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The Effect of Chinese Foreign Direct Investment on Economic Growth in the Asian Region

Chase Ta
Skidmore College, cta@skidmore.edu

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While writing this thesis, I have not witnessed any wrongdoing, nor have I personally violated any conditions of the Skidmore College Honor Code.

Name: Chase Ta

Signature: Chase Ta

Abstract

This paper examines the effect of Foreign Direct Investment (FDI) on economic growth. Following a theoretical model of endogenous growth to analyze this relationship, I use a log linear regression with country and time fixed effects. I focus specifically on Chinese FDI in 6 Asian countries: Hong Kong, South Korea, Indonesia, Thailand, Malaysia, and the Philippines. I reach the conclusion that FDI does not have a significant impact in this particular case. I further conclude that the growth rate of the population and the level of human capital have a significant effect on economic growth.

1. Introduction

China's spectacular economic growth and their transformation from an agriculture dependent economy to a manufacturing powerhouse has garnered attention from scholars, business professionals, and politicians alike. From 1978 to 2013 the Chinese economy grew at an average of 10%. In addition, an estimated 800 million people were lifted out of poverty and infant mortality was reduced by 85% in China (Tepperman, 2018). Beginning in 1999, the Chinese government started their "Go Global" initiative which encouraged Chinese companies which were mainly state owned enterprises (SOE), to expand abroad. In 2001, China became a member of the World Trade Organization (WTO) in a move that would highlight China's transition from a command economy to a more market based economy. By 2012, China had become the largest importer and exporter of merchandise goods. China was able to achieve such growth due to low labor cost and thus the ability to manufacture at a cheaper price than other developed countries. In 2012, China's current leader Xi Jinping was nominated; a year later, he announced China's new "Belt and Road Initiative (BRI)." The new initiative aims at improving existing infrastructure to encourage more efficient trade and promote regional and international cooperation; the BRI would extend from East Asia to Europe. The Chinese government's vision of the BRI is to build an extensive network of infrastructures worldwide that includes railways, pipelines, and highways (Chatzky and McBride, 2019). As of 2018, 65 countries with a combined GDP of $23 trillion and a total population of 4.4 billion had signed up to be a part of the BRI (Huang and Zhao, 2018). Countries will benefit from the improved infrastructure by being more connected with each other and thus expanding their investment opportunities.

In 1999 when China announced their Go Global initiative total Foreign Direct Investment (FDI) outflow was less than $1 billion (See figure 1). At the end of 2017, total outward Chinese

FDI amounted to over $124 billion. There exists a vast literature surrounding the effects of FDI on economic growth. Amongst those studies, it is generally agreed upon that FDI has a positive effect on economic growth. Still, some scholars have found that FDI can have negative effects on growth within the host country (Kalaitzidakis, Mamuneas, & Stengos, 2002). FDI can positively and negatively affect a host country through various channels including: technology transfer, increased competition, capital formation, and the ability to allow a host country to enter the global economy (Forte and Moura, 2013). A large portion of the literature is focused on the level of human capital in the host country and its relationship with foreign direct investment. In countries that do not meet a certain level of educational attainment, it is found that FDI has a negative impact (Borensztein. De Gregorio, & Lee, 1998; Forte and Moura, 2013). Another interesting part of the literature arises when authors compare and contrast the different models and variables used for cross country regressions. Kalaitzidakis et. al., (2002) concludes that the difference in results within the literature is attributable to the different variable sets that researchers have chosen to use (Levine and Renelt, 1992). The current research lacks consistency and is rather ambiguous. In other words, there are three different, but accepted research findings: FDI is not significantly linked to economic growth, FDI negatively affects economic growth, and FDI positively affects economic growth (Forte and Moura, 2013; Doku, Akuma, & Owusu-Afryiyie, 2017; Kalaitzidakis et. al., 2002). Due to the lack of agreement in the literature, a more detailed analysis is needed. The majority of papers within the growth literature focuses on cross country regressions that include multiple developed and developing countries. Although these papers allow for more data points, it does not decipher between the difference of preferences that countries or MNC's from different countries might have when tasked with choosing where and how to invest in foreign countries. There is not enough research that has been focused on specific

FDI from one country or the relationship of FDI from one country on multiple developing countries.

The point of this paper will be to isolate and investigate the effect of Chinese specific foreign direct investment on economic growth in six Asian countries by utilizing a cross country log linear regression with country and time fixed effects. This paper is organized into five sections. Section 2 examines the current literature focused on economic growth and FDI which motivates my empirical investigation; Section 3 provides an account of the data used in the empirical analysis and describes the methodology; Section 4 reports the regression results; and Section 5 presents concluding remarks and policy implications.

2. Literature Review

2.1 Theoretical Framework

The relationship between FDI and economic growth has been widely studied and disputed within the literature on economic development. The empirical work and growth models are based on two main theories: the neoclassical theory and the endogenous theory. Rosa Forte and Rui Moura (2013) explain that under the neoclassical growth model long run economic growth is a result of labor force, population growth, and technological progress. Additionally, due to diminishing returns to capital, FDI is seen only as a stimulus in the short run. However, in the long run, the host country will return to their steady state. Thus, the only way for FDI to promote growth under the neoclassical model is through effective technological progress. The issue with the neoclassical model is that it does not take into account internal development. For example, as a country gains new technological prowess and is increasingly more globalized, the citizens and governments will become wiser and be able to create more effective policies.

The endogenous theory states that growth not only depends on the parameters of production and utility function, as mentioned in the neoclassical model, but also on other factors which includes quality of the labor force, size of the population, and fiscal/monetary/trade policies (Bende-Nabende, Ford, & Slater, 2001). Under the endogenous theory, FDI is expected to increase growth through technological progress and capital formation; however, FDI is expected to have the greatest effect on a host country through the transfer of knowledge or management practices (Forte and Moura, 2013).

2.2 FDI Locational Choice

FDI is the investment in foreign countries which includes the transfer of capital, knowledge, and advance technologies. FDI locational choices are determined for a variety of reasons and can affect a host country through a handful of channels. The point of this paper is to examine Chinese specific Outward Foreign Direct Investment (OFDI) and its effect on economic growth in other Asian countries. As China's economy continues to grow and increases its OFDI, it is imperative to study the implications of how Chinese OFDI will affect the host country. According to statistics released by the Ministry of Commerce of the People's Republic of China (MOFCOM) over 65% of Chinese OFDI in 2013 (See figure 2) was to the Asia region—highlighting China's preference to invest regionally (Deng, 2004). Further, the tendency of large Asian Multi-National Corporation's (MNCs) in Japan and Korea are also to expand regionally rather than globally (Oh and Rugman, 2007). Research has shown that the majority of MNCs are not as global as we imagine and that they actually operate on a more regional basis (Rugman and Li, 2007). For example, Alan Rugman and Jing Li (2007) found that amongst the 75 largest Asian firms in the global top 500, 77.9% of sales are in their home region compared to the non-Asian firms who average 74.6% of sales in their home region. As such, Asian firms have more of

a tendency to expand regionally. In 2002 to 2003, 60.51% of all FDI outflow went to Asia Pacific countries compared to the 12.82% that went to North America (Rugman and Li, 2007)

When deciding where to invest, China focuses on five main factors: resource seeking, technology seeking, market-seeking, diversification, and strategic asset. Still, the two most influential considerations are technology and natural resources (Deng, 2004). For advanced technology, China is more likely to invest in a developed country such as countries in the EU or the United States. On the other hand, China will invest in developing countries for the rich natural resources and large labor supply such as those in the Southeast Asia region or Africa (Deng, 2004; Morck, Young, & Zhao, 2008).

It is important to examine the underlying determinants of outward Chinese FDI as it is does not necessarily follow conventional market seeking behavior, and thus, may have different effects than conventional FDI. Jun Shen and Li Li (2017) examine outward Chinese FDI locational choices and investigate whether the decisions follow market rationality. The authors analyzed Chinese OFDI in 65 countries and their variable set includes: political risk, market size, culture distance, geographical distance, the health of the economy, and they compare the effect of FDI on developed versus developing countries. The authors report that China does follow conventional wisdom in developed countries meaning they seek out good growth opportunities. However, in developing countries it is concluded that Chinese OFDI does not follow market rationality; rather, China invests in countries with high political instability that have a large market and abundance of natural resources like those in Africa (Shen and Li, 2017).

Yuanfei Kang and Fuming Jiang (2012) further explore what fuels Chinese MNC's foreign direct investment location decisions specifically in the Asian region. Their paper looks at traditional economic factors including GDP per capita and institutional perspectives like

economic freedom and culture. Their paper divides eight Asian countries into two different groups: developed and developing.

Kang and Jang (2012) reported results were sharply different between developed and developing countries. The difference in results contributes to the ongoing literature and shows the need to further examine the effect of FDI on economic growth. Kang and Jiang (2012) conclude that economic freedom has a significant and positive effect on developed countries but has a negative effect on Chinese FDI location choice in developing countries. A one percent increase in economic freedom actually leads to a decrease in Chinese FDI by 18.16% in developing countries, holding all other variables constant (Kang and Jiang, 2012). Additionally, the significance of the explanatory variables differed over time. From 1995 to 2000, FDI restriction was positive and significant but from 2001 to 2007, GDP growth and openness to global economy were positive and significant. A main criticism of the paper is that the variable set did not include a measure of human capital, surely the difference between levels of education of the workforce is different in developed and developing countries. Despite this, the results were similar to other papers. Chinese OFDI does not follow conventional market rationally and instead focuses on developing countries with large natural resources, population sizes, and is not deterred by political instability (Kang and Jiang, 2012; Shen and Li, 2017; Bende-Nabende et. al., 2001).

Bee Tan and Char Tang (2016) examined the relationship between domestic investment, FDI, and economic growth within the ASEAN-5. The ASEAN-5 consists of: Indonesia, Malaysia, Philippines, Thailand, and Vietnam. The determinants of FDI location choices changes on a country basis—suggesting that heterogeneity amongst Asian countries exists. For example, economic growth is vital in attracting FDI and domestic investment in Malaysia and Indonesia,

but not in the other three countries. In Philippines, Singapore, and Thailand it is found that there is a long term causal relationship between domestic investment and FDI (Tan and Tang, 2016).

Chee-Keong Choong and Venus Khim-Sen Liew (2009) study the effect of FDI volatility on economic growth on the ASEAN-5. FDI volatility and economic growth have a reported inverse relationship. The higher the FDI volatility the lower the economic growth (Choong and Liew, 2009). Volatile FDI can affect the level of economic growth in a country because higher level of FDI leads to higher levels of output through technology or knowledge spillover. However, at the same time that investment increases so does the demand for country specific advantages (CSA) like the need for natural resources. The increase in demand raises the input prices thus reducing profit and could lead to a decline of future investment (Choong and Liew, 2009). Additionally, FDI volatility may reflect political or economic instability in a country and also deter FDI. However, it is important to note that research has pointed to low volatility of Chinese specific OFDI. The 2008 financial crisis did not change the mode of China OFDI (Shen and Li, 2017) and it was found that after the 2008 crisis that other developed countries or MNC's from developed countries were investing less in developing countries and more in developed countries. Instead, China invested in large scales to countries with political risk such as African countries and China's investment share is lower in developed countries with low political risk than that in developing countries (Shen and Li, 2017). Volatility of FDI affect economic growth by destabilizing economic performance (Choong and Liew, 2009; Lensink and Morrissey 2006).

2.3 General Growth Literature

The research dedicated to the effects of foreign direct investment on economic growth has a deep and controversial history, with scholars reaching both positive and negative conclusions. In general, FDI is agreed upon to have a positive impact on economic growth

(Borensztein et. al., 1998) but others have found that FDI actually has negative impact on economic growth (Kalaitzidakis et. al., 2002; Forte and Moura, 2013). Hooi Lean and Bee Tan (2011) reported no causal relationship between FDI and economic growth.

Borensztein et. al., (1998) empirically examined the relationship of foreign direct investment (FDI) from industrialized countries to 69 developing countries based on a model of endogenous growth and the assumption of a linear relationship between FDI and economic growth. The authors test the impact of FDI on economic growth using a cross country regression model including a measure of the host country's external environment (factors of production), human capital (measured by educational achievement), and physical capital. FDI is concluded to have a positive overall effect on economic growth but it depends on the level of human capital available (Borensztein et. al., 1998). The transfer of technology and skills needed will increase human capital but if the gap between host country and foreign MNC is already too large then MNC's may choose to invest elsewhere. Further, in countries that do not meet a particular threshold of human capital, FDI is found to have a negative impact. However, the authors do conclude that interaction of human capital and FDI has more positive impact on economic growth than either entities alone.

Borensztein et. al., (1998) paper provided a good foundation on the relationship of FDI and economic growth and motivated my empirical investigation due to the shortcomings in the research. The authors assume a linear relationship between FDI and economic growth and their paper suffers from an endogeneity problem which arises due to the use international flow of foreign direct investment as proxy for FDI. The use of this variable is correlated with the error term, not all FDI channels are captured since the international flow of funds does not capture when a MNC raises debt or equity in domestic markets.

Due to the controversial evidence and conclusions that have been found within the literature, Ross Levine and David Renelt, (1992) proposed using an extreme bound analysis (EBA) to study the sensitivity of variables in cross country regression models. Their analysis included 119 countries and examined the time period from 1974 to 1989. Over 50 explanatory variables have been found to have a significant impact on economic growth. The aim of the study is to examine the fragility of each variable in order to distinguish which variables actually have a consistent effect over many models (Levine and Renelt, 1992). The main conclusion was that the significance of explanatory variables and their directional effect on growth rates changed depending on which other variables were being controlled for.

The use of EBA introduces multicollinearity which is problematic. For example, the EBA estimates that share of investment in GDP is significantly and positively correlated with economic growth and so is trade output but trade output is also correlated with share of investment in GDP. However, according to Levine and Renelt (1992) multicollinearity is an issue with the data because it reflects not enough independent variation within the variables and the authors recommend to keep the regression model to a maximum of 8 variables.

The main problem with models that used EBA is that it tests the variable for specification but the model may not be as specified which leads to biased results (Kalaitzidakis et. al., 2002). The aim of Kalaitzidakis et. al., (2002) paper is to build on that of Levine and Renelt (1992) by identifying which variables are the most robust and should be implemented in other growth models. The authors conduct a pair wise comparison between different models using a non-nested hypothesis test. To test the fragility of each variable, each model included a set of basic explanatory variables and then differed from one another by having a different set of fiscal, monetary, or political variables. The empirical analysis consists of data on 88 different countries

from 1960 to 1989 and made over 380 comparisons between models. Kalaitzidakis et. al., (2002) concludes that based on the model comparisons the variables that are most robust are: government consumption as share of GDP, black market exchange rate premium, export as share of GDP, import as share of GDP, standard deviation of the growth of domestic credit, and standard deviation of inflation. The main problem with this study is its failure to test a more exhaustive list of control variables, the authors only tested 10 different variables total. The models could be suffering from omitted variable bias.

Rosa Forte and Rui Moure (2013) published another paper that aims to explain the discrepancy of FDI's effects on economic growth. FDI is believed to influence the host country's economic growth through transfer of new technologies, know-how, human capital formation, entrance into new markets, and ability to increase competition. Further, the effects of FDI on economic growth depend on the level of existing human capital, technological, and economic conditions.

FDI's effect on economic growth through technology transfer can be good or bad. MNCs can improve a host country's performance through the "transmission effect" of more advanced technologies and management practices (Forte and Moura, 2013). Further, it is often regarded that MNCs are the most innovative companies as they spend the most on research and development (R&D) (Borensztein et. al., 1998; Kang and Jiang, 2012). It is expected that technology advancements can have a spillover effect through backward linkages with local suppliers or firms. Backward linkage is when the necessary skills and knowledge is taught to the local labor force in a host country in order for the MNC to operate and successfully produce their product (Forte and Moura, 2013). Another spillover is the spillover of knowledge to local

research entities such as colleges or universities. The collaboration between local colleges—who train the local work force—and foreign MNC's echo the findings of Borensztein et. al., (1998).

Foreign direct investment can impact economic growth through a range of channels; however, technological progress is seen as the most influential method (Borensztein et. al., 1998). Nonetheless, there is mixed conclusions surrounding how technology transfer influences economic growth. On one hand of the research, scholars believe that in countries where the technology gap is very large between host country and MNC that it is easy for local firms to adopt new technologies and that new technologies will be quickly implemented (Forte and Moura, 2013) but on the other hand, scholars argue that the factors including the technology gap, stock of human capital and physical infrastructure all influence to which country FDI is directed (Deng, 2004). Borensztein et. al., (1998) also reported that if the technology gap is too large then MNC's may choose to invest elsewhere.

Improvement of human capital in a host country is due to the new training workers receive. When MNC's expand they invest in the training of their new workforce because typically the MNC is introducing new technology that leads to the investment to provide the necessary skills to use the new technology (Bende-Nabende et. al., 2001; Borensztein et. al., 1998; Forte and Moura, 2013). By providing a new level of skills to the labor force it allows for employees to switch jobs or to use the skills to open up their own business: all of which ejects stimulus into the economy. However, FDI can prohibit economic growth if the increased technology lead to a reduction in physical labor which can lead to a reduction in employment (Forte and Moura, 2013).

FDI can increase competition and a country's presence in the global economy by boosting foreign trade flows. Positive effects occur when FDI contributes to higher exports (Kalaitzidakis

et. al., 2002; Forte and Moura, 2013). Through exporting, local firms in host countries can become subcontractors for MNCs. MNCS can then transfer knowledge of the global landscape to local firms. MNCs can enter markets with high barriers in foreign countries due to their superiority in capital and disrupt the national economy. Further, due to the increased competition between MNCs and local firms, the local firm will invest more in research and development or learn how to use technology more effectively. However, FDI can have a negative impact if the MNC buys a local firms or produces a product at lower cost: effectively displacing domestic firms (Forte and Moura 2013; Rugman and Li, 2007).

2.4 Specific Cases of Chinese FDI

Doku, Akuma, and Owusu-Afriyie (2017) contribute to the ongoing literature by examining the effect of Chinese Outward Foreign Direct Investment (OFDI) on Africa's economic growth. Within the literature on FDI's effect on emerging markets, the general consensus is that FDI does promote economic growth but can have negative effects such as crowding out local firms and displacing jobs (Doku et al., 2017; Forte and Moura, 2013). In Doku et. al., (2017) publication the paper uses panel data on 20 different countries and a least square regression with country and time fixed effects. The use of only 20 countries was due to the lack of data availability for other countries in Africa, this is one of the setbacks of said study. Similar to Southeast Asia, Africa has seen increase in Chinese FDI and has become a point of interest within the globalization literature. However, the use of 20 countries to analyze a continent comprised of 54 countries may lead to biased results. The authors use the common explanatory variables within the literature but also add diverse variables including internet use per 100 people.

Doku et. al., (2017) find that Chinese FDI plays an important role in economic growth and development of the continent. A one per cent increase in China's FDI stock in Africa leads to GDP growth of .607 per cent in Africa. Chinese FDI helps Africa's growth because it expands the availability of goods and lowers prices for consumers. Chinese FDI allows for lower cost of capital goods and transport equipment which then benefits Africa's infrastructure sector and lowers the barriers to enter (Doku et. al., 2017). However, in sectors where Africa and China compete, like in the furniture industry, as Chinese exports increase, there is a reduction in African production and increase in unemployment. As a result, manufactures in Africa close due to increased competition. Further, due to the increase in manufacturing there is an increase in electricity usage which is reported to have negative and significant effect on economic growth (Doku et. al., 2017; Forte and Moura, 2013). With these findings in mind, the authors suggest that Africa's government should implement more open trade policies including reduced tariffs, free visas, easier investment processes, and a less bureaucratic process for Chinese Investors to obtain business operation permits.

The authors did not account for human capital or technological spillover and did not study the correlation between political risk and FDI. It has been noted that China does not significantly consider political risk and actually invest heavily in countries with high political risk (Shen and Li, 2017). One way to enhance this study would be to examine the difference between African countries with higher political risk and lower political risk and see if Chinese FDI has a different effect on economic growth.

Bende-Nabende et. al., (2001) aimed to contribute to the ongoing growth literature by primarily focusing on the ASEAN-5.The primary purpose of the paper is to examine the effect FDI has had on the economic growth and to determine the determinants of FDI location choice.

The authors run a time series regression with random effects in a per country analysis from 1970 to 1976. The authors choose a model of endogenous growth versus neoclassical growth and added variables such as monetary, fiscal, and political variables that are not captured under the neoclassical model.

The author's findings are no different than that in the literature, the results are widespread and inconclusive. For example, technology transfer is found to be significant and positive for four of the five countries tested which hints at the important of a stable government (Bende-Nabende et. al., 2001). FDI is found to have a positive and significant impact on economic growth for Indonesia, Malaysia, and Philippines but not Singapore. This could be due the need of FDI in less developed countries and the possibility that FDI crowds out domestic investment in a developed country such as Singapore (Forte and Moura, 2013; Levine and Renelt, 1992). International trade was found to be negatively significant for Indonesia and Malaysia. Finally, human capital was found to have a positive coefficient for all countries but only singnificant for Malaysia (Bende-Nabende et. al., 2001).

The authors' paper is also plagued by multicollinearity problems with the variables chosen. The authors used enrollment in secondary school as well as government expenditure on education, surely the two move in a relationship. As the government spends more on education, it will allow for more schools to be built, more teachers to be hired, and thus increases the scope of those who can obtain an education. Another criticism of this study is the lack of data points. To consider only 6 years is not encompassing enough and the authors never identified which country the FDI inflows were from or if it was from a whole basket of countries.

Alan M. Rugman and Jing Li (2007) suggest that one reason for the lack of economic growth from FDI could be due to the lack of firm specific advantages (FSA) found in Chinese

MNCs. Compared to Western firms it is found that Chinese MNC's lag behind in the development of FSAs and in particular, technology. Chinese MNCs are labor intensive, low technology, and are resource based. Thus raising the question if Chinese MNCs have FSAs or are just taking advantage of natural resources. Economic growth is more likely to happen through technological spillover than the exploitation of another country's national resources (Nolan, 2004). Further, Chinese MNCs are unable to innovate at the same pace as their western counterparts due to their reliance on partnerships or joint ventures. Li and Zhou (2008) find that in an industry where joint ventures are present that there is an inverted u shape impact on Chinese MNCs capabilities. Suggesting that in the short term there is technology spillover, possibly due to the start of a joint venture and introduction to new technology between the two companies, but as time goes on that impact decreases.

3. Data and Methodology:

3.1 Data

The purpose of this section is to describe the dataset and variables I used in order to conduct my empirical analysis (See table 2). I collected and formed a panel data on six countries: Hong Kong, South Korea, Indonesia, Malaysia, Thailand, and the Philippines from 2007 to 2017. I utilized a timeframe of 2007 to 2017 because that was the only time period I could find total Chinese FDI stock in each country. To my knowledge, no other study that is specifically testing the effect of Chinese FDI on economic growth in other Asian countries has used a similar time range. Thus, by updating the time period, to include the years that experienced the 2008 recession and a transition in power, I add to the ongoing literature and it will be a modernization of the previous literature. I chose to use this time period because of the vast new amounts of FDI

that has been flowing from China to the Asian region. Due to China's global policies such as the Go Global initiative in 1999 and the Belt and Road initiative in 2013, China's FDI has seen an exponential amount of growth (See figure 2). The majority of the data is taken from the World Bank (2018), Statista (2018), UNESCO (2018), and Transparency International (2018). The point of this paper is to test the impact of Chinese outward foreign direct investment on economic growth in the Asian region. As previously mentioned, a challenge that other researches have faced when testing the effects of FDI on economic growth is the inability to identify accurate and efficient proxies or variables.

I used data on six different Asian Countries: Hong Kong, South Korea, Indonesia, Malaysia, Thailand, and the Philippines in attempt to capture the differences of FDI on economic growth within a diverse range of Asian countries. Each country receives a different level of FDI from China due to an abundance of reasons including: tax laws, level of natural resources, and technology (Deng, 2004; Rugman and Li, 2007). I included various countries from across the region in order to analyze the widespread impact created by the presence of China in order to provide more holistic policy recommendations. I was able to contain all necessary data for all countries include within the panel data set.

Next, I created a dummy variable for each year that separates the high income countries from the low income countries. To be considered a high income country for that given year, the country of interest's GDP had to be higher than the average GDP of the group in that given year. I created this proxy myself and thus has not been used as an official measure of wealth by previous literature.

Over the past 20 years, China has been increasing its international presence through economic revitalization. In 1999, China's GDP was $2,061,986,771,776 and in 2018 it was

$10,161,012,758,870. The country has transformed itself from an agriculture economy to the world's second's largest economy. China has been investing in its Asian neighbors and as a result, their trade relationship has exponentially expanded. The effects of Chinese FDI are not just related to trade but can also have a technological spillover effect that then affects the level of human capital in a host country. Chinese FDI has had mixed effects on the economic growth within the Asian region. It has been found to significantly impact growth in certain countries and not others (Bende-Nabende et. al., 2001). As a result, my study is aiming to fill gaps within the research. My paper discussed economic theories related to globalization and economic development with a focus on the effects of FDI; I tested if the theories hold true or if Chinese FDI is unique and has its own effect on a host county's economic growth. By using data from 2007 to 2017, my data is more representative of the current state of China; the data includes the effects of the 2008 recession as well as a change in leadership from Hu Jintao to the current leader, Xi Jinping. In addition to looking at the ten year time period, I created a dummy variable that divides the ten year period into two five year periods: 2007 to 2012 and 2012 to 2017. I did so because the database I used, in order to quantify and measure corruption, modified its measurement scheme after 2011 and because in 2012, Xi Jinping took over the as the president of the People's Republic of China.

In order to measure the effect of FDI on economic growth, I set my dependent variable as a measure of economic growth. My dependent variable was the percent change in GDP per capita. The percent change in GDP per capita captures growth in personal income year over year which is symbolic of a country's economic health. As GDP per capita gets higher, it indicates that citizens in the country are increasing their income which then stimulates economic activity and pushes the economy forward. Further, the percent change in GDP per capita is the most

common dependent variable used within the globalization literature (Borensztein et. al., 1998; Kalaitzidakis et. al., 2002; Forte and Moura, 2013). Using GDP per capita makes it easier to compare country to country as this is a fixed measure and is not measured differently on a per country basis. I was able to obtain data on each country's GDP per capita growth for each year from the World Bank Indicators (2018).

The main independent variable of my paper is the total stock of FDI. Total stock of Chinese FDI is a measure of the total investment in a given country at a given time. I used total stock to reduce bias from omitted variables that could arise by using FDI net inflows or some other proxy (Doku et. al., 2017; Tan and Tang, 2016). The data for total stock of Chinese FDI was obtained from Statista (2018). I used total stock of Chinese FDI as an independent variable in order to test the effects of Chinese FDI on economic growth. It is common within the literature to do so. Since Chinese FDI has been found to have different effects on developed and developing countries (Choong and Liew, 2009; Lensink and Morrissey 2006; Shen and Li, 2017), I was able to test the differences in effects due to my dummy variable for wealth. Furthermore, I believe it is safe to assume that the relationship between China and these Asian countries will only intensify due to the future of the "Belt and Road" initiative (BRI) which aims to build infrastructures connecting the world but mainly Asia and Europe (Chatzky and McBride, 2019). Because of this, it is important to understand the effects of Chinese FDI and design policies in order to best accommodate the host country and their economic prospects too. Next, I assume a nonlinear relationship between GDP per capita growth and FDI. As a result, I transformed the total stock of Chinese FDI into a log variable by taking the log of the total stock each year. The reason for doing so is that the effects of FDI will not be felt as great the bigger the total stock gets compared to when FDI was relatively new to the host country.

Previous literature have concluded the technological spillover effect of FDI. The reason that FDI has a technological spillover effect on a host country is due to the advanced technologies and management practices that are introduced. MNC's or governments from developed countries invest in developing countries for their natural resources or cheap labor cost (Kang and Jang, 2012) and in return introduce new technology to the host country. As a result, the MNC will train the local labor force on how to use the technology or on whatever else they will need to know which is beneficial for the local labor force since it increases their capabilities and knowledge. Additionally, if the MNC is successful then it will be able to employ more locals which then increase employment and disposable income.

In order to measure for technological spillover, I used human capital as a proxy. Human capital has been generally agreed upon to be a very important determinant of Chinese FDI locational choice (Kang and Jiang, 2012; Deng, 2004) and is widely used in the literature as a measure of technological progress (Levine and Renelt, 1992). Further, the interaction of FDI and human capital has been found to have a higher impact on economic growth than either alone; however, if the level of human capital does not meet a certain threshold than FDI has been found to actually have a negative impact on economic growth (Borensztein et. al., 1998). To measure human capital, I used net secondary school enrollment rate. The data on enrollment rates was taken from the UNESCO Institute for Statistics (2018). The reason for choosing net versus gross enrollment rate, is that net captures the students who are the official age for secondary school. Meaning that pupils who are older than the expected age are not included in the net enrollment rate. Net enrollment rate is preferred as I believe it portrays how many more pupils are actually able to be enrolled in their right grade at the right age, I assume that if more kids can enroll at the

right age then more parents are increasing their income and relying less on the labor of their children.

One variable that has been found to be important in the directional flow of Chinese OFDI is political risk or corruption. When determining where Chinese FDI should go, Kang and Jiang, (2012) found that more political stable countries are more attractive. However, Shen and Li (2017) published that China does not follow conventional market rationally when investing in developing countries: China invests in large quantities in countries with high political risk such as African Countries while its investment share is lower in developed countries than it is in developing countries (Shen and Li, 2017). Even though corruption has been found to be an important determinant of FDI location choice (Kang and Jiang, 2012), not much research has been done on the effect of FDI in curtailing or promoting corruption in a host country. By adding an independent variable that measures corruption, I hope to shed a new light on the literature. To measure for corruption I took the score of corruption for each country from Transparency International (2018). Transparency International is a database that measures the corruption level in each country then scores them on a score of 1-10. As previously mentioned, Transparency International changed their scoring scheme from 0-1 to 1-10 after 2011 which does raise one problem with comparing year over year in the full regression model.

To account for the difference, I implemented a time variable which was talked about previously. Next, I created a dummy variable to separate high corruption countries from low corruption countries. I follow a similar process in order to differ between the two as I did for the dummy variable for a host country's wealth. A country was deemed a high corruption country in a given year if their corruption level for that year was higher than the average corruption level

for the group. Again, this is a measure I created by myself and is not used by any official publication.

The remainder of the independent variables that will be discussed are aimed to measure the state of the country's external environment as well as the necessary pre conditions I believe are related to economic growth. The variables include a common set of economic, monetary, and fiscal variables that are used by previous studies that also employed a model of endogenous growth (Borensztein et. al., 1998; Kalaitzidakis et. al., 2002; Forte and Moura, 2013; Levine and Renelt, 1992). For the remainder of the data section, I will outline the rest of the independent variables that I believe have best been found to describe economic growth.

The common set of economic variables includes: Chinese FDI, human capital, and level of wealth which have all been discussed already. The last variable included in the common set of economic variables is growth rate of a population. Ross Levine and David Renelt (1992) compared cross country regression models to test their explanatory variables robustness and found that the growth rate of population is one of the robust significant explanatory variables. A higher or lower population also effects the economy of a country in terms of total productivity. The growth rate captures the change in population, one would expect that higher population can provide more workers which then effects the attractiveness of a host country (Deng, 2004).

Another independent variable is government expenditure. Government expenditure is measured as a percentage of GDP. Government expenditure serves as a proxy for domestic investment in a host country. It has been found that FDI can have a negative impact on economic growth in developed countries like Singapore because FDI crowds out domestic investment in developed countries (Tan and Tang, 2016). The use of this variable is common within the literature (Levine and Renelt, 1992). The final two independent variables are death rate and

inflation. I used the crude death rate per 1,000 people as an independent variable. As a country becomes more developed their death rate is expected to decrease due to advancements in medicine and technology. To measure inflation, I use the GDP deflator. The data on government consumption, death rate, and inflation were all taken from the World Bank Indicators (2018).The reason for using the GDP deflator versus other measures of inflation such as the consumer price index (CPI) is because the GDP deflator more accurately captures changes to the host country's economy. Since the CPI is based on a basket of fixed goods, it may not capture changes in prices outside that basket. On the other hand, the GDP deflator is not based on a fixed basket of goods and the introduction of new goods or changes in price are automatically reflected, making it a better proxy than CPI. As a country develops, new products will be introduced which would not be captured by the CPI.

3.2 Methodology

This section will describe the paper's model and define the variables. My model will follow the endogenous growth theory that has been previously discussed (Kalaitzidakis et. al., 2002; Forte and Moura, 2013). To empirically examine this theory, I will use a log linear regression with country and time fixed effects. The majority of the literature assumes a linear relationship and use an OLS regression with random effects, I disagree with this approach because I expect that as FDI gets larger the effects are not as great on a host country and thus it is not a linear relationship. Additionally, the majority of papers focus on the FDI from multiple developed countries instead, I will be focusing solely on Chinese FDI. Doku et. al., (2017) published a similar study but instead the authors looked at the effects of Chinese FDI on economic growth in Africa, their paper also did not assume a linear relationship and employed a fixed effects model. Past literature has mixed results but generally agree that FDI will have a

positive impact on a host country's economic growth; however, the literature is so controversial that no definite answer has been reached. I expect that FDI will have a positive impact on economic growth especially in developing countries (Bende-Nabende et. al., 2001). One problem with the findings of other studies are the fragility of answers due to the variables they chose to use (Kalaitzidakis et. al., 2002). This could be due the lack of the researcher to include all necessary variables that are pre-conditions or necessary to economic growth. I hope to include variables that are essential to growth, some have been commonly used and some have not been given enough attention. My unique mix of variables which includes the common variables used in previous growth literature as well as new variables will allow me to maintain consistency with other papers while also diversifying my paper.

3.3 Variables

I set forth a conclusive set of variables that will be used in this paper. The variables used in this study are taken and the adapted from existing literature centered on the effect of FDI on economic growth (Borensztein et. al., 1998; Doku et. al., 2017; Forte and Moura, 2013).

LogFDI: This variable captures the total stock of Chinese FDI in a host country. Along the lines of Borensztein et. al., (1998) I chose to use total stock versus net inflows. Unlike other papers though that have assumed a linear relationship, I do not and thus, transformed the variable into a log version. LogFDI is my main variable of interest and is measured in constant 2010 US dollars.

HC: HC follows Ross Levine and David Renelt (1992), HC measures human capital which is represented by the net enrollment rate in secondary school in a given country. This is a common

variable used in the literature and is a proxy for technological progress (Borensztein et. al., 1998; or Bende-Nabende et. al, 2001).

GPO: This is the growth rate of the population year over year, it follows Ross Levine and David Renelt (1992). The growth rate of the population is usually included under the basket of common explanatory economic variables

TYPE: Similar to Shen and Li (2017) who examined over 50 countries to determine locational choice of Chinese FDI, I have created a dummy variable to divide the group into high income or low income. In order to determine if a country was developed or developing relative to the group, I first found the average GDP (measured in constant 2010 USD) for a given year. Then if a country had a GDP that was higher than the average they were assigned a one and considered a developed economy. The reason for doing so, was to examine if FDI has a different effect on the type of the economy. Bee W. Tan and Char F. Tang (2016) found that FDI has different impacts on developed and developing Asian countries.

GXP: This is government expenditure as a percentage of GDP. GXP is a common variable used in the endogenous growth model in order to measure domestic investment (Bende-Nabende et. al., 2001; Levine and Renelt, 1992)

DTH: This measures the death rate in a country. It is reported as deaths per 1,000 people. No other paper I read had used this variable, the reason I chose it was because I believe it is a good

measure of the country's development. As a country becomes more developed, healthcare and access to healthcare will also improve which should result in less deaths.

COR: This is a dummy variable to measure corruption. I took each country's corruption score from Transparency International. Similar to the dummy variable, TYPE, I found the average corruption level in a given year then assigned a one to a country whose corruption level for that same given year was higher than the average.

TIME: My data is from 2007 to 2017, the TIME variable is a dummy variable to split the time period into two five year periods. The two time periods are 2007 - 2012 and 2012 - 2017. The reason for choosing 2012 as the cutoff was mainly due to China's transition of power from Hu Jintao to the current leader, Xi Jinping in 2012

INF: My final variable is the annual inflation which is measured by the GDP deflator. This variable follows Kalaitzidakis et. al., (2002), the authors compared over 300 different cross country growth regression models and found that inflation was one of the few robust explanatory variables, meaning it is not affected by changes in the variable set.

3.4 Empirical Model:

$$Y_{it} = \beta_0 + \beta_1 logFDI_{it} + \beta_2 HC_{it} + \beta_3 GPO_{it} + \beta_5 Type_{it} + \beta_6 C_{it} + \in_{it}$$

This is my main empirical model. It is a log linear regression with country and time fixed effects. Y_{it} is the growth rate of real GDP per capita, $logFDI_{it}$ is the total stock of Chinese foreign direct investment in log form, HC_{it} is the net secondary school enrollment rate, GPO_{it} is the annual growth rate of the population, $Type_{it}$ is a dummy variable which equals 1 if the

country's GDP is higher than the average GDP of the group, C_{it} is a list of control variables that include government expenditure as a percentage of GDP, initial GDP per capita, trade ratios as a percentage to GDP, measures of corruption, death rate, annual inflation rate, and amount of domestic credit as percentage of GDP. $\in_{it}$, is the composite error term. For more details on each variable please see table 1 in the appendix. Descriptive statistics are reported in table3. It is important to note that due to the multicollinearity problem that resides in this model, I will also be running individual regressions where the dependent variable is still the growth rate of real GDP per capita, Y_{it}, and the independent variable will be only one explanatory variable . The reason for running these individual regressions is to show a relationship between the independent variable and dependent variable that is not subject to multicollinearity.

3.5 Robustness Check:

Prior to picking my final variable list, I had performed a VIF inflation test to see which variables were highly correlated. I ended up dropping four variables: initial real GDP per capita, export as a percentage of GDP, import as a percentage of GDP, trade as a percentage of GDP, and domestic credit as a percentage of GDP. The reason for dropping the four variables are because their VIF scores were higher than 10. The final variable list and their corresponding VIF scores are reported in table 2 in the appendix. It is important to note, that the mean VIF score is over five which means that multicollinearity is present and a problem for my analysis. However, the high VIF scores are similar to what has been seen in other papers (Kang and Jang, 2012).

Since this paper uses panel data, I performed a Hausmen test to decide between a random or fixed effects model. The results are reported at the bottom of table 4 in the appendix. I obtained a chi-square score of 9.80 which was significant at the 5% level. As a result, I failed to

reject my null hypothesis because the p-value was less than .05 and chose a fixed model over a random model

Nonetheless, I still have predictions for the expected signs within my model. Following previous literature, I expect logFDI, human capital (HC), growth rate of population (GPO), TIME dummy, and inflation to all be positive and significant (Borensztein et. al., 1998; Kalaitzidakis et. al., 2002; Levine and Renelt, 1992). I expect that in countries with high corruption as indicated by the COR dummy, that it will have a negative impact on economic growth. Based on the work of Bende-Nabende et. al, (2001), I expect that FDI is positive in developing countries but negative in developed countries. I believe that my model will be able to depict growth and highlight the effects of FDI on economic growth within different scenarios.

4. Results

4.1 Discussion of Results

In this section I will present my results and discuss them. The aim of this paper was examine the effect of Chinese FDI on economic growth in Asian countries. The main regression results and the r-square score are displayed in column 1 of table 4. I obtained a low r-squared score of .220 and all the constants are significant which indicates I may have left out other explanatory variables and that my model did not fully capture the explanation for economic growth. As shown in table 4, the majority of my variables turned out to be insignificant. Nonetheless, I still obtained some expected signs and significance. Again, it is important to note that the results presented in table 4 are subject to multicollinearity problems. As expected, logFDI, GPO, INF, and the TIME dummy were all positive. Growth rate of population (GPO) was significant at the 5% level and the annual inflation rate (INF) was significant at the 10%

level. If the growth rate of the population increased by 1% then the GDP per capita will increase by 4.56%, holding all other variables constant. I predicted that human capital would have a positive impact on economic growth but instead, my model shows that a 1% in human capital actually leads to decrease of .300% in GDP per capita and is significant at the 1% level. Government expenditure has a negative sign which means that an increase in government consumption hurts GDP per capita but is not significant. This could be due to government funds not being managed well (Levine and Renelt, 1992).

In the other columns of table 4 are the results of the main model being applied to alternate scenarios. As expected, FDI actually had a negative and significant impact on economic growth in developed countries (See column 2 table 4) but had a positive impact on developing countries. Similar to Kalaitzidakis et. al., (2002) and Rosa Forte and Rui Moura (2013) found that the explanatory variables within the growth literature are extremely fragile. My results are no different, the obtained signs and significance of the coefficients change depending on scenario. For example, in the main regression results (column 1 table 4) human capital is found to have a negative and significant impact on economic growth. However, when looking at human capital only from 2012 to 2017 (column 5 table 4), human capital is found to have a positive and significant impact on economic growth. This could be due to a handful of reasons, one possibility being the leadership switch in China to Xi Jinping, suggesting that his FDI outlook is different than his predecessor.

Another possibility according to Alan M. Rugman and Jing Li (2007) for the lack of economic growth from FDI could be due the lack of firm specific advantages found in Chinese MNCs. It is believed that compared to their Western firms, Chinese MNC's lag behind in the development of firm specific advantages and in particular, technology. One other intriguing

result is the obtained signs of government expenditure (GXP). GXP is negative for six of the seven scenarios but is positive and significant from 2012 to 2017 (column 5 table 4).

One unique variable that I added to my regression was the corruption dummy (COR). In the main regression (column 1 table 4), it was found that countries who were more corrupt actually had higher GDP per capita growth. However, in developed countries higher corruption actually has a negative impact on economic growth which was expected (column 2 table 4). The changes in sign is intriguing because it suggest that countries with high corruption grow more but in developed countries higher corruption impedes economic growth. One explanation for this finding is that China's FDI does not follow market rationality and China actually holds a larger investment share in developing countries with higher political instability than in developed countries and because China needs to secure natural resources which are rich in highly political instable areas like Southeast Asia and Africa (Shen and Li, 2017).

Next, I will discuss the results of the individual regressions. The results are reported in table 5 and as shown yielded significant results. The reported signs and coefficients are compelling. FDI, human capital, and government expenditure were found to negatively impact economic growth. Only human capital was found to be negative and significant. This finding reinforces that of the main regression which is also on display in column 1 of table 4 and column 1 of table 5. The negative sign obtained from government expenditure is also in line with the results reported in the main regression. The growth rate of a population, death rate, corruption dummy, inflation, and time were all reported to have a positive impact on GDP per capita. Death rate and time were not significant. The significance of the growth rate of the population confirms the findings of the main regression that a 1% increase in the growth rate of the population will lead to higher economic growth. As expected, inflation was positive and significant. The

significant and positive impact of the corruption dummy indicates that a more corrupt country will experience higher economic growth. I usually would not expect this but again, this could be due to the unique nature of Chinese FDI which invests heavily in countries with rich natural resources like those included in this study and is not deterred by political instability. The widespread results are in line with that of the literature. Still, the results are useful and will allow me to give policy recommendations.

4.2 Limitations

This study was not without its drawbacks. One major problem of this paper was the multicollinearity problem that is present and was detected by using VIFS. The problem with multicollinearity is that it affects the confidence level of my results because the results have been biased. Further, the purpose of this paper was to isolate the independent effect of Chinese FDI on economic growth while holding other variables constant. Since multicollinearity is present, we are unable to interpret the results as such and must keep in mind that a change in one independent variable will affect another. In order to work around this issue, I compared the main model with individual regressions (table 5 in the appendix).

Another area of issue was the low r-squared score for the full model which was only .220. The low r square score indicates that model did not capture the full explanation of economic growth and that my results may suffer from omitted variable bias. The use of total of FDI stock should mitigate the omitted variable bias to an extent but does not completely eliminate endogeneity. One last issue could be the choice of my variable set. By using countries in close proximity it could mean that they share similar characteristics and that my data set was unable to identify heterogeneity amongst the Asian countries or the lack of significance is due to my inability to identify more applicable variables.

5. Conclusion

5.1 Implications

The aim of the study was to analyze the relationship between Chinese FDI and economic growth in the Asian region. Using a log linear regression with country and time fixed effects, the study found that FDI does not have a significant impact on economic growth in this specific case and instead, that the growth rate of the population and level of human capital do. Furthermore, the reported results are in line with the controversial evidence within the growth literature (Bende-Nabende et. al., 2001; Borensztein et al., 1998; Forte and Moura, 2013).

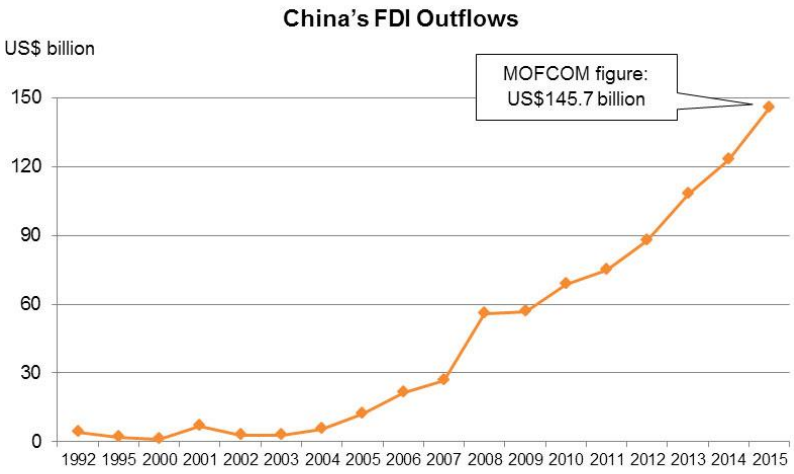
There are different policy implications as a result of the paper's findings. Although the relationship between FDI and economic growth proved to be insignificant, the coefficient of logFDI was still positive. Given the results, it is important that the governments within these countries do not make it harder for foreign MNCs or investors to invest in their country. By being open to FDI, it will allow countries to further study the relationship and guide the policies in the future. The variable human capital which serves as a proxy for technological advancement turned out to be negative and significant from an FDI point of view. Since technology spillover was found to have a negative impact, one possible policy suggestion is that FDI can only be in the form of aid and cash investment and not by setting up property, plant, or equipment in the host country.

The results presented in this paper provide suggestions for further research. There has not been enough research focused on the interaction of domestic investment and FDI. Another area of research could be the effect of different forms of FDI including mergers and acquisitions (M&A) or Greenfield investments have on economic growth. Since China relies on rich natural

resources, another possible research topic could be the effect of Chinese FDI in certain industries like mining or agriculture. The research should also be extended to other case studies. For example, a further analysis of the Africa-China relationship is needed. Another case study could be to build on my current study by including more Asian countries and more years. There are a plethora of reasons for the locational choice of FDI, thus it is imperative to research how the investment in those locational choices affect the host country.

Appendix

Figure 1: China's FDI Outflow



Source: *Statistical Bulletin on China's Outward Foreign Direct Investment*

Figure 2: Distribution of Chinese Outward FDI

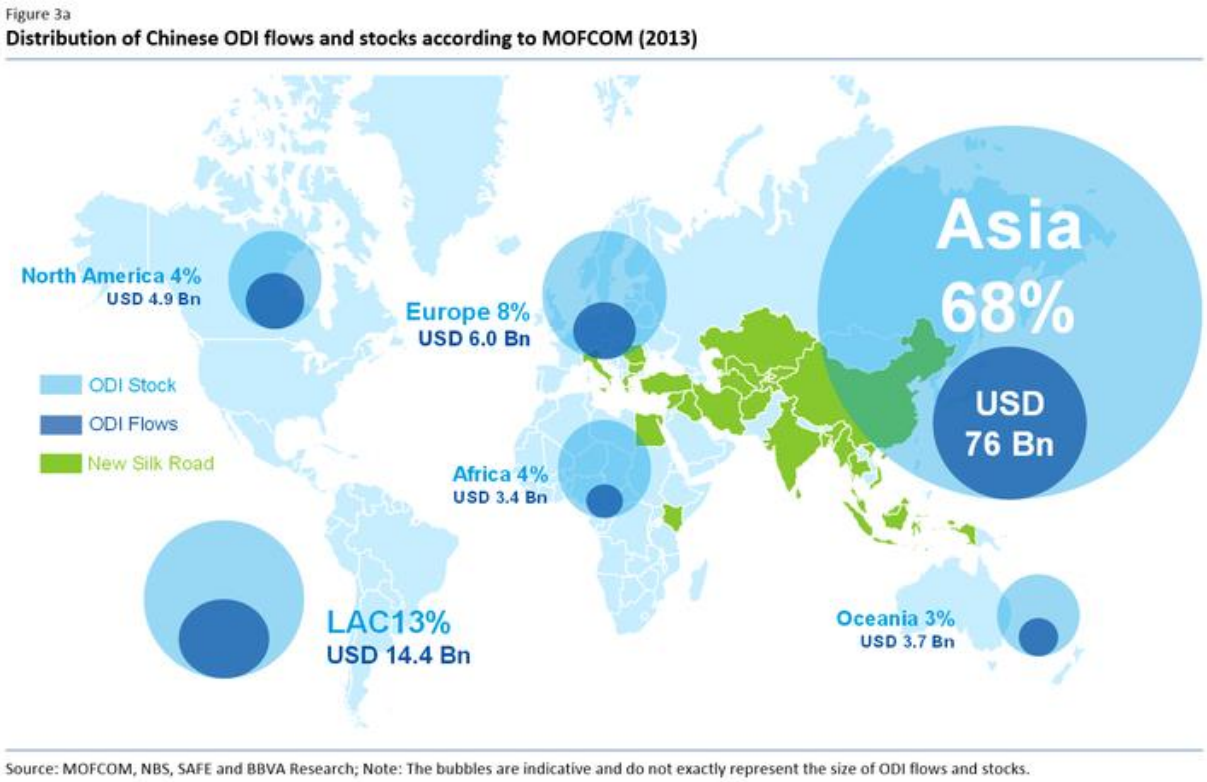


Table 1: Final List of Variables

Variable:	Definition:
Dependent Variable:	
Y	Growth Rate of Real per Capita GDP in country, i, at time, t.
Common Independent Variables:	
Chinese FDI (logFDI)	Total stock of Chinese Foreign Direct Investment (USD $)
Human Capital (HC)	Secondary School Enrollment Rate educational achievement / human capital
Growth Rate of Population (GPO)	Growth rate of population
Type of Economy Dummy Variable (TYPE)	Dummy variable for high economy or low economy 0=low(if gdp per capita is lower than the group average for that year) 1=high (if gdp per capita is higher than the group average for that year)
C Vector - Political, Monetary, and Fiscal Variables:	
Government expenditure (GXP)	Government consumption as a percentage of gdp
Death Rate (DTH)	death rate per 1000,crude
Corruption Dummy Variable (COR)	Dummy variable for corruption measure 0=low(if rating is lower than the group average for that year) 1=high (if rating is higher than the group average for that year)
Time Dummy Variable (TIME)	Dummy variable for change in measurement of corruption 0=prior 2012 1 = 2012 and after
Inflation Variable (INF)	Inflation, GDP deflator (annual %)

Table 2: VIF Scores & Matrix of correlations

Variables	VIF	Tolerance	Mean	S.D.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1)logFDI	7.872	.127	21.87689	2.334373	1.000							
(2) HC	8.043	.124	77.84378	11.04386	0.468	1.000						
(3) GPO	6.507	.154	1.045825	.5357547	-0.446	-0.659	1.000					
(4) GXP	4.202	.238	12.07606	2.822989	-0.286	0.440	-0.453	1.000				
(5) IMP	6.368	.157	71.76103	58.48164	0.824	0.300	-0.298	-0.287	1.000			
(6) COR	6.687	.15	.5454545	.5017452	-0.473	-0.683	0.219	-0.069	-0.549	1.000		
(7) DTH	7.464	.134	6.165914	.9854146	0.064	-0.318	-0.334	-0.047	-0.142	0.699	1.000	
(8) INF	4.398	.227	47.04001	66.5627	-0.369	-0.651	0.542	-0.526	-0.476	0.622	0.322	1.000

Table 3: Descriptive Statistics

VARIABLES	(1) N	(2) Mean	(3) Std Dev	(4) Max	(5) Min
logFDI ($ millions)	66	21.87689	2.334373	17.57764	27.61211
HC	66	77.84378	11.04386	59.78662	98.80054
GPO	66	1.045825	.5357547	.2153533	1.85222
GXP	66	12.07606	2.822989	8.34647	17.11365
DTH	66	6.165914	.9854146	4.622	7.979909
INF	66	47.04001	66.5627	-5.992098	182.4013
COR	66	.5454545	.5017452	0	1
TIME	66	.5454545	.5017452	0	1
TYPE	66	.3333333	.4750169	0	1

Table 4: Main Regression Results with Multicollinearity

VARIABLES	(1) Full Model	(2) Developed Countries	(3) Developing Countries	(4) 2007 to 2012	(5) 2012 to 2017	(6) Higher Corruption	(7) Lower Corruption
logFDI	0.323	-2.050*	0.484	-0.159	-0.766	0.488	0.761
	(0.774)	(1.170)	(0.514)	(0.537)	(0.643)	(0.766)	(1.108)
HC	-0.300***	0.293	-0.236*	-0.0874	0.648**	0.0145	-0.237
	(0.110)	(0.234)	(0.140)	(0.0968)	(0.304)	(0.192)	(0.155)
GPO	4.560**	-1.599	3.978	-1.359	3.861	5.261	2.627
	(2.144)	(3.982)	(2.813)	(1.324)	(3.013)	(4.973)	(2.621)
GXP	-0.863	-0.375	-0.395	-0.135	-1.699**	-0.623	-0.552
	(0.517)	(1.098)	(0.452)	(0.377)	(0.782)	(0.719)	(0.936)
DTH	1.155	4.870	1.744	-0.726	2.060	2.438	-1.166
	(2.395)	(4.118)	(1.606)	(0.683)	(1.788)	(2.707)	(4.892)
INF	0.0627*	0.0330	-0.0365	0.00288	-0.0166	-0.0291	0.329*
	(0.0352)	(0.0692)	(0.0235)	(0.00972)	(0.0177)	(0.0229)	(0.188)
COR	2.107	-4.389	2.403	0.907	4.839*		
	(1.359)	(21.29)	(1.530)	(1.106)	(2.655)		
TIME	1.619	-0.821	1.345	20.82		0.953	1.107
	(1.030)	(1.503)	(1.252)	(13.78)		(1.294)	(1.607)
TYPE		-0.151		0.235	-2.491	-3.347	9.701
		(32.07)		(1.040)	(2.236)	(4.058)	(6.007)
o._cons		0		0			
		(0)		(0)			
TIME = o,					-		
COR = o,						-	-
Constant	13.01		-0.858		-27.52	-19.69	11.20
	(15.38)		(16.07)		(27.14)	(30.10)	(22.95)
Observations	66	22	44	36	30	36	30
R-squared	0.220						
Number of CTY2	6	2	4	6	6	4	3
Time Fixed Effects	YES	YES	YES	YES	YES	YES	YES
Country Fixed Effects	YES	YES	YES	YES	YES	YES	YES
Standard Hausmen Test for Full Model		$\chi 2$ (10) =9.80**					

)

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5: Individual Regressions without MultiCollinearity

VARIABLES	(1) Full Model	(2) LogFDI	(3) Human Capital	(4) Government Expenditure	(5) Growth Rate of Population	(6) Death Rate	(7) Corruption	(8) Inflation	(9) Time
logFDI	0.323	-0.139							
	(0.774)	(0.116)							
HC	-0.300***		-0.0485**						
	(0.110)		(0.0223)						
GPO	4.560**				0.905*				
	(2.144)				(0.481)				
GXP	-0.863			-0.120					
	(0.517)			(0.107)					
DTH	1.155					0.236			
	(2.395)					(0.323)			
INF	0.0627*							0.00954***	
	(0.0352)							(0.00364)	
COR	2.107						1.186**		
	(1.359)						(0.486)		
TIME	1.619								0.211
	(1.030)								(0.498)
Constant	13.01	6.251**	6.981***	4.651***	2.260***	1.751	2.559***	2.757***	3.091***
	(15.38)	(2.544)	(1.751)	(1.323)	(0.565)	(2.016)	(0.359)	(0.295)	(0.407)
Observations	66	66	66	66	66	66	66	66	66
R-squared	0.220								
Number of CTY2	6	6	6	6	6	6	6	6	6
Country Fixed Effects	YES	NO	NO	NO	NO	NO	NO	NO	NO
Time Fixed Effects	YES	NO	NO	NO	NO	NO	NO	NO	NO

)

Standard errors in parentheses

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

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