2016; Doku et al., 2017). However, this dilemma has not yet been widely reviewed from the angle of Chinese FDI in Africa and the OBOR initiative. Thus, the academic findings on the impact of participating in the OBOR initiative and respectively the impact of Chinese FDI on growth in participating African OBOR countries are relatively scarce. Few studies examine the positive effect of OBOR on Chinese FDI; however, they are focused on OBOR countries worldwide (Du & Zhang, 2018; Liu et al., 2017). On the contrary, the study by Kang et al. (2018) found no significant effect of participation in the OBOR on CFDI. Moreover, they find that the OBOR initiative diminishes the resource-seeking motivation.

Thus, there is a gap in the literature regarding the effect of the OBOR initiative in Africa and its effect on FDI and economic growth. Therefore, this paper aims at contributing to the existing dilemma on FDI and growth and additionally contributes to the OBOR initiative concept in Africa. More specifically, it will answer the following research question:

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Does participating by African countries in the One Belt One Road initiative increases

Chinese Foreign Direct Investment and thereby increase economic growth?

The remainder of this paper is organized as follows: Chapter 2 provides background information on the OBOR initiative, describes theories on the effect of FDI on economic growth, discusses the determinants for FDI, and discusses the effect of SOEs on FDI. Chapter 3 will explain the method used, and Chapter 4 will discuss the results. Chapter 5 consists of the theoretical and practical implications, and concludes with suggestions for future research. Chapters 6 and 7 include the references and Appendices, respectively.

2. LITERATURE REVIEW

This section discusses and outlines existing literature relating to relevant topics of FDI, growth, and the OBOR initiative and introduces the hypotheses of this study. First, the OBOR initiative will be explained. Thereafter, theories on the effect of FDI on economic growth are discussed. Thenceforth, determinants that influence China's FDI are explained, and lastly, China's SOEs are taken into consideration. China's One Belt One Road initiative

2.1 China's One Belt One Road initiative

As mentioned before, China's engagement in trade routes has an extensive history. Unfortunately, time has learned that developments in the Chinese empire have been responsible for the weakening of the Silk Roads and, thereby, China's ability to participate in international trade (Chan, 2018). In the modern era and after the end of the Cold War, more peaceful times offered the opportunity to revive the globalized trade system of the Silk Road era. It was, however, only in 2013 that this ancient project was revived by an initiative that was proposed by the Chinese president Xi Jinping.

Announced in 2013 was the New Silk Road Economic Belt, and almost simultaneously announced was the Maritime Silk Road – nowadays collectively called OBOR. The Silk Road Economic Belt primarily targets Central Asia and Europe, while the Maritime Silk Road focuses on connecting China with East Africa and Southeast, South and North Asia. The OBOR initiative shows China's international strategy, extends China's integration into the world economy, and represents China's Go Global policy. Thereby it extends China's economic and geopolitical influence into more than 60 emerging markets in Eurasia, Africa and beyond (Swaine, 2015). The participating countries cover 55% of the World's Gross National Product, 70% of the world's population and 75% of known energy reserves (Jie, 2017). Understanding China's catch-up industrialization and its increasing amount of outward FDI ensuring the

energy and mineral resources needed shows China's modern era strategy. A visual representation of the OBOR initiative and the participating countries can be found in Figure 1.

Figure 1: Map of the OBOR initiative
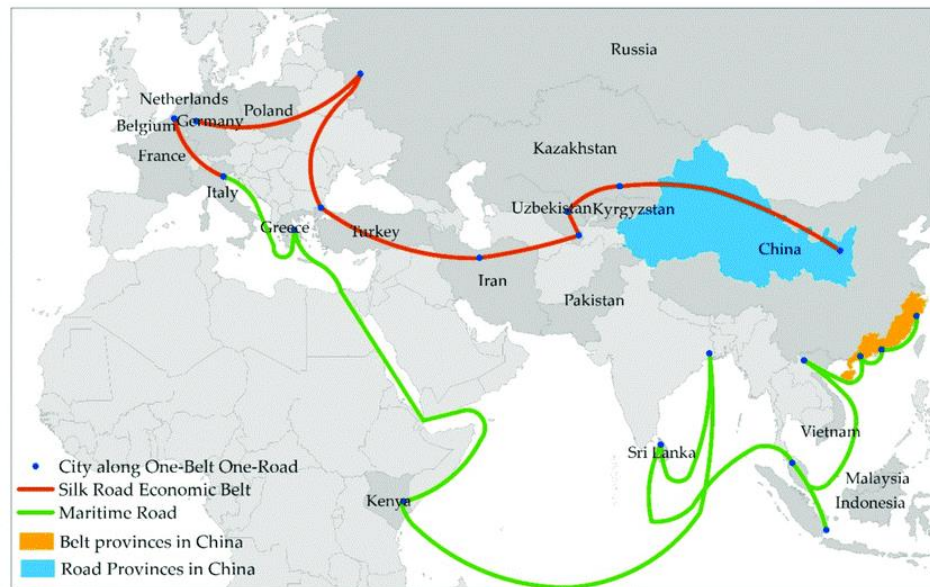
2.2 Theories on the effect of Foreign Direct Investment on Economic growth

The effects of FDI on economies have been discussed broadly in both theoretical and empirical literature (Adams, 2009; Inekwe, 2013). During the decades of globalization, the majority of the developing countries have eased their barriers to trade in goods and services and have liberalized financial sectors. This prospers the attractiveness of a country and may promote an increase in capital accumulation (Chen et al., 2018; Inekwe, 2013). Throughout the FDI literature, Adams (2009) has identified two perspectives that explain the effect of FDI on the economies of host countries. A distinction has been made between modernization and dependency theories. With the basis in neoclassical and endogenous growth theories, modernization theory put forward that FDI could improve economic growth in emerging countries through an increase in capital accumulation. Additionally, the transfer of technology via FDI in emerging economies plays an essential role since these economies lack in terms of educated inhabitants, liberalized markets, infrastructure, and economic/social stability, which are crucial factors necessary to promote growth (Calvo & Sanchez-Robles, 2002). Accordingly,

these countries need to benefit from the spillover effects of the technology implemented by a multinational. Additional to the capital and technological effects, FDI comes with a set of skills in marketing, management and organization, networks, and market access (Adams, 2009). In other words, FDI aids the host country's growth by increasing total factor productivity, capital accumulation, and efficient resource utilization through the mechanism of technology spillovers (Adams, 2009; Inekwe, 2013). Furthermore, an advantage of FDI in emerging markets may be that domestic firms link up with foreign multinationals via the link-leverage-learn mechanism, leveraging their spillover learned capabilities by becoming more efficient and contributing to higher value-added segments in the global value chain (Boermans & Roelfsema, 2016).

Contrary to modernization theory, dependency theory suggests that being dependent on FDI negatively affects the host country's economic growth and the distribution of income. Some authors argue that FDI creates a structure in which underutilization of productive forces is predominant and that such a structure would lead to a disarticulated development of economies (Amin, 1974; Bornschier & Chase-Dunn, 1985). Another effect of FDI arises when FDI takes the form of mergers and acquisitions; in this situation, the contribution to capital accumulation is lacking, or technological spillovers are low. Foreign multinationals acquire existing domestic assets rather than introducing new or complimentary capital (Agosin & Machado, 2005). Additionally, local firms could be suffering from the crowding-out effect, which occurs when domestic firms lack resources or lack organizational skills to compete against foreign enterprises. This situation may lead to an exit of domestic firms due to the inability to compete with the more efficient foreign competitor (Razafimahefa & Hamori, 2007). To enlighten the different views in the literature, more recent studies have addressed the effect of FDI on growth with empirical studies (Alfaro et al., 2004; Borensztein et al., 1998; De Mello, 1999; Obwona, 2001). These studies claim that FDI improves economic growth in host countries under the

conditions that these countries are competent in taking advantage of the spillovers described above.

As discussed, there is a conflict in the theoretical literature with both positive and negative effects of FDI on growth. The aforementioned modernization theory has the basis in the fundamental principle that growth needs capital investment. Based on this theory, the OBOR project is likely to prosper growth because of the capital investments it provides. The African OBOR countries, consisting of mainly developing economies, lack the requisite infrastructure which is necessary to promote growth (Calvo & Sanchez-Robles, 2002). Via the Chinese investments due to the OBOR initiative, these infrastructural voids are expected to be filled and consequently improved in quality and availability (Du & Zhang, 2018). Respectively, this improves the investment landscape and will again result in more FDI attracting from China. Thereby, modernization theory predicts that the capital investments (FDI) due to OBOR will result in economic growth. Therefore, this paper follows this neoclassical argumentation of modernization theory and argues that FDI can benefit emerging economies. Hence, this paper's first hypotheses are as follows:

H1a: Participating in the OBOR initiative will have a positive effect on the total Chinese FDI flow in that country.

H1b: Chinese foreign direct investment positively influences an African OBOR country's economic growth.

2.3 Determinants of China's Foreign Direct Investment

China has emerged as an important trading partner for emerging economies in Africa, and the number of Chinese FDI toward Africa has increased over the last decades (CARI, 2022). In line with the modernization theory, these emerging economies need these capital inflows in order to accelerate their economic growth. Besides the benefits for these developing countries,

there are benefits for the investing countries as well – they provide fruitful revenue-generating opportunities.

The determinants of FDI is a topic that has received a lot of scientific attention, and there are three general conditions needed for successful FDI determined by the eclectic framework of Dunning (1993, 2001). First of all, firms should have an internalization advantage, which means that firms should benefit from engaging in production in an imperfect external market. Secondly, firms should have an ownership advantage which implies that firms should have a form of competitive advantage to engage in FDI. Lastly, firms should have a location advantage, which indicates that firms choose locations for their operating activities that minimize overall costs and provide advantages such as access to natural resources (Buckley et al., 2007).

Following the reasoning of the aforementioned growing economy of China which increasingly needs more resources to meet its growing demand, the location advantage motive can explain why China engages in FDI toward African countries. The location aspect of the eclectic framework consists of three motivations. First of all, there is foreign market seeking FDI, which is undertaken by firms that are seeking to gain access to new markets. Second, there is efficiency-seeking FDI, which occurs when investors are looking to reduce location or labor costs. From China's point of view, this is unlikely to be a determinant for their FDI given China's low labor costs. Third, there is (strategic) resource-seeking FDI, which entails acquiring access to raw materials. This applies to China's FDI since their interests in African minerals have increased over the years due to their rapid industrial growth and the lack of domestic natural resources.

Consistent with this theoretical argument, academic research has shown that the Chinese government has promoted Chinese FDI to ensure the increasing domestic demand for scarce

natural resources needed for their growing economy. This resulted in natural resources being one of the key pull factors for Chinese FDI into Africa (Biggeri & Sanfilippo, 2009; Buckley et al., 2007). Considering the modern promotion of Chinese FDI to African countries via the OBOR initiative, the location advantage in the theoretical OLI framework characterizes China's current FDI capital accumulation activity toward African countries. Therefore, this paper expects that resource-rich African countries will see an increase in Chinese FDI and more specifically, African countries that participate in the OBOR initiative. Hence the second hypothesis:

H2a: An African country's natural resources will have a positive effect on the total Chinese FDI flow in that country

H2b: Natural resources will have a larger influence on Chinese FDI in an OBOR African country compared to a non-OBOR African country.

2.4 Chinese Foreign Direct Investment and China's State-Owned Enterprises

The aforementioned modernization theory argues that FDI can benefit economic growth, and in line with the eclectic framework, natural resource seeking can be a determinant for Chinese multinational enterprises (MNEs) to engage in FDI. According to the OLI framework, the two other factors to engage in FDI are an ownership advantage and an advantage that internalizes imperfect external markets, and are applicable to Chinese SOEs. An example of market imperfections is the availability of capital below market rates, which creates a disequilibrium in the capital market that can be exploited by outward investors (Buckley et al., 2007). This applies to SOEs since they operate in African emerging economies, which are vulnerable to capital market imperfections (Buckley et al., 2007). Ownership advantages include all that gives a competitive advantage. The specific form of ownership of an SOE provides SOEs with a competitive advantage. In order to enrich the Chinese influence

worldwide, these SOEs are employed as an instrument of policy. As a result, they enjoy political capabilities that eventually provide them with strategic privileges and access to government-controlled resources. For instance, SOEs are being helped in gaining improved access to finance, promoting partnerships and obtaining soft loans as a policy from the government to promote FDI (Warner et al., 2004). These factors combined give SOEs a toolset of advantages compared to non-SOEs, and these advantages can be leveraged to engage in FDI.

As explained before, the OBOR initiative is a strategy in which the Chinese government further enriches its influence in the globalized world. In line with this policy, the distinctive role of the Chinese government in FDI activity is evident due to its influence on large MNEs, as many Chinese MNEs remain partly state-owned (Wang et al., 2012). As argued by Du & Zhang (2018), Chinese SOEs are the main instruments of the government to implement national economic strategy, and therefore it is expected that SOEs play a significant role in the participating OBOR countries due to their organizational structure and the relationship with the government, compared to non-SOEs. In line with reasoning, research has found that Chinese FDI suffers from high political control. With this in mind and the fact that state ownership is often associated with significant economic and political privileges, Chinese FDI is dominantly undertaken by firms with high state ownership (Wang et al., 2012). Based on the discussion above, this paper expects SOEs to play a significantly larger role in FDI activity in OBOR countries compared to non-SOEs. That is, the value contribution of CFDI by Chinese SOEs is larger compared to the value of CFDI by Chinese non-SOEs

H3: The value contribution in Chinese FDI towards OBOR countries undertaken by state-owned enterprises is larger than non-state owner enterprises.

The hypotheses tested in this paper have been visualized in figure 2. It shows the relationships between the dependent and independent variables.

Figure 2: Visualization of framework
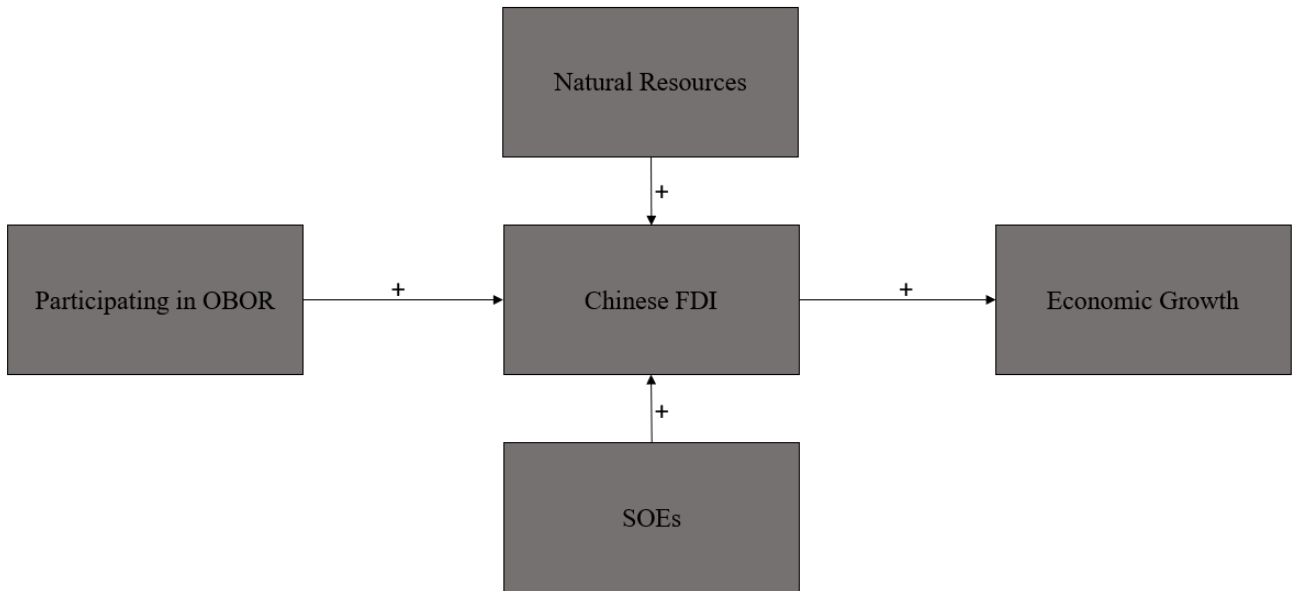
3. METHODOLOGY

This study aims to examine the direction and quantitative effect of Chinese FDI and participation in the OBOR initiative on economic growth. To study this research question, the three hypotheses introduced above will be tested.

3.1 Data collection and sample

The research question of this paper deals with the number of FDI in OBOR countries on economic growth. To be able to design a basic model to identify the effects, data has to be collected. The data for the annual growth of GDP is retrieved from the World Development Indicators (WDI) dataset. Sample coverage on annual GDP growth is from 2006 to 2020 and is in US$. The growth rate is measured as the annual percentage growth rate of GDP, which is a commonly used method (Borensztein et al., 1998; Wako, 2021). This has been calculated by taking the sum of gross value added by the producers in a country's economy plus any product taxes and minus any subsidies not included in the value of the products. Additionally, neither deductions for depreciation of fabricated assets are made, nor for depletion and degradation of natural resources.

Next, data on Chinese FDI flow to African countries is obtained from the China Africa Research Initiative (CARI), and this dataset contains the total Chinese FDI outflow to all African countries. The CARI has combined data on Chinese FDI from China Statistical Yearbooks, the Statistical Bulletins of China's Outward Foreign Direct Investment, MOFCOM, and the CEIC database. This final data has been converted from 10,000 US$ to millions of US$. Sample coverage on Chinese FDI stock/flow data is from 2006 to 2020.

Additionally, following Doku et al. (2017), one needs the amount of stock/flow of China's FDI in Africa and total FDI in an African (OBOR) country to measure the impact of Chinese FDI on African (OBOR) countries. To calculate the effect of Chinese FDI in OBOR countries on

economic growth, a ratio between Chinese FDI and total worldwide inward FDI in an OBOR country is calculated:

$$Ratio = \frac{Chinese\ FDI}{Total\ FDI}$$

Data on total FDI inflow in African countries is obtained from the UNCTAD dataset on foreign direct investment. Sample coverage on total FDI stock/flow data is from 2006 to 2020 and is in millions of US$.

To collect data on the OBOR participating countries, this paper uses the dataset from the Green Belt and Road Initiative Center. This dataset, updated till March 2022, contains all the countries that signed Memorandums of Understanding (MoU) with China to cooperate under the OBOR framework and provides information about the income group and year joined. The list of OBOR countries and non-OBOR countries included in the sample can be found in Table 1. Included in this table is the signing period of the MoU. Figure 3 shows a more detailed map of the year of signing and can be found in the Appendix.

The data on the availability of natural resources is obtained from the world bank's World Development Indicators. Based on the study of Gunessee & Hu (2021), this paper uses the variable 'total resource rents (RR) as a percentage of GDP' as a proxy for all natural resources. This has been done due to the assumption that all natural resources, including oil, natural gas, and minerals are of interest to Chinese MNEs. This variable is transformed into a logarithmic variable to reduce extreme variability and allow for more interpretable coefficients in terms of percentage change. Sample coverage on GDP per capita is from 2006 to 2020.

Table 1: List of OBOR and non-OBOR countries by 2022

OBOR Countries				
Joined since 2013-2017	Botswana	Comoros	Côte d'Ivoire	Somalia
	Kenya Madagascar	Morocco	Egypt, Arab Rep.	South Africa
Joined since 2017-2022	Algeria	Burundi	Cabo Verde	Chad
	Congo, Dem. Rep.	Equatorial Guinea	Eritrea	Ethiopia
	Djibouti			
	Gabon Gambia, The	Ghana	Guinea	Guinea-Bissau
	Lesotho Liberia	Libya	Malawi	Mali
	Mauritania Mozambique	Namibia	Nigeria	Rwanda
	Senegal Seychelles	Sierra Leone	South Sudan	Sudan
	Tanzania Togo	Tunisia	Uganda	Zambia
				Zimbabwe
Non-OBOR Countries				
	Burkina Faso	Central African Republic	Eswatini	Sao Tome & Principe
			Mauritius	

Data on SOEs has been gathered via the American Enterprise Institute's China Global Investment Tracker (CGIT) and range from 2006 to 2020. The tracker is a comprehensive public data set covering China's FDI that was made public in open-source media and valued above US$100 million. In addition to this dataset, this paper follows and uses the dataset of Qi et al. (2022), who classified enterprises ownership into state-owned enterprises and private-owned enterprises (POE). However, data on Chinese SOEs is limited and difficult to obtain. Therefore, the data on SOEs and their CFDI is obtained from a different dataset compared to the total CFDI data obtained via the CARI dataset. When analyzing the effect of SOEs on CFDI in hypothesis 3, one should keep in mind that the dataset is smaller. A detailed overview of measures and sources of major variables is presented in Table 2.

3.2 Control variables

To make better predictions on the effect of CFDI on economic growth, the models used to test the hypotheses will include control variables. These control variables are based on the paper of Wilson & Vencatachellum (2019) and Doku et al. (2017), who respectively studied

the effect of financial markets and natural resources on FDI and the effect of CFDI on economic growth in Africa. The control variables are two different country-level controls – population and inflation. Population is based on the de facto definition of population. Inflation indicates the yearly percentage change in the cost to the average consumer that purchases goods and services. Sample coverage on all control variables is from 2006 to 2020.

Table 2: Measures and sources of major variables

Variable	Measurement	Sources
GDP_Growth	Average annual growth of GDP (%)	WDI
Chinese FDI	Total number of Chinese FDI flow to African countries	CARI
Total African FDI	Total number of annual FDI inward stock/flows to African countries	UNCTAD
CFDI value by SOE and POE	Value of Chinese FDI by state-owned if SOE = 1; Value of Chinese FDI by private-owned if SOE = 0	CGIT
African - OBOR participant	OBOR = 1, if the country is an OBOR participant; OBOR = 0 otherwise.	GBRIC
SOE	SOE = 1 if the enterprise is state-owned; SOE = 0 if the enterprise is private-owned	Public information & Qi et al. (2022)
Resource Rents (RR)	Proxy for natural resources	WDI
Population	Population, total	WDI
Inflation	Inflation, Consumer, prices, (annual, %)	WDI

3.3 Model specification

The study uses panel data on 54 selected African countries from 2006 to 2020. Specifically, the study uses data on China's outflow of FDI towards all African countries, GDP growth, natural resources, Chinese SOEs, population, and inflation.

The dependent variable is economic growth in an OBOR country i in year t. For the analysis, this study follows the papers of Adams (2009), Doku et al. (2017), Du & Zhang (2018), and Gunessee & Hu (2021), who adopted a panel data regression model to estimate the effect of

CFDI on economic growth. To estimate the effect on economic growth, this paper uses the following general fixed effect (FE) econometric model:

$$GDP_{it} = \beta_0 + \delta GDP_{it-1} + \beta_1 CFDI_{it} + \beta_2 I_{it} + \beta_3 C_{it} + \alpha_i + v_t + \varepsilon_{it}$$

$$i = 1 = 1, 2, \ldots N; t = 2006, \ldots 2020$$

where t is the time trend; α_i captures unobservable country-specific events and v_t captures the year fixed effects which may both affect economic growth in Africa. Moreover, ε is the error term. I is a vector of the independent variables, OBOR, resource rents, and SOEs. C is a vector of the control variables. The data used are repeated observations, which is why the data can be subjected to unobserved heterogeneity or lack of independence which influences the estimation of the true standard error. The fixed effects specification allows controlling for unobserved heterogeneity and omitted variable bias, which affects cross-country regressions (Adams, 2009). It is noteworthy that all the standard errors are clustered at the country level to account for time-series correlation.

Following Adams (2009) methodology, the lag of the dependent variable has been added to the fixed effects model. This creates a dynamic fixed effects panel data model that takes into account the correlation between previous values of growth. The growth of a country is not affected immediately, but often one period later.

Additionally, the OBOR initiative was first announced in September 2013, and African countries joined the OBOR in different years. To analyze the effect of participating in the OBOR initiative, this paper follows the reasoning of Du & Zhang (2018), who treated a two-year pre-shock period and a two-year post-period from the first announcement in 2013. This paper will augment each OBOR country with a two-year post-shock period variable. This includes CFDI values of one and two years after the announcement of joining the OBOR initiative. According to the authors, using a two-year post-strategy period is a sufficiently long

time period to incorporate the changes in CFDI patterns in response to the announcement of the OBOR strategy.

Moreover, studies also have shown that FDI flows respond with a lag (Adams, 2009; Beck, 2001; Wilson & Vencatachellum, 2019). Therefore, a lagged dependent variable to capture the role of inertia after joining the OBOR is included to analyze the effect of the dependent variable at time t-2. To estimate the effect of OBOR on CFDI, this paper uses the following general fixed effect econometric model

$$CFDI_{it} = \beta_0 + \delta CFDI_{it-2} + \beta_1 OBOR_{it} + \beta_2 C_{it} + v = a_t + v_i + \varepsilon_t$$

$$i = 1 = 1, 2, \dots N; t = 2006, \dots 2020$$

The notations of the variables are as explained in the first equation above. Table 3 shows the list of variables and their description used in the analyses. To test the hypotheses, five models have been constructed based on the general econometric models above.

3.4 Estimation procedure

As mentioned in section 3.3, a fixed effect model is used to control for unobserved heterogeneity and associated omitted variable bias. This estimation model has been chosen by following the paper of Wilson & Vencatachellum (2021). Following these authors, different estimation methods are tested in order to select the most precise estimation procedure. The model specification has been specified based on tests for pooled Ordinary Least Squares (OLS), Fixed Effects (FE) vs. Random Effects (RE), and the Generalized Method of Moments (GMM). Lastly, tests are performed to detect serial correlation and heteroskedasticity in the dataset, and accordingly, all standard errors are clustered to account for time-series correlation and heteroskedasticity. The results of these tests can be found in the Appendix.

First, a pooled OLS model is estimated for both general models specified above. Pooled OLS assumes that all African countries have the same characteristics – i.e., no unobservable country-specific effects. This assumption is tested with a poolability test, which is an F test of the null hypothesis that all fixed effects are jointly zero ($\mu_i = 0$). The results of the poolability test for both the GDP and CFDI model indicate that this null hypothesis of homogeneity is rejected ($F_{51, 631} = 3.31$, p<0.000); ($F_{39, 88} = 2.97$, p<0.000). Hence there are unobservable country-specific effects. Concluding, African countries are heterogeneous, there are country-specific effects, and the pooled OLS results are unreliable.

The FE and RE models include unobservable country-specific effects, and to find out which model specification is more suitable, a Hausmann test is performed for both models. The Hausman test differentiates between the RE and FE model and states that a RE model is preferred in the null hypothesis. For the growth model, the result was a chi-square value of 4.41 with a probability of 0.036, and thereby the null hypothesis is rejected (p<0.05). Concluding, a FE model is more appropriate for estimation. Additionally, the correlation between the country-specific effect and the explanatory variables is different from zero [$corr(\alpha_i X_{it}) = 0.0662$], whereas the RE has a prerequisite for a zero correlation between the two [$corr(\alpha_i X_{it}) = 0.0$]. For the CFDI model, the result was a chi-square value of 10.81 with a probability of 0.029, and thereby the null hypothesis is rejected (p<0.05). Concluding, a FE model is more appropriate for estimation. Additionally, the correlation between the country-specific effect and the explanatory variables is different from zero [$corr(\alpha_i X_{it}) = -0.3036$]. The result of both Hausman tests can be found in the Appendix.

The FE model considers country-specific effects such as different institutions, cultural values, and geographical characteristics that influence FDI activity and are fixed in the short and medium term, and this is considered a valid assumption due to the diversity of African countries (Wilson & Vencatachellum, 2021). Additionally, to see if time fixed effects are needed when

running the FE model, a joint F test is performed for all models. The null hypothesis states that the coefficients for all years are jointly equal to zero, and no time fixed effects are needed.

However, as mentioned in section 3.3, growth will be measured with the lag t-1 in the variable GDP, and CFDI with a lag t-2. As a result, the inclusion of the lagged dependent variable as an explanatory variable in a FE model can lead to an endogeneity problem – the lagged dependent variable and other explanatory variables are correlated with the error term. To mitigate this concern, this paper follows the papers of Wilson and Vencatachellum (2013) and Busse et al. (2016), which both used the system GMM estimator as a solution. System GMM was introduced by Arellano and Bover (1995) and Blundell and Bond (1998) and is a more efficient estimator for dynamic panel datasets. It is common practice to estimate the parameters in the dynamic models by taking the first difference to remove correlated country-specific effects and estimate the differenced model by the GMM using appropriately lagged level variables as instruments (Windmeijer, 2010). There, however, lies a problem in the use of the GMM model because it makes use of instruments. There is a possibility that there are too many instruments used, and too many instruments can significantly improve the efficiency of the estimated variables – known as instrument proliferation (Roodman, 2006). To test for instrumental proliferation, a Sargan test has been applied to the models. The Sargan test tests the null hypothesis that the instruments as a group are valid and exogenous. For both the growth model and the CFDI model the Sargan p-value results were greater than 0.1. Therefore, one fails to reject the null hypothesis. The result of the Sargan test can be found in the Appendix.

4. RESULTS

This section contains the description and correlations of the variables used and discusses the models used in testing the hypotheses. Section 4.1 contains the descriptive statistics and correlations. Section 4.2 – 4.4 discuss the results of the hypotheses tests. A significance level of 5% is used during the regression analysis.

4.1 Descriptive statistics and correlations

The final sample consists of 54 African countries, of which 49 have signed the MoU in 2020, and 5 have not. From Table 3, it can be seen that the mean of GDP growth of the 54 selected African countries is 3.73 percent with a standard deviation of 7.26 percent. FDI ratio, measured as the ratio of CFDI to the sum of total FDI, has a mean of 0.56 with a standard deviation of 8.89. Regarding SOEs and non-SOEs, there are 289 investments made by SOEs, whereas there are 98 investments made by non-SOEs. Furthermore, the variable resource rents has a mean of 12.18 and a standard deviation of 12.08. Resource rent has been transformed into a natural logarithm which reduces extreme variability and allows for more interpretable coefficients in terms of percent change.

Table 3: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
GDP growth (%)	777	3.73	7.26	-62.08	123.14
CFDI	780	57.97	212.75	-814.91	4807.86
SOE_CFDI	289	1079	1258.92	100	8840
NonSOE_CFDI	98	661.02	812.37	100	8940
FDI ratio	788	.56	8.89	-27.01	222.21
FDI total	788	917.16	1716.20	-7397.30	11578.1
OBOR	810	.91	.29	0	1
RR	787	12.18	12.08	.001	67.92
Lrr	787	2.72	1.07	.001	4.92
Population	801	21084005	30183725	84600	2.061e+08
Inflation	744	8.96	28.57	-8.98	557.20

To further analyze the data, a Pearson test for correlation has been performed. Table 4 shows the correlation coefficients between the variables used. To address multicollinearity in the

dataset, the variance inflation factor (VIF) is obtained. This measures the correlation and strength of correlation between the explanatory variables in a regression model. The VIF test shows that all VIF values are below 2.5, indicating a moderate correlation and suggesting that multicollinearity is not a concern (Johnston et al., 2018).

4.2 Regression model of Chinese FDI and economic growth

To test hypothesis 1a, which states that participating in the OBOR positively affects total Chinese FDI, this paper estimates a fixed effect and a GMM model as discussed in the estimation procedure. The hypothesis of no time fixed effects has been rejected, and therefore year dummies are included ($F_{7,40} = 5.35$, p<0.000). The regression results of model 1 are shown in Table 5.

$$Model\ 1: CFDI_{it} = \beta_0 + CFDI_{it-2} + \beta_1 OBOR_{it} + v_t + a_i + \varepsilon_t$$

The lagged dependent variable has an insignificant negative effect in both the FE and GMM model. The sign of the coefficient implies that an increase of one million US$ in the previous two years will result in a decrease in the current period's CFDI. The values are, however, insignificant and thereby inadequate to interpret.

Concerning the effect of participating in the OBOR on CFDI, the FE and GMM model show that joining the OBOR initiative in the years 2013, 2015, 2016, 2017, and 2018 has a significant effect on CFDI. The variables are all significant on a 1% level, and all have positive signs. This implies that joining the OBOR initiative always had a positive effect on the amount of received Chinese investment. For example, joining the OBOR initiative in 2017 increases the amount of received FDI by US$0.25m, ceteris paribus ($\beta = 0.25$, p<0.01).

Table 4: Pearson correlations

Variables	GDP_growth	CFDI	SOE_cfdi_value	NonSOE_cfdi	FDI_total	FDI_ratio	OBOR	RR	Inflation
CFDI	0.007								
SOE_cfdi_value	-0.026	0.096*							
NonSOE_cfdi_value	0.150	-0.006	-0.0615						
FDI_total	0.068*	0.205*	0.145*	0.089					
FDI_ratio	-0.033	0.014	-0.007	-0.099	-0.030				
OBOR	0.017	0.057*	0.027	-0.135	0.147*	-0.009			
RR	-0.010	0.012	0.089	0.003	0.032	0.016	0.178*		
Inflation	-0.126*	0.013	0.007	0.025	-0.021	0.037	0.037	0.018	
Population	0.091*	0.360*	0.362*	0.006	0.576*	-0.022	0.173*	-0.024	0.042

*** p<0.01, ** p<0.05, * p<0.1

Hypothesis 1a, which states that participating in the OBOR positively affects total CFDI, is thereby supported. This is in line with the theoretical expectation that during the decades of globalization, the majority of developing countries have eased their trade barriers and have liberalized their financial sectors. This prospers the attractiveness of a country and promotes an increase in FDI receipts (Chen et al., 2018; Inekwe, 2013).

Table 5: Regression results hypothesis 1a

	Fixed Effect (1)	GMM (1)
VARIABLES	CFDI	CFDI
Lagged CFDI	-0.01	-0.00
	(0.04)	(0.05)
OBOR2013	0.93***	0.95***
	(0.28)	(0.27)
OBOR2015	0.80***	0.86***
	(0.16)	(0.15)
OBOR2016	0.67***	0.52***
	(0.09)	(0.11)
OBOR2017	0.25***	0.40***
	(0.09)	(0.11)
OBOR2018	0.91***	0.85***
	(0.03)	(0.05)
Constant	5.51	2.13
	(7.18)	(8.62)
Observations	137	137
R-squared	0.94	
Number of countries	41	41

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

To test hypothesis 1b, which states that participating in the OBOR affects total Chinese FDI and that this Chinese FDI positively affects economic growth, this paper estimates a fixed effect and a GMM model as discussed in the estimation procedure. The variable OBOR is set equal to one, implying that a country has signed the MoU – thus joined the OBOR initiative. Additionally, to be more precise with the estimation, control variables discussed in section 3.2 are added. The hypothesis of no time fixed effects has been rejected, and therefore year

dummies are included ($F_{7,38} = 75.79$, p<0.000). The regression results of model 2 are shown in Table 6.

$$Model\ 2: GDPgrowth_{it}$$

$$= \beta_0 + \beta_1 GDPgrowth_{it-1} + \beta_2 FDIratio_{it} + \beta_3 CFDI_{it} * OBOR_{it} + \beta_4 C_{it} + v_t + a_i + \varepsilon_{it}$$

Concerning the effect FDI ratio on GDP, the FE model shows a significant result when not controlling for control variables. This indicates that the FDI ratio – thus the contribution of CFDI to the total FDI in an African country – has a positive effect on GDP growth. More specifically, it indicates that an increase of 1% in the FDI ratio results in an 11.33% increase in GDP ($\beta = 11.33$, p<0.05).

The variable indicating joining the OBOR and the corresponding CFDI flow, the FE model shows that there is a significant negative effect on growth rates in the years 2013 and 2016 (p<0.01) and in 2018 (p<0.05). It indicates negative growth between 13 and 58 percent, ceteris paribus. This implies that joining the OBOR initiative and the corresponding CFDI flow had a negative effect on GDP growth. For example, joining the OBOR initiative in 2013 decreases GDP growth by 58.18%, ceteris paribus ($\beta = -58.18$, p<0.01). Including control variables enlarge the negative growth but lose its significance for the years 2016 and 2018. Moreover, it loses significance though maintains the sign in GMM regressions in the years 2013 and 2018.

Hypothesis 1b, which states that participating in the OBOR affects total CFDI and by that positively affects GDP, is thereby not supported. This is contrary to the expectation formed based on previously discussed literature on FDI and growth and studies on CFDI in Africa (Doku, 2017; Busse et al., 2016).

Table 6: Regression results hypothesis 1b

VARIABLES	Fixed Effect (2) GDP growth%	Fixed Effect (2) GDP growth%	GMM (2) GDP growth%
Lagged GDP growth %	-0.15	-0.29	0.15
	(0.14)	(0.22)	(0.33)
FDI_ratio	11.33**	1.34	-0.39
	(5.46)	(5.71)	(14.51)
CFDI_OBOR13	-58.19***	-64.55***	-33.14*
	(11.76)	(15.78)	(18.73)
CFDI_OBOR15	-4.30	-2.69	6.88
	(5.62)	(4.78)	(12.19)
CFDI_OBOR16	-13.88***	-4.98	-14.58*
	(4.91)	(5.28)	(8.30)
CFDI_OBOR17	2.03	2.86	15.93
	(2.75)	(2.86)	(9.87)
CFDI_OBOR18	-13.21**	-3.73	-14.38
	(5.27)	(5.56)	(11.29)
Inflation		-0.01	0.01
		(0.01)	(0.02)
Population		0.00***	-0.00*
		(0.00)	(0.00)
Constant	12.15***	-16.94	37.63**
	(1.03)	(10.35)	(16.48)
Observations	131	122	122
R-squared	0.68	0.74	
Number of countries	39	37	37

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

4.3 Regression model of Chinese FDI and natural resources

To test hypothesis 2a and 2b, which states that a country's natural resources positively affect Chinese FDI inflow and that natural resources have a larger influence on Chinese FDI in an OBOR African country compared to a non-OBOR African country, this paper estimates a fixed effect model as discussed in the estimation procedure. The hypothesis of no time fixed effects has been rejected for model 3 and 4, and therefore year dummies are included ($F_{14,51} = 3.11$, p<0.002) ($F_{6,39} = 8.11$, p<0.000). The regression results of models 3 and 4 are shown in Table 7

$$Model\ 3: CFDI_{it} = \beta_0 + \beta_1 lRR_{it} + v_t + a_i + \varepsilon_{it}$$

$$Model\ 4: CFDI_{it} = \beta_0 + \beta_1 lRR + \beta_2 OBOR_{it} + \beta_3 C_{it} + v_t + a_i + \varepsilon_{it}$$

The results of regression model 3 show the plane effect of lRR on CFDI and model 4 shows the effect of lRR on CFDI when a country has joined the OBOR initiative or not. The second column shows the results when OBOR equals 1, the third column shows the results when OBOR equals 0 and the last column shows the results when OBOR equals 1 and includes control variables. The results indicate that natural resources have a positive, but statistically insignificant relationship with CFDI, in all regressions. Hypothesis 2a, which states that natural resource positively affects total CFDI, is thereby not supported due to no significant results.

The FE model shows that joining the OBOR initiative in the years 2014, 2016, and 2018 has a significant effect on CFDI. The years 2014 and 2018 are significant on a 1% level ($p<0.01$), and the year 2016 is significant on a 5% level ($p<0.05$), both have positive signs. This implies that having natural resources in your country, and being part of the OBOR initiative in these years, had a positive effect on the amount of received Chinese investment. However, looking at the third column, one can see that not being part of the OBOR and having natural resources had an even larger effect on CFDI in the years 2014, 2015, 2017 ($p<0.01$), and 2020 ($p<0.05$). Lastly, including control variables enlarge the effect of having natural resources and participating in the OBOR initiative for the years 2014, 2016, and 2018.

Hypothesis 2b, which states that the presence of natural resources and participation in the OBOR has a larger effect on total CFDI received, thereby obtains mixed results. By measuring the effect, there were years in which not participating in the OBOR resulted in more CFDI compared to participating in the OBOR. For example, the years 2014 and 2015. On the other hand, the years 2016 and 2018 show the opposite, where participating in the OBOR does lead to a higher increase in CFDI compared to non-participating countries. Concluding, hypothesis

2b, which states that the presence of natural resources has a larger effect on CFDI in OBOR countries, is thereby not supported due to contradicting and insignificant results.

Table 7: Regression results hypothesis 2

VARIABLES	Fixed Effect (3) CFDI	Fixed Effect (4) CFDI_OBOR	Fixed Effect (4) CFDI_OBOR	Fixed Effect (4) CFDI_OBOR
lRR	32.81	31.34	44.61	41.58
	(30.87)	(26.05)	(46.43)	(28.01)
OBOR2014		51.93***	57.16***	54.96***
		(7.62)	(20.07)	(8.18)
OBOR2015		-33.56	66.77***	-25.07
		(68.56)	(24.50)	(64.76)
OBOR2016		174.94**	33.82	184.46**
		(78.16)	(26.82)	(83.41)
OBOR2017		11.53	76.79***	14.38
		(21.43)	(27.00)	(23.80)
OBOR2018		64.96***	69.30	69.09**
		(23.75)	(53.92)	(26.36)
OBOR2019		-19.26	149.26*	-16.50
		(24.85)	(83.99)	(31.78)
OBOR2020		12.20	130.19**	6.69
		(13.56)	(52.16)	(18.83)
Inflation				0.08
				(0.06)
Population				0.00
				(0.00)
Constant	-83.57	-3.01	-120.71	-112.66
	(94.78)	(70.61)	(140.55)	(257.33)
Observations	764	134	630	122
R-squared	0.02	0.21	0.02	0.22
Number of countries	52	40	52	37

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

4.4 Regression model of Chinese FDI and state-owned enterprises

To test hypothesis 3, which states that SOEs contribute more to CFDI in OBOR countries compared to non-SOEs, this paper estimates a fixed effect model as discussed in the estimation procedure. As earlier discussed, the dataset on CFDI from SOEs and non-SOEs differs from the CFDI dataset from CARI that was used for the previous hypotheses. There is

less open-source data available, and consequently, the SOE dataset is smaller. The hypothesis of no time fixed effects has been rejected for model 5, and therefore year dummies are included ($F_{5,24} = 5.19$, p<0.002). The regression results of model 5 are shown in Table 8.

$$Model\ 5: Total\_CFDI_{it} = \beta_0 + \beta_1 SOEs\_CFDI_{it} + \beta_2 OBOR_{it} + \beta_3 C_{it} + v_t + a_{i} + \varepsilon_{it}$$

The variable CFDI in Table 8 represents the sum of CFDI received in a country from SOEs and non-SOEs and is not the equivalent of the variable CFDI in the previous tables. The variable SOEs_CFDI indicates the CFDI value by SOEs companies, that is if SOEs equals 1. The variable NonSOEs_CFDI indicates the CFDI value by non-SOEs companies. Furthermore, OBOR has been set equal to one to measure the effect of SOEs and non-SOEs in OBOR countries.

Regarding the effect of SOEs on CFDI in an OBOR country, the result shows a positive significant variable for the FE model ($\beta = 1.03$, p<0.01). The sign of the coefficient implies that an increase of one million US$ will result in an increase of US$ 1.03m. Moreover, in the second column, one can see that there is a larger positive significant relationship of US$1.05 once controlled for control variables ($\beta = 1.05$, p<0.01). The sign and significance of this variable are in line with results from previous studies by Du & Zhang (2018) and Buckley et al. (2007), who find a positive significant relationship between FDI and SOEs in Africa, which is mainly due to their embeddedness in the government, and the OBOR being an international governmental strategy. With regards to the value contribution of non-SOEs towards CFDI in OBOR countries, one can observe a negative significant relationship ($\beta = -2.46$, p<0.05).

Hypothesis 3, which examines the difference in CFDI value contribution between SOEs and non-SOEs, is thereby supported. The results are in agreement with the theoretical expectations that SOEs, compared to non-SOEs, contribute a higher value towards CFDI in OBOR countries.

Table 8: Regression results hypothesis 3

	Fixed Effect (5)	Fixed Effect (5)	Fixed Effect (5)
VARIABLES	CFDI	CFDI	CFDI
SOE_cfdi_value	1.03***		1.05***
	(0.07)		(0.07)
NonSOE_cfdi_value		-2.46**	
		(0.92)	
population			0.00
			(0.00)
inflation			1.39***
			(0.18)
Constant	-34.45	4,814.64***	-1,708.82
	(122.12)	(537.77)	(1,100.45)
Observations	66	24	63
R-squared	0.93	0.49	0.94
Number of countrycode	25	13	25

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

5. DISCUSSION AND CONCLUSION

This paper addresses the question of whether participation by African countries in the One Belt One Road initiative increases Chinese foreign direct investment and, consequently, economic growth. The OBOR initiative is a national government-inspired strategy that promotes international economic integration, and given its far-reaching geographical and economic coverage, the OBOR initiative has quickly made its impact on the world economy. The research question was supported by the theoretical arguments on modernization theory and the eclectic framework. This paper dataset has been constructed by conducting data from various worldwide databases and examines data on Chinese FDI, natural resources, state-owned enterprises, and information on OBOR participation in 54 African countries, for the period 2006 – 2020. The panel regression analysis, based on fixed effects and GMM estimations, shows that Chinese FDI in Africa responds positively and significantly to participating in the OBOR initiative. It, however, shows that this eventually negatively and significantly affects the GDP of the participating countries. Insignificant results have been found on the effect of natural resources and Chinese FDI, and contradicting results have been found on the effect of participation in the OBOR initiative on CFDI under the presence of natural resources. Yet, there is a positive significant relationship between CFDI from state-owned enterprises towards African OBOR countries.

5.1 Theoretical implications

Generally, the flow of CFDI increased in African countries when they participated in the OBOR initiative, although the increase did not lead to a significant positive impact of CFDI on economic growth. In terms of theoretical implications, this paper can be summarized as follows.

The study contributes to two main theoretical perspectives that explain the effect of FDI on economic growth (Adams, 2009). Particularly, the modernization theory approach suggests that

FDI could improve a country's GDP through capital accumulation and technological spillovers. Based on modernization theory, this paper argues that participating in the OBOR initiative positively impacts capital accumulation in these countries and as a result promotes economic growth. However, the findings contradict this hypothesis. To understand this, one should distinguish between modernization theory and dependency theory. Dependency theory suggests that being dependent on FDI has a negative impact on GDP, which could be able to explain this paper's findings. Some argue that the presence of China in Africa is a form of neo-colonialism and that, via the large FDI and financial aid flows, Africa's economy has become dependent on China (Agbebi & Virtanen, 2017; Langan, 2018). Consequently, the dependency on financial foreign aid results in less motivation to work (Grosh et al., 2008). Additionally, the investing companies often obtain a monopoly position, excluding local investors, which increases inequality and growth stagnation (Ajayi, 2006; Rhagavan, 2000). The results of this paper cannot find existence in modernization theory, although that theory has been recognized in studies on FDI in Africa (Adams, 2009). However, the vast magnitude of the OBOR initiative and the intensity of CFDI towards the African countries is of great influence on these countries, making them more dependent on China every year. Based on this reasoning, the result of this paper can find existence in dependency theory and explain the negative growth rates.

This work also provides theoretical insights to better understand the determinants of FDI. Current theories on FDI determinants find their basis in the eclectic framework, which states the need for an ownership, internalization, and location advantage when engaging in FDI (Dunning, 1993). Based on the location advantage, this paper argues that the presence of natural resources positively affects CFDI, and states that participation in the OBOR and the presence of natural resources leads to more CFDI compared to not participating. Interestingly, the statistically insignificant effect of natural resources on CFDI suggests that CFDI is not driven

by the location advantage associated with the eclectic framework. It, therefore, appears that the results challenge the view of the eclectic framework on FDI determinants.

Moreover, the results are not in line with the expectations that participation in the OBOR leads to more CFDI. An explanation for this is the resource curse, a paradox referring to the failure of resource-rich countries to benefit fully from their abundance in resources. Via their abundance, exports of natural resources increase which leads to the attractiveness of rent-seeking and corruption (Busse and Gröning, 2013). Corruption and weak institutions lower the attractiveness for CFDI, as Chinese firms seem not to be attracted to countries with weak or poor institutions (Chen et al., 2020). The results of this paper showed that not participating in the OBOR prevailed, and there is a possibility that these countries suffer less of the resource curse compared to the countries that do participate in the OBOR initiative. Thereby, they have a better institutional landscape, making it more attractive for Chinese investors.

Lastly, this paper explained that state socialism logic provides privileges to SOEs, which guide these companies in the internationalization process (Tang, 2019). This paper sheds light on the theoretical understanding that the privileges received by SOEs are there. Moreover, it provides evidence of China's state capitalism system promoting global economic integration by encouraging FDI by SOEs via the OBOR – which is in line with the strategic rationale of the OBOR initiative.

5.2 Practical implications

From an international management perspective, this study presents an analysis of the Chinese move into Africa. The OBOR initiative has enhanced the relationship between China and the African countries. Knowing that the interrelationship between African countries and China is increasing, Chinese managers should take into account that the market on the African continent is growing. As shown, it has already resulted in more FDI flow from China toward

the African continent. In this growing market, there lie opportunities and challenges. Therefore, managers have to take into account some key factors for FDI in developing countries. Differences between China and the African continent emerge on different levels. For example, cultural differences play a crucial element in internationalization for MNEs (Hofstede, 1994). Managers may experience discrimination or unfamiliarity hazards due to a lack of experience and knowledge. Moreover, the difference in the quality of institutions is a key factor and can result in institutional distance, which in return can result in managers having difficulty attaining and maintaining legitimacy (Zaheer, 1995). If understood by the management, these differences can be leveraged towards opportunities by making use of local personnel, filling in the institutional voids, and making use of reverse knowledge transfers obtained from locals.

As regards the policy implications, this paper shows that African politicians and managers should be selective about the type of FDI they are trying to attract. As the results of this paper suggest, participating in the OBOR does lead to more CFDI, but does not necessarily positively affect growth. Therefore, African politicians and managers should weigh the type of FDI against the possible effects on growth of their country, as every type of FDI has a different effect. Moreover, the insignificant results regarding the effect of FDI on growth may indicate an insufficient FDI environment in African countries, rather than an example of FDI not playing a role in African OBOR countries' growth (Busse et al., 2016). Thereby, focusing on strengthening the institutional environment could promote the attractiveness of FDI. Moreover, strengthening institutions make the host countries more competent in taking advantage of the spillover effects of FDI. Lastly, politicians and managers might think of collaboration between different countries via regional economic cooperation to rapidly enhance political and economic stability.

5.3 Limitations and suggestions for future research

This paper has some limitations that must be recognized and can suggest directions for future research. First, this paper has used total FDI, which includes all types of investment entry modes. However, the effect on growth might be different per investment entry modes, such as mergers and acquisitions or greenfield investments. Thus, further research can utilize datasets by differencing between entry modes and their effect on growth. Moreover, data availability is a problem for certain African countries and relevant sectors. For example, controlling for cultural distances or institutional differences would have made the analysis more accurate, but data was lacking for several African countries. Data availability regarding the ownership of Chinese enterprises was a limitation as well since most data sources regarding this variable are in Chinese. Therefore, a smaller sample was available and was not comparable with the total FDI received by an African country. Future research may utilize a dataset with more information on Chinese state and non-state enterprises active in African OBOR countries. Moreover, future research might investigate in-depth the different levels of SOEs, whereas there are wholly owned SOEs and partially owned SOEs. These differences can have a substantial effect on the privileges received and, thereupon, on FDI.

Second, this paper has focused on one part of the eclectic framework, the location advantage. Within the location advantage, the focus was on natural resources. However, more location characteristics determine the investment choice of Chinese enterprises. For example, the host economy's market size might be a significant determinant when making FDI decisions. Therefore, suggested is to broaden the analysis and include these factors.

Finally, there is the concern that CFDI is industry-specific. This paper did not investigate Chinese FDI per industry sector, therefore future studies should do. In this fast-changing world, key pull factors for CFDI change and natural resources might not be the most prominent one

anymore. Therefore, certain industries might have a large positive influence on growth, whereas other depleting industries might have a negative influence on growth.

In conclusion, the One Belt One Road initiative has developed itself as an important factor in the African economy, as it has increased Chinese investment towards it. However, attracting FDI is only one side of the story, as no positive effect on African economic growth has been found. The other side is the impact FDI has on the economy, which depends on the host countries' institutional conditions. Managers and politicians have to be critical when attracting or engaging in FDI since the host countries' institutional developments and cultural differences are important factors to take into account. Moreover, this paper has shown that host countries should be cautious since becoming too dependent on foreign investments could negatively affect the economy. Therefore, tracking the developments of the OBOR initiative is important for the African continent. This study provided evidence on the effect of participating in the OBOR and the influence of state-owned enterprises on Chinese FDI. This, however, is only the tip of the iceberg. Over time, we will observe how this grandiose project will affect the African continent.

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7. APPENDIX

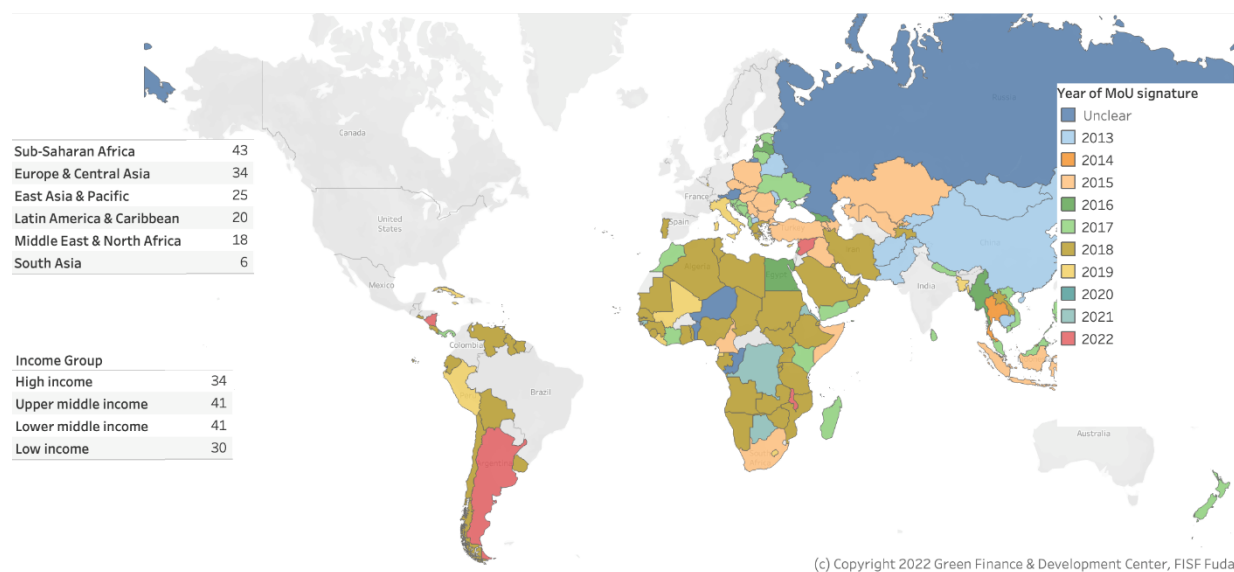*Figure 3: Countries of the OBOR initiative, by MoU signature and income group.*

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Table 9: Modified Wald test results for groupwise heteroskedasticity

Heteroskedasticity test growth model	
	Coef.
Chi-square test value	2.5e+34
P-value	.000
H0: No heteroskedasticity	

Heteroskedasticity test CFDI model	
	Coef.
Chi-square test value	1.6e+34
P-value	.000
H0: No heteroskedasticity	

Table 10: Breusch-Godfrey test results for serial correlation

Serial correlation test growth model	
	Coef.
Chi-square test value	10.68
P-value	.002
H0: No serial correlation	

Heteroskedasticity test CFDI model	
	Coef.
Chi-square test value	9.71
P-value	.004
H0: No serial correlation	

Table 11: Hausman test results for model specification

Hausman (1978) specification test growth model	
	Coef.
Chi-square test value	4.41
P-value	.036
H0: Preferred model is random effects	

Hausman (1978) specification test CFDI model	
	Coef.
Chi-square test value	10.81
P-value	.029
H0: Preferred model is random effects	

Table 12: Sargan test results for overidentification

Sargan test growth model	
	Coef.
Chi-square test value	27.21
P-value	0.708
H0: Overidentifying restrictions are valid	

Sargan test CFDI model	
	Coef.
Chi-square test value	65.60
P-value	0.355
H0: Overidentifying restrictions are valid	