LUND UNIVERSITY
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CHANGING PATTERNS OF FOREIGN DIRECT INVESTMENTS

A Comparative Study of Chinese Investment Behavior in Sub-Saharan Africa

Bachelor Thesis

Emma Brunberg and Felix Miranda Thyrén

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Department of Economics
Supervisor: Karin Olofsdotter

Abstract

In the light of changing global foreign direct investment (FDI) patterns, economic research has started to pay an increasing amount of attention to China as one of the new main investor countries, and emphasize the implications of this in the world economy. This thesis examines Chinese FDI flows and investor behavior in Sub-Saharan Africa (SSA), and relates this to the academic debate surrounding its perceived controversy. Country-level panel data is used to estimate Chinese FDI flows through two different types of regressions, in order to distinguish what factors are significant in Chinese FDI flows to SSA. This is done in order to empirically analyze whether the characteristics of Chinese investor behavior in SSA differ from how other influential investor countries act in this region, and moreover, investigate how the obtained results correspond with general theories of FDI. The results of the empirical analysis are somewhat ambiguous. They indicate that China does follow the predictions expected from general FDI theory, but may have a more pronounced inclination towards the resource seeking type of FDI, where investments are linked mainly to host country natural resources. Moreover, it is found that both China and other major investors seem to be driven by market seeking FDI motives, attracted by the emerging markets in SSA.

Keywords: FDI, China, Sub-Saharan Africa, OLI framework, gravity model

List of Abbreviations

CPI - Consumer Price Index

FDI - Foreign Direct Investments

GDP - Gross Domestic Product

G7 - Group of 7

IMF - International Monetary Fund

M&As - Mergers and Acquisitions

MNE - Multinational Enterprise

MOFCOM – Ministry of Commerce of the People's Republic of China

OECD - Organisation for Economic Co-operation and Development

OLI - Ownership, Location, Internalization

OLS - Ordinary Least Squares

PRS - Political Risk Services group

SSA - Sub-Saharan Africa

UN - United Nations

UNCTAD - United Nations Conference on Trade and Development

USD - United States Dollar

WGI - Worldwide Governance Indicators

WHO - World Health Organization

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1.0 Introduction

Foreign Direct Investments (FDI) play a fundamental role in the global economy, and due to the consistent trend towards an increasingly globalized and interconnected world, FDI are predicted to stay important in the near future. One way to observe this growing importance is through the World Investment Reports, compiled by the United Nations Conference on Trade and Development (UNCTAD), in which data on FDI has been systematically collected since year 1990. Such reports provide unambiguous evidence of a global FDI trend on the rise. Traditionally, both inward and outward FDI flows have mainly been limited to developed countries, which have been investing in other developed economies. Essentially, this means that investments have flowed between similar countries that are well-connected and/or located fairly close to each other. However, in more recent times, this pattern has changed, and developing countries have become more and more influential in the both the patterns and magnitude of global FDI flows (UNCTAD, 1998, pp. 1-2; UNCTAD, 2011, p. 10; UNCTAD, 2014a, p. ix).

The general view of FDI in academia is predominantly positive, since FDI according to neoclassical and endogenous growth models have potential to be highly beneficial, both on a global level as well as within a given country (Ajayi, 2006, p. 1). This prevailing positive view of FDI rests on the assumption of investment as a critical requirement for growth, or more specifically, on FDI as a key driver for economic growth. Seen from this standpoint, FDI inflows will not only contribute to economic growth by providing capital for investments, but is also believed to contribute to improving the economic situation in host countries by promoting local employment and increasing the efficiency of domestic firms. The latter can be achieved through so called spillover effects, by knowledge and technology transfers, and by increased domestic competition (Ajayi, 2006, pp. 11-12). One example of an institution that maintains the prevalent positive perception of foreign investments is the Organisation for Economic Co-operation and Development (OECD), which explicitly states that given that the host country has a functioning policy framework, FDI can foster host country financial stability, promote economic growth, and increase overall societal well-being (OECD, 2008, p. 3).

Against the above mentioned backdrop of changing global FDI patterns, China has emerged as a new important actor, especially when considering its sharp and steady increase in

outward FDI flows. As of 2014, China is the third largest outward investor in the world, following only Japan and the US (UNCTAD, 2014a, p. 7). One reason to why increased Chinese outward investments are seen as particularly important in the global economy is due to the Chinese practice of mainly investing in developing countries, as opposed to traditional patterns of developed-developed country FDI flows. Thus, Chinese FDI is believed to have considerable impacts on development, which in turn may have positive effects on poverty alleviation in the developing world (Cheung and Qian, 2009, p. 313).

One of the regions where China has become an influential investor is in Sub-Saharan Africa (SSA), which is a region that previously has received very modest amounts of FDI. In fact, current global FDI inflows to Africa are still meager, compared to inflows into other parts of the developing world. One often cited reason to this is due to a widespread perception among investors of the SSA region as risky and unstable (Ajayi, 2006, pp. 13-14, 20; UNCTAD, 2007, pp. 5-6). However, over the last decade China has continuously increased its overall investments in this region (Cheung and Qian, 2009, p. 313; UNCTAD, 2014b, p. 2; Zafar, 2007, p. 123), something that, as described in chapter two, has attracted a lot of attention from various directions. This thesis aims at examining this important new component of the global FDI trend and composition, by both theoretically and empirically analyzing Chinese outward FDI directed to SSA, and thereby relate it to the perceived controversy by which it is surrounded, as further described in chapter two.

In the empirical analysis of this thesis, Chinese investor behavior in SSA is compared to the behavior of other investor countries, in order to discern any differences that in turn may indicate if there is any truth in the accusations of unconventional and/or detrimental Chinese FDI practices. Two main types of regression models are used to examine Chinese FDI flows to SSA, and although the results are ambiguous, some evidence is found that points towards China being more interested in acquiring natural resources than other investor countries. However, the results of the regressions do not provide any evidence supporting the claim that Chinese investors take advantage of countries with weak institutional environments. Furthermore, results show that investors, both from China as well as from other countries, seem to be attracted to large and/or prospering host country markets, which is a trend that might keep on rising in line with a sustained development and enhanced growth in the emerging economies in SSA.

1.1 Topic

As previously mentioned, outward Chinese FDI has increased steadily over the past decades, and the increased FDI flows have been particularly notable in SSA—a region that by many have been seen as a 'lost continent', with no possibilities for profitable investments (Brautigam, 2009, p. 69; Ovadia, 2013, p. 235; Zafar, 2007, pp. 123-124). However, China's increase in outward FDI in this region has not been undisputed in academic literature nor in mainstream Western media, and accusations of excessive resource seeking and support of questionable regimes are often leveled against the Chinese presence in Africa (Kolstad and Wiig, 2012, p. 1; van Dijk, 2009, pp. 141-144, 154-155; Zafar, 2007, p. 106). The purpose of this thesis is to analyze Chinese FDI in SSA, by studying Chinese FDI activities in ten different countries, namely Angola, Botswana, Ethiopia, Ghana, Namibia, Nigeria, South Africa, Tanzania, Zambia and Zimbabwe. All of these SSA countries are recipients of Chinese FDI, but the extent and composition of FDI inflows differ among them. This thesis seeks to examine Chinese FDI behavior in SSA, to see if it differs from 'traditional' FDI behavior, as it has been modeled in economic theory and previously been practiced by other investor countries. To distinguish such possible differences, Chinese FDI flows are compared to FDI flows from other investor countries in an empirical analysis. In order to make such a comparison, data from the so called Group of Seven (G7) countries is used, which consist of Canada, France, Germany, Italy, Japan, the United Kingdom and the United States. Hence, the G7 data considers FDI flows from seven of the largest and most influential economies in the world. The results of this empirical analysis are then interpreted, in order to see what these may imply regarding Chinese FDI behavior. The empirical analysis is focused on so called pull factors as independent variables, i.e. domestic factors in the SSA countries that are believed to attract FDI, in order to perform a comparative study of Chinese versus the G7 countries' investment behaviors. Primarily, this thesis aims to answer the following question:

- Does Chinese FDI behavior in SSA differ from the behavior of other investor countries?

1.2 Method and material

This thesis is based on economic theory of FDI, combined with empirical sources regarding both host country and investor country factors potentially affecting FDI. Additionally, in order to obtain a greater understanding of the topic, and to answer the research question, this

is complemented with the use of econometric methods, with which carefully selected variables are estimated to analyze Chinese flows in accordance with appropriate economic models. The economic theories of FDI that the analysis is based upon are briefly explained in chapter three, which contains the theoretical framework of this thesis. The econometric methods applied in the empirical analysis are explained in detail in chapter four.

All material in this thesis, unless otherwise stated, is collected from scientific journals, or reports from governments or other leading non-government organizations such as the United Nations (UN) and the World Bank. This ensures a high reliability in the data, but also, well-founded facts and arguments in the other parts of the thesis. However, the data set used in the econometric analysis contains some missing values. Also, due to this limitation in availability of complete data, the data set used in the empirical analysis spans over a relatively short period of time, from 2006 to 2012. It must also be noted that this time period was rather volatile as a result of the financial crisis that hit the world economy in 2007-2008, which lead to a general decrease in aggregate FDI flows (UNCTAD, 2012, p. xiii). Problems due to these limitations in the data set will be further discussed in chapter four.

Moreover, it must be noted that the SSA countries included in the empirical analysis in the thesis are not randomly selected, but are chosen from criteria such as availability of data, and that the given country actually is a recipient of Chinese FDI. However, in order to answer the research question as accurately as possible, the data set is chosen to reflect the entire SSA region economically, culturally and geographically. The decision to use FDI flows from the G7 countries as a counterpart in the comparison of Chinese FDI behavior against 'traditional' FDI behavior, is due to the relatively good availability of data, but also because these countries can reflect investments by traditional developed nations from different parts of the globe—not solely reflecting the European perspective. But because of the previously mentioned issues, the results of the regressions in the empirical analysis might be biased, which in turn can affect both the interpretation as well as further implications of the findings. This is discussed further in chapter four.

1.3 Disposition

Chapter two provides a brief background of FDI flows to the African continent, Chinese FDI in general and China's FDI in Africa. This background chapter describes the FDI concept in

general, followed by a description of the evolvement of FDI in the given setting of this thesis, from historical times up until the present day. Furthermore, this chapter includes a section that presents the current academic and media debates regarding the perceived controversy surrounding Chinese investments in Africa, followed by a section that briefly outlines the previous academic literature that is considered to be relevant in this given context. Chapter three describes the theoretical framework regarding FDI, and explains the models and terms that are persistently used throughout this thesis, particularly in the subsequent empirical analysis of factors that may affect the distribution and extent of Chinese FDI in SSA. Chapter four contains a description of the setup of the empirical analysis, and describes the selected data and regression variables. Moreover, this chapter presents the model and method of estimation. In chapter five, the results of the empirical analysis are presented, followed by a discussion of the results and their implications. This chapter also contains a comprehensive robustness section, in which effects of alternate approaches and other variables are discussed and tested. Chapter six concludes the thesis with a summary of the results together with a brief finishing discussion, and after this, in chapter seven, ideas that would be interesting for future inquires in this topic are suggested.

2.0 Context and background

2.1 Foreign direct investments

A foreign direct investment is defined as a direct investment in a business in a host country by a firm from a different country. However, in order for such investments to be classified as a FDI, they have to be made with the objective of a longer lasting interest in the host firm, which suggests that the investor will have a certain degree of managerial influence in the other firm. By engaging in FDI, the investing company can be regarded as a multinational enterprise (MNE), which is defined as an enterprise that owns productive assets in more locations than in its own country. MNEs have grown in importance in the global economic system during the last few decades, and as an example of their increasing impact, figures show that the sales of foreign affiliates of MNEs have risen from 23,5 percent of aggregate world gross domestic product (GDP) in 1982, to 46 percent in 2004 (van Marrewijk, 2007, pp. 324-325; Neary, 2009, p. 207).

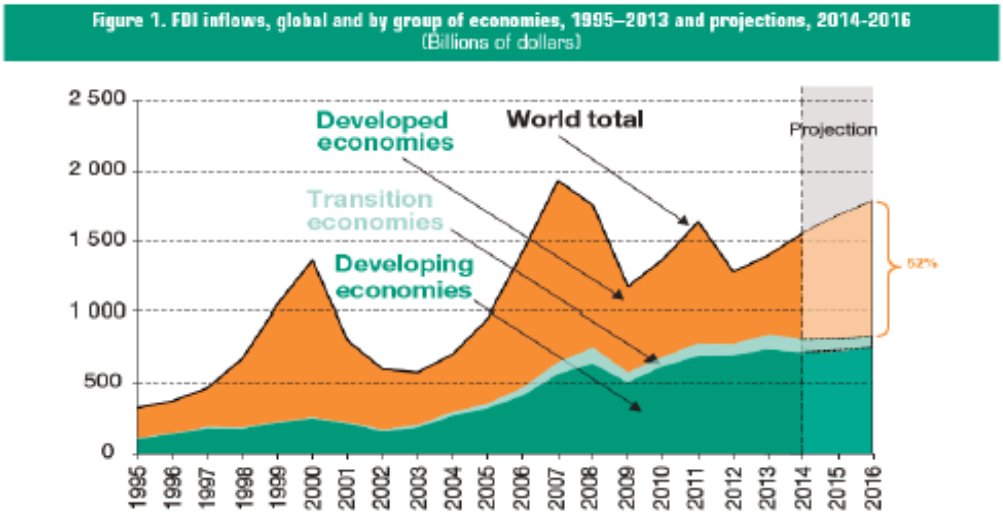

Figure 1: FDI inflows, global and by group of economies, 1995-2013 and projections, 2014-2016 (UNCTAD, 2014a, p. xiii).

Figure 1 above gives a picture of how aggregated global inflows of FDI have been increasing over the last two decades. Besides this aggregated increase, the traditional distribution and composition of these flows, in which developed countries generally have larger outflows of FDI, while developing countries and transition economies have been characterized by larger inflows, have started to change in the recent years. Nowadays, the overall trend seems to be moving towards a more even distribution of FDI flows, where traditional major recipients of FDI, for example China, simultaneously are major investors in other countries (UNCTAD, 2014a, pp. xv, 6).

The global aggregate trend of rising levels of FDI and increasing numbers of MNEs has been followed by an intensified focus in economic literature on finding models that explain FDI, and has subsequently led to various extensions and developments of traditional trade theories. The traditional theories have not only been extended in order to in addition explain FDI, but have also been complemented with new theories, that pertain to the implications of the trend of increasing FDI levels, and the impact this has on global trade (Dunning, 2000, pp. 163-190). Furthermore the broad definition of FDI has been narrowed down and characterized in terms of motives, composition, or way of implementation. As a result of such more narrow classifications FDI, different conclusions and implications have been developed for each type of FDI, which is mirrored by the different approaches that researchers have taken to FDI in

academic literature. This can also be seen in section 2.5 that describes previous FDI research relevant to the topic of this thesis.

One frequently used approach to explain FDI in academic literature is to identify the different factors that influence capital flows into countries. The factors that are said to influence capital flows into different countries are commonly known as pull and push factors (Ajayi, 2006, p. 23). The former consist of factors in the host country that may attract foreign firms to invest in that country, and the latter consist of domestic factors in the investing firms' country that may induce firms to invest somewhere else, and make the decision to expand their businesses abroad. Both pull and push factors are contextual, and dependent on global as well as local outside factors. The relative importance of a given set of pull and push factors may also vary in different locations or countries, and may easily change due to exogenous shocks. Research have concluded that some of the most influential push factors are growth and interest rates in the investing countries, and that these push factors essentially determine the total amount of funds available for FDI (Ajayi, 2006, p. 15). As discussed in section 2.3, China's rapid economic growth is believed to be one of the most significant push factors for Chinese investments. Pull factors consist of host country characteristics and policies, for example low price levels, lax regulations, flourishing domestic markets, economic and political stability, well-developed infrastructure, secure environments or well-functioning legal, educational and banking systems (Ajayi, 2006, p. 15; WHO, 2014). One benefit of the pull and push factor terminology when discussing FDI is that such factors can be assessed from a country level perspective, which is convenient in an analysis like the one in this thesis, that looks at FDI flows between different countries. Therefore, specific pull and push factors are mentioned and assessed in both the discussion sections and econometric parts of this thesis. The pull factors are particularly emphasized in the econometric analysis in chapter four, in relation to the variables included in the regression specifications.

2.2 FDI in Africa

The history of FDI in Africa goes back to the modern colonial era, which began in the latter part of the nineteenth century. During this period, an absolute majority of the African continent was controlled by outside powers. Although an early type of investments was made by the controlling nations in their colonies, these were of course different from FDI in the modern sense (Svedberg, 1981, pp. 21-22). Nevertheless, economists have recognized the

legacy of colonialism in relation to FDI, and highlighted the subsequent institutions and investments some of the settlements resulted in. For example, Acemoglu et al. (2001), argue that a colonialist legacy is likely to have affected countries' growth and development processes up until the present day. Moreover, colonial links in the form of common language, culture, and institutions might play an important role in determining what type of investments a country attracts in modern times (Acemoglu et al., 2001, pp. 1369-1398; Bertocchi and Canova, 2002, pp. 1854-1857; Bloningen and Piger, 2011, pp. 21-24; Svedberg, 1981, pp. 36-37).

In the period following the Second World War, most African colonies managed to become independent. However, the early days of independence were marked by political instability and isolation in many of the former colonies. Following this period, many African countries went through significant economic liberalization programs, often as a result of structural adjustments aimed at securing macroeconomic stability that was part of the conditional loans and aid packages from institutions such as the International Monetary Fund (IMF) and the World Bank (Griffin, 1996, p. 5). Although such imposed structural changes in many of the SSA countries have been critically assessed by academic scholars (Herbst, 1990, pp. 949-958; Mkandawire, 2005, pp. 1-33), the more recent decades have been characterized by modestly increasing FDI inflows to SSA, which might not only have been spurred by increased political stability in the region, but also by the changing nature of these countries' economic systems (UNCTAD, 1998, pp. 180-181).

China was never part of the colonial systems in Africa, so colonial links are hence unlikely to affect the extent or composition of Chinese FDI in African countries. On the other hand, the fact that China was not part of this system could have a certain impact on present day levels of Chinese FDI in SSA. Since Chinese support was essential in some SSA countries' struggles for independence, the relationships that were formed during that period might affect today's levels of Chinese FDI. This is further discussed in section 2.4.

These days, Africa is an important area for FDI, and the region's FDI inflows are now stabilized at a significantly higher level than in the beginning of the 1990s (UNCTAD, 1998, p. xxv). Although the levels of inward FDI flows did experience a minor drop in year 2010, the trend is once again on the rise. FDI inflows to Africa were recently estimated to a value of

57 billion USD, which is almost twice as much as in year 2010 (UNCTAD, 2012, p. 40; UNCTAD, 2014a, p. 38).

2.3 Chinese FDI

In line with China's rapid economic growth since the 1980s, the country has become both an increasing source of, as well as a recipient of FDI. During the early days of this period, China was primarily a recipient of inward FDI flows, but increased growth combined with significant government encouragement towards increased outward FDI have now changed this picture. Chinese outward FDI flows have traditionally been mainly directed towards Asia, followed by North America, Africa, and Latin America (van Dijk, 2009, p. 87; UNCTAD, 2003, pp. 2-4).

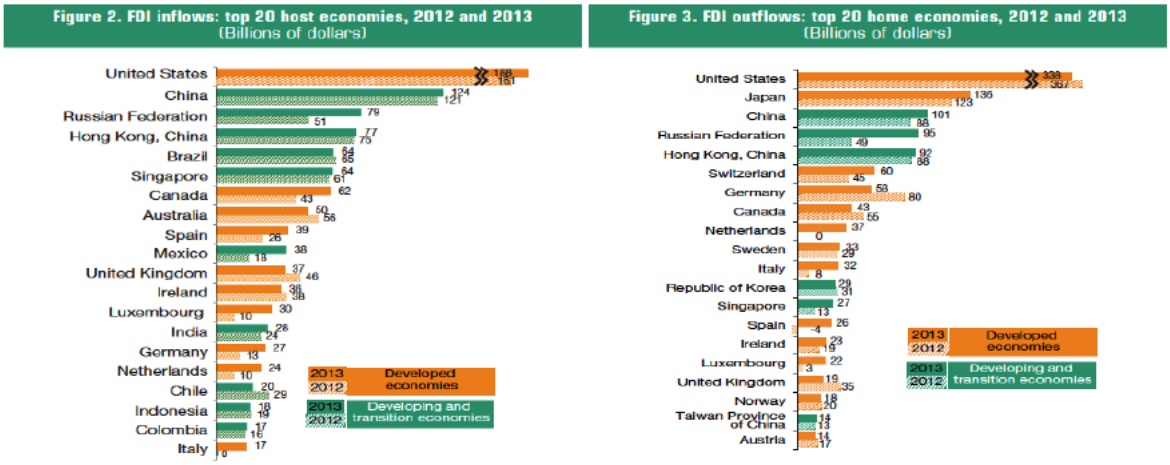

Figure 2: FDI inflows and outflows, top 20 host and home economies, 2012 and 2013 (UNCTAD, 2014a, p. xv).

Numerous reasons have been cited for the increased interest in outward investments from Chinese firms, apart from increased outward FDI being a natural consequence of the rapid Chinese economic growth. The following cited reasons and factors can be described as push factors, which are factors that induce domestic firms to invest abroad. One such factor lies in the relatively weak domestic demand for consumption, which has encouraged Chinese firms to look elsewhere for new markets, especially since this has been combined with a decreasing foreign demand for Chinese exports. The decreasing foreign demand itself can be attributed to multiple causes, for example increased competition from low wage countries in light of China's improved standards of living and rising wages. In addition, there are several

macroeconomic factors that interplay with the decrease in demand for Chinese exports. One such factor is the recent strengthening of the Chinese currency relative to other currencies—something that is likely to continue, since the renminbi is widely considered to be undervalued (Lipman, 2011, p. 82; UNCTAD, 2003, p. 4).

Furthermore, China's massive trade surplus in certain markets, primarily in the United States, can also explain the increased interest in outward FDI, since North America as mentioned above is one of China's largest FDI recipient countries. In markets like these, FDI can become a channel for surplus revenue, and it may also be advantageous for Chinese firms to invest in local distribution networks in their FDI host countries (Cheung and Qian, 2009, p. 325; UNCTAD, 2003 pp. 4-5).

Another possible reason for Chinese firms to invest in foreign production is to avoid trade restrictions, or take advantage of, for example, certain African countries' preferential trade agreements. An example of this can be found in the now defunct Multi Fiber Agreement, which limited exports of textiles from developing to developed countries. Chinese firms took advantage of several African countries that did not use up their assigned quotas, and purchased factories there, thus allowing them to bypass the restrictions set up by that agreement and increase their exports (van Dijk, 2009, pp. 89, 103-104; Kaplinsky and Morris, 2009, p. 556). Hence, global trade agreements, as well as trade policy have been found to affect trends in Chinese FDI.

Moreover, there are other, and perhaps more comprehendible reasons for Chinese firms as well as the Chinese government to look outwards for new markets. Access to advanced technology through technology transfers is obviously desirable for most firms, but this reason could be even more emphasized in relation to Chinese firms, since China as a whole is moving towards more capital intensive and more technologically advanced production. Another reason can be found in the increased demand for natural resources that are not in abundance within China, so access to resources, primarily to minerals and oil have often been cited as an important factor in the increase of Chinese FDI (van Dijk, 2009, p. 42).

Chinese firms have also been experiencing extensive government encouragement to seek new markets, and more specifically to invest abroad. In 2002, Chinese authorities launched a

‘going global’ campaign, aimed at supporting the process of economic reform in China. This essentially meant that the Chinese government started to promote and facilitate Chinese firms’ engagement in outward FDI activities. Although Chinese outward FDI have evolved from consisting mainly of state-owned enterprises towards a more market oriented approach, the Chinese government is still heavily involved in most outward FDI activities—and in year 2006, about 82 percent of the Chinese firms investing abroad were state-owned enterprises (Cheung and Qian, 2009, p. 315; Kolstad and Wiig, 2012, p. 6).

The relatively high level of government involvement in Chinese outward FDI activities has several implications that have been widely discussed by academic scholars. One theory that has been put forward is that Chinese firms, due to the fact that they are deeply connected to the Chinese state (and hence, have access to subsidized capital) can afford investing with a longer-term perspective (van Dijk, 2009, p. 91; Kaplinsky and Morris, 2009, p. 562). The fact that many of the investing Chinese firms are state-owned may also suggest that FDI decisions could be made with additional political motives. Such motives could be to assist domestic development processes, to promote Chinese foreign policy or favoring domestic elites. Another theory that has been put forward in relation to Chinese FDI, is that due to the different institutional environment in China, with its higher level of corruption and lax stock market regulations, the country has a competitive advantage in other countries with similar institutional characteristics (Kolstad and Wiig, 2012, pp. 6-7).

In conclusion, China has in the recent decades emerged as an important source of FDI (UNCTAD, 2003, p. 2), but since China is slightly different compared to some of the other traditional major investor countries, some of the above mentioned push factors and features may affect the extent and distribution of Chinese FDI. For example, the fact that state ownership and institutional environments could affect FDI behavior is an important issue to consider in relation to China’s increased influence in global FDI flows. This is done in this thesis’ empirical analysis by estimating the impact of an institutional variable included in the regressions in chapter four.

2.4 China's presence in Africa

China's current presence in Africa goes back to the founding of the Peoples’ Republic in year 1949. The early Sino-African contacts took place against the Cold War backdrop and the

ideological struggle between the East and the West, which continued after the Sino-Soviet split in the 1960s with China opposition against both the Soviet Union as well as the Western powers. During those times, China offered considerable support to several liberation movements in many former African colonies. This support was often a result of shared political beliefs and similar systems of government. Moreover, in the above mentioned Cold War setting, China used its trade and investment policies as a geopolitical tool, in order to contain and limit both Soviet and Western influence in the African continent (Taylor, 2007, p. 23).

This ideological focus in China's activities in Africa came to an end in 1977, when the Political Bureau of the Chinese Communist Party decided to separate its Africa policy from its ideological orientation, and establish diplomatic relations with all of the African continent's governing political entities. Hence, the Chinese presence in Africa after 1977 was much more focused on investments and trade, and this focus took multiple and often interlinking forms through Chinese policies regarding aid, trade, military cooperation, and FDI (van Dijk, 2009, pp. 9-10, 83; Tan-Mullins et al., 2010, pp. 861-867; Yu, 2009, pp. 9-10). As a result of the relatively extensive Chinese activity in post-independence Africa, both in an ideological sense, and through investments and trade, China is still seen by some as trustworthy and thus enjoys a certain level of legitimacy in many African countries (Brautigam, 2009, p. 310). However, one must note that the intertwined nature of China's activities in Africa makes it difficult to distinguish what actually can be defined as FDI. As Kaplinsky and Morris (2009, p. 561) state, it is almost impossible to separate Chinese aid from Chinese FDI. One example of this is the so called 'Angola model' (described in section 2.4.1 below), which is frequently used by Chinese firms in some SSA countries.

2.4.1 Controversy and criticism

Chinese behavior and motives for FDI, particularly in developing countries, have been continually questioned and widely debated. Much criticism has been voiced in Western mainstream media, but this critical perspective has also garnered some support in academia, governments, and in some of the countries receiving Chinese FDI (Ovadia, 2013, pp. 233-234, 238, 244-245). However, there are other arguments that suggest that the motives and practices of Chinese FDI are no different than the ones of Western firms, and that the critical reactions are merely responses out of resentment towards China's encroachment on markets

perceived to be under Western influence. The criticism directed against China's FDI policies is subject to an intense debate and much controversy, and facts still remain uncertain. Therefore, this section will only briefly discuss some of the criticisms of Chinese practices in Africa with regards to FDI, along with some counter arguments as a response to these allegations (Kolstad and Wiig, 2012, pp. 1-2, 15-16).

Perhaps the most common accusation regarding China's presence in Africa concerns excessive resource seeking, claiming that Chinese interests are neither long term nor sustainable, but primarily focused on extracting natural resources in certain African countries. Critics have been particularly vocal regarding the oil sector, where the motives behind Chinese investments and aid in some oil rich countries such as Angola, Sudan and Nigeria, have been widely questioned (Kolstad and Wiig, 2012, pp. 4, 14-15). On the contrary, other researchers have found that the motives of Chinese firms in resources of the type that might have strategic importance to their governments are no different from Western firms and governments' interests. Furthermore, according to surveys by the World Bank, an increase in Chinese investments has been seen in a wide range of sectors, and is not limited solely to natural resource sectors (van Dijk, 2009, pp. 89-90; UNCTAD, 2011, p. 11).

Another accusation, often related to the one mentioned above, is that China takes advantage of countries suffering from political instability—countries that Western firms and other investors would normally avoid. In these cases, both Chinese firms and aid have been claimed to aggravate the situation in unstable countries, by propping up questionable regimes and undermining progress made in areas such as democracy, human rights et cetera. One of the most cited cases of such detrimental behavior is the Chinese involvement with the government of Sudan during the war in Darfur (van Dijk, 2009, pp. 89, 141-144; Kolstad and Wiig, 2012 p. 1; Tan-Mullins et al., 2010, p. 865, 876). Examples like this do indicate that both Chinese FDI and aid often lack political considerations regarding democracy, openness, human rights and so on. This in turn, could help sustain and reinforce the power of corrupt elites, which is something that could be unfavorable for a country's citizens, as well as for that country as a whole (Ovadia, 2013, p. 246).

In addition, the Chinese practice of economic ties has also been much criticized, for example the frequently used practice of requiring large amounts of Chinese labor or equipment in host

country projects. While this hardly is a unique feature of Chinese FDI, some research indicates that it is possible that such practices are more common in Chinese projects (Tan-Mullins et al., 2010, pp. 876-877; Zafar, 2007, pp. 106, 124). The previous mentioned 'Angola model', which is used by some Chinese investors, constitutes a straightforward example of Chinese FDI practices characterized by strict economic ties. This model can be described as a hybrid of FDI and aid, in which significantly subsidized loans can be granted by China to host country projects in Africa. However, these projects must be tied to the use of Chinese labor and inputs. An additional feature of this model is that the loan part of the projects can be paid back by the host country in terms of exports of natural resources, which is something that can be very beneficial for the investors. The perceived controversy regarding the 'Angola model' lies in the question of to which extent such arrangements can benefit the host country, given that most labor and inputs are external.

A final concern regarding Chinese FDI is connected to the hypothesized more relaxed Chinese attitudes to host country political and institutional environments. Essentially, concerns have been raised about the possibility that SSA countries with lax labor and/or environmental regulations, corrupt governments, and general economic or political instability will not have any incentives to try to change these conditions if they still get access to capital through Chinese investors. This in turn could then lead to a so called 'race to the bottom', in which the prevalence of such destructive host country characteristics might even become higher in the competition of attracting Chinese FDI. A plausible reason to make such predictions is that FDI in general (especially if it is of the resource seeking type) is usually not attracted to sectors that contribute to sustainable economic growth, nor to sectors that promote an inclusive and fair development process in the host country (Ajayi, 2006, p. 12).

2.5 Previous research

The economic literature on general FDI is vast, but among the most notable names and main contributors are Dunning (the creator of the OLI framework), Markusen, and Brainard. Their general theories on FDI are described more into depth in chapter three, in the description of the theoretical framework used in this thesis. A well-cited paper on FDI in general is written by Helpman et al. (2003), in which they extend theories by the previously mentioned scholars in order to explain FDI, but with an intensified focus on the role of firm-level heterogeneity. There is also a significant body of literature that deals more specifically with FDI in certain

regions or setting and that attempts to examine the phenomenon theoretically and/or empirically in a given context.

Among the papers that discuss general FDI inflows in the context of SSA, a prominent contribution is made by Asiedu (2002), through her examination of why SSA countries have received relatively less FDI compared to other developing countries. More specifically, she investigates the factors that affect FDI inflows to SSA, in order to see which of these factors that are significant in determining the inflows. In this paper, she reaches the conclusion that developed infrastructure and openness to trade are less significant in the context of SSA countries than in non-SSA countries. The first result is derived from the fact that the objectives of much FDI in SSA is believed to be resource seeking, and the second is believed to be due to a perceived view of insecurity that interferes with the effects of increased trade openness. Another paper by Asiedu (2006) investigates such factors even further, but this time in Africa as a whole, and comes to the conclusion that host country market size, levels of natural endowments, infrastructure, inflation, legal systems, and investment frameworks can positively affect FDI inflows (Asiedu, 2006, p.74). Another paper by Adams (2009) analyzes general FDI flows to SSA in terms of their effects on economic growth, and comes to the conclusion that FDI can be said to have a positive impact on growth, although it may have an initial, but transient, negative effect on domestic investments.

Due to the focus of this thesis, previous literature on motivations driving Chinese firms to invest abroad is highly relevant for subsequent discussion and analysis. One example in this branch of FDI literature is Kolstad and Wiig's (2012) paper on Chinese outward FDI in general, where they use host country pull factors that are hypothesized to attract Chinese FDI in an econometric analysis seeking to find the determinants of China's overall outward FDI. Their main focus is on institutional and natural resource pull factors, and they come to the conclusion that Chinese outward FDI is drawn to host countries with large domestic markets when they are investing in OECD countries, and attracted to resource rich host countries with poor institutions when they are investing in non-OECD countries. Cheng and Ma (2007) also look at general Chinese outward FDI in their paper, but use a different method, as they estimate Chinese FDI outflows through a gravity equation. They find that host country GDP, cultural ties, and common borders with China are factors that spur Chinese investments, whereas investments decrease with distance from China. Another paper that also takes on a

more empirical approach in its analysis of Chinese outward FDI is a study by Cheung and Qian (2009), in which they use econometric methods to characterize the determining factors for Chinese outward FDI flows to both developed and developing countries. They find that Chinese FDI is driven by both market-seeking and resource-seeking motives, but find no evidence that China would be drawn to countries with poor institutions since the variable for quality of institutions is found to be insignificant. Moreover, they find that China's large currency reserves promote Chinese investments, and hence serve as an influential push factor.

Furthermore, there is an increasing body of literature concerning Chinese FDI in the context of SSA, which naturally is imperative to this thesis whose analysis takes place in that exact setting. Papers in this branch of FDI literature examine the phenomenon both from a broader, overarching perspective, as well as in more narrow terms, through specific country case studies. Some of the SSA country specific studies are targeting a specific issue or focusing on a certain industry. A first example of a paper in this branch is Ovadia's (2013) discussion of the polarized debate of China's FDI motives and practises in Angola, and another example is Corkin's (2011) discussion of China's engagement in the Angolan oil industry and of how this is structured. More examples of empirical country specific studies can be found in *"Foreign Direct Investment in Sub-Saharan Africa: Origins, Targets, Impact and Potential"* edited by Ajayi (2006), in which several SSA countries are empirically analyzed by the means of econometric methods. In the branch of more exhaustive perspectives on China, SSA, and FDI, an example of a relatively well-cited paper is one by Kaplinsky and Morris (2009), in which they examine Chinese FDI in the entire SSA region. In their examination, the authors point towards several important issues regarding Chinese FDI in SSA, and discuss the implications of these. They conclude that SSA should be able to make the most of the opportunities arising from the current boom of Chinese investments by developing appropriate policies and negotiating beneficial technical agreements. However the authors of this paper also state that reliable data on Chinese investments is extremely difficult to find, which makes Chinese FDI in SSA a notoriously difficult subject to study empirically (Kaplinsky and Morris, 2009, p. 554). Hence, most papers on and studies of Chinese FDI in SSA are of a descriptive nature, or take on a policy-orientated perspective (Cheung and Qian, 2009, p. 313).

This thesis takes on a slightly different approach to FDI than the above mentioned papers, since it is not only looking at outward flows from China, or just at inflows to SSA. The area

of interest in this thesis is the actual fraction of FDI inflows in ten SSA recipient countries that comes from Chinese investors, as the analysis aims at distinguishing if there is anything different or unconventional with these specific flows. This is done econometrically through an empirical comparison of the Chinese fraction of FDI flows against FDI flows into SSA from other investor countries. The results for both China and the other investors are then related to predictions of general FDI theories. Hence, the analysis of Chinese FDI flows to SSA is empirically linked to the current debate of perceived unconventional Chinese FDI behavior by examining both the determinants and trends of these FDI flows, as well as the implications of this phenomenon within its given context. Finally, as most previous research has come to differing conclusions about Chinese outflows as well as about SSA inflows, the analysis in this thesis uses two different models in order to hopefully get a more complete picture of the fraction of Chinese FDI flowing into SSA.

3.0 Theoretical Framework

As a foundation for the subsequent empirical analysis of Chinese FDI behavior in SSA, this chapter provides a description of the theoretical FDI framework often used in economic literature, which is also applied in this thesis. However, the academic approaches to FDI are numerous, so it must be noted that this chapter is only concentrated on the most frequently used theory, together with some of its later extensions that are believed to be relevant for the empirical analysis of this thesis.

3.1 The OLI framework

One of the most prevalent theories of FDI behavior is John Dunning's eclectic paradigm of international production, more commonly known as the Ownership-Location-Internalization framework (OLI framework). This framework was developed to explain the existence MNEs, and has since the 1980s been the dominant paradigm in academic literature seeking to both explain and predict firm investment behavior. The framework seeks to explain determinants of the "extent, geography and industrial composition" of international production (Dunning, 2000, p. 163), and these determining factors are divided into three different kinds of 'advantage' variables—the ownership (O), location (L), and internalization (I) advantages (Dunning, 2001, pp. 173-176).

An ownership (O) advantage is defined as the competitive advantage a parent firm receives from owning a host country firm. Ownership advantages can include monopoly powers, unique resources, advanced technology or special managerial skills that make the firm more efficient. However, the relative importance of these different ownership advantages has shifted since Dunning first developed the OLI framework. Previously, firms' ownership advantages were mainly reflected in their ability to organize assets for production. Nowadays, along with the emergence of more globalized markets, a firm's ownership advantages are usually more focused towards its ability to organize and coordinate assets around the world, and its ability to work in conjunction with other firms globally. Furthermore, today's ownership advantages contain a much more dynamic dimension, rather than the original and relatively static view of such advantages (Dunning, 2000, pp. 168-170).

Location (L) advantages are related to the competitive advantages a parent firm can receive by locating itself in a specific country or region. Traditionally, location advantages have been highly focused on proximity to markets and immobile natural resources, but in recent decades this focus has shifted towards less tangible resources. Examples of such advantages are proximity to clusters of businesses with which a MNE might benefit from working with, or access to appropriate economic and social environments (Dunning, 2000, p. 177-179).

Location advantages have been much studied by economists, and additional theories regarding locational factors have been developed. One way of characterizing L-advantages is as horizontal or vertical FDI, which emphasizes the way in which a given firm seeks to acquire host country specific advantages. Essentially, this distinction states that in vertical models, firms separate their activities into different stages of production located in different countries, while the horizontal model entails that firms replicate the same firm activity in different locations (Markusen and Maskus 2002, p. 694). The potential L-specific benefits from vertical FDI started to gain attention in economic literature in the mid 1980s, when links between increasing returns to scale, imperfect competition, and the global economy were increasingly explored by economists (Helpman and Krugman, 1985). The horizontal approach, in which firms replicate the same production activity in various locations, contributes to the understanding of MNEs by offering a model that helps shed light on other L-specific motivations for engaging in FDI, highlighting benefits other than differences in factor abundance, such as access to new markets or increased market power (van Marrewijk,

2007, p. 326). Empirically, it has been found that a majority of firms are practicing a form of horizontal FDI rather than vertical (Markusen and Maskus, 2002, p. 705), but as Neary (2009, p. 215) points out, these concept are better for pedagogic uses rather than reflecting the real world picture of FDI. In practice, most firms do not fit into either model, but are more likely to use a mix, something that UNCTAD (1998, p. 111) has labeled "complex integration strategies".

A further addition to the theories regarding L-specific advantages is the so called proximity-concentration hypothesis (Brainard, 1993a, pp. 37-40; Brainard, 1993b, pp. 2-3). Essentially, this hypothesis states that the decision to engage in FDI is a tradeoff between the benefits of closeness to customers and suppliers, and the benefits that could be made from staying in only one location, given that the market in that location is characterized by the features of new trade theory, implicating oligopoly or monopolistic competition. In other words, the proximity-concentration tradeoff means that a gain in one of these areas (proximity or concentration) entails a reduction in the gains from the other. According to Brainard (1993b, pp. 1-2), a firm will choose FDI over exports when transport and trade cost are substantial, investment barriers are low, and the gain from economies of scale on plant level is greater than the one at corporate level.

Returning to Dunning's original framework, internalization (I) advantages are the benefits that a parent firm can receive by actually investing in a host country (and thereby, receive the O and L advantages). Thus, potential internalization advantages determine whether a firm will become an MNE or not, through acquiring the above mentioned ownership and location advantages. In essence, the internalization advantages determine whether it is worth internalizing the O and L advantages, rather than outsourcing them to another firm in that location. Thus, if the benefits of internalization (i.e. to undertake production in the host country itself) exceed the entailing costs of FDI, taking all transaction costs into account, investing in said location will be profitable (Dunning, 2000, pp. 179-181).

However, when it comes down to a single firm's decision of FDI, the OLI framework maintains that conclusions will be highly contextual. The firm's choice will be dependent on the political and economic environment in which the FDI decision takes place, on the nature of the industry in which the firm is situated, as well as on firm specific features. On firm

level, four main potential motives for investing abroad are commonly distinguished in economic literature. These are market seeking FDI, resource seeking FDI, efficiency seeking FDI, or strategic FDI. The first one, market seeking FDI, could be motivated by a desire to serve the demand of an emerging or growing market in the host country. Resource seeking FDI, on the other hand, is more supply oriented, and its motivations most often lie in access to natural resources in the host country. The third one, efficiency seeking FDI, is motivated by potential efficiency gains that can be made from investing in the host country. Such efficiency gains could be results of specialization or labor division, in accordance with classic trade theories. Finally, the strategic rationale for FDI is motivated by a desire by firms to improve their advantages or position vis-à-vis their competitors (Dunning, 2000, pp. 164-165).

Although the OLI framework is still seen as the dominant paradigm in trying to explain the extent and structure of MNEs, it does not provide a general, 'one size fits all' model for explaining FDI. First of all, a lot has changed in terms of business environments since the theory was first developed, especially due to technological developments that have made it easier for parent firms to internalize firms in host countries (Henley et al., 2008, p. 3). Moreover, the framework can be claimed to be outdated in the sense that it does not capture dynamic dimensions or the importance of less tangible resources, such as business alliances (Dunning, 2002, p. 184). Further, while the L-specific advantages include economies of scale, the framework does not fully take into account agglomeration benefits outside of returns to scale, i.e. advantages from proximity to other similar firms such as spillovers and availability of specialized labor and inputs. Agglomeration effects are also thought to be an important determinant for FDI decisions, since investors are likely to follow previous investments, e.g. if a country already has a sizeable presence in a host country, other investors are likely to invest there, since it is easier to learn from, and do business with, already established and familiar firms (Ajayi, 2006, p. 18; Cheung and Qian, 2009, p. 329; Head et al., 1995, pp. 242-243). Some scholars have suggested adding another L to the OLI framework, representing linkage advantages, as a response to the emergence of the so called Asian Tiger economies. Such advantages comes when a firm invests in another host country in order to enhance their own skills by learning from the host country, and that learning motive is believed by some scholars to be of importance in the strive to fully understand and explain FDI (Kaplinsky and Morris, 2009, p. 562). Finally, since the OLI framework was originally developed from

managerial literature (Brainard, 1993b, p. 3), it could be more suitable for explaining firm level decisions of FDI, rather than explaining country aggregate levels.

Nevertheless, the OLI framework will be an important foundation for this thesis, as the subsequent empirical analysis will originate from the advantage categories in this framework. In the subsequent parts of this thesis, especially in section 4.1 where the regression variables are presented and further described, the OLI framework is be used in order to assure that each included variable is appropriate for an accurate analysis of FDI, by making sure that all the selected variables can be fitted into one of the three different OLI advantage categories.

4.0 Empirical analysis

Following chapter begins with a description of the data, variables, and models used in the empirical analysis of Chinese FDI behavior in SSA. The results from the regressions are then presented and interpreted in next chapter. In section 4.1 the data set is thoroughly described and all variables in the model that seeks to explain FDI flows are presented and related to the theories described in the theoretical framework of this thesis. Thereby, reasons as to why the selected variables are relevant are provided. After this, section 4.2 provides a discussion of the limitations in the data set. Finally, in section 4.3, the models and methods of estimation are further explained. This section describes the regression models, called Model 1a, Model 1b, and Model 2, and explains the reasons why these models were chosen for the analysis in this thesis.

4.1 Data and variables

The regressions of the models in section 4.3 are performed on panel data that spans from 2006-2012, from the ten different SSA countries, China, and the G7 countries. All of the variables that are expressed in monetary values are adjusted in current USD to compensate for inflation, and thus avoid biased results in the regressions. As previously mentioned the ten SSA countries are Angola, Botswana, Ethiopia, Ghana, Namibia, Nigeria, South Africa, Tanzania, Zambia and Zimbabwe. The G7 consist of Canada, France, Germany, Italy, Japan, the United Kingdom and the United States.

All of the independent variables in the regressions are in academic literature and in official reports commonly labeled as pull factors, i.e. host country specific factors that help attracting

FDI. In addition to being pull-factors, all these variables are in this section also related to the OLI framework and to the different motives for FDI that are frequently cited in both theoretical and empirical literature on FDI, as described in chapter three. Thus, the presence of all independent variables in the regressions in this thesis is thereby justified both in terms of the OLI framework and by what is common practice in empirical literature—which is also the reason to why it was decided that the empirical analysis should focus on this particular set of variables. Table 1.0 below gives an overview of the variables, and specifies which data sources they are collected from.

Table 1.0: Regression variables

Name	Definition	Year	Source
FDI	Investor country FDI flows to host country	2006-2012	UNCTAD http://unctad.org/en/Pages/DIAE/FDI%20Statistics/FDI-Statistics-Bilateral.aspx
GDPHOST	Host country GDP	2006-2012	World Bank http://data.worldbank.org/
GDPCAPITA	Host country GDP per capita	2006-2012	World Bank http://data.worldbank.org/
NATRES	Natural resource rents (from oil, natural gas, coal, minerals, and forests) as % of GDP	2006-2012	World Bank http://data.worldbank.org/
LAW	Rule of law index	2006-2012	World Bank Group http://go.worldbank.org/ATJXPHZMH0

INVESTOR COUNTRY FDI FLOWS TO HOST COUNTRY

The dependent variable in the regressions is bilateral FDI flows to the different SSA countries from China and the G7 countries respectively. In Model 1a and 1b, two regressions are performed, using G7 outward FDI and Chinese outward FDI to the SSA countries respectively as dependent variables. In Model 2 using a gravity model setup (see section 4.3), one regression is performed, and the dependent variable is outward FDI flows from China and from the G7 countries.

HOST COUNTRY GDP

The variable Host country GDP is used as a proxy for market size in the regressions. This variable can serve as a good indicator of market seeking behavior from investors, something

that is described in the theoretical framework as when the investing country is driven and motivated by host country domestic demand. The Host country GDP variable is used by scholars such as Kolstad and Wiig (2012) and Cheng and Ma (2007) in their empirical analyses. A significant positive result in this variable may indicate that the investor country is motivated by access or proximity to large and/or prospering markets.

In terms of the OLI framework, host country GDP could also be a possible indicator of a firm level focus on horizontal FDI, since the L-advantage of proximity to markets in order to avoid trade costs is a reason why firms choose to become MNEs, as established in section 3.1. Since a majority of world MNEs are horizontally organized, the Host country GDP-variable should be important in explaining FDI flows. However, as also established in section 3.1, it is rarely the case of either vertical or horizontal organization on the single firm level, but rather a combination, so called 'complex integration strategies'.

This variable is also linked to the 'proximity-concentration tradeoff', also found in section 3.1, since the value of proximity to markets also depends on the domestic demand in these markets. Hence, according to this hypothesis, concentration should be less attractive the higher the value of this variable is, and more firms should then want to engage in FDI. However, it must be noted that the actual value of the proximity to markets L-advantage also depends on the purchasing power in said markets, which in turn is more appropriately represented by the next independent variable, GDP per capita.

HOST COUNTRY GDP PER CAPITA

The variable GDP per capita is used as a proxy for host country wage level in the regressions, and is used by Cheng and Ma (2007) in their empirical analysis of Chinese FDI. A positive value of this variable would indicate that the investor country is driven by efficiency seeking motives, originating from capital-intensive production or a general higher level of development. A negative value on the other hand, would indicate that the investor is attracted by low host country wages and cheap inputs in production.

In terms of the OLI framework, this variable could also be an L-advantage indicator of vertical FDI organization on the firm level. This can be linked to the pattern of firms that seek lower labor costs are being attracted to locations with a low GDP per capita, while firms that

seek skilled labor or more capital intensive production should be attracted to higher GDP per capita.

NATURAL RESOURCES

The variable Natural resources, or more specifically natural resource rents as a percentage of GDP, is used as a proxy for the level of host country natural resources. Kolstad and Wiig (2012) are examples of scholars that use this variable for analyzing Chinese FDI. The variable is constructed as an aggregate measure of rents from oil, natural gas, coal, minerals, and forests. The Natural resource variable can be used as an indicator of investor country resource seeking behavior, and a significant positive value would indicate that the investor country has an interest in access to host country natural resources.

In terms of the OLI framework, the natural resource variable is a typical L-advantage, as it consists of immobile country specific assets. In addition, and especially for non-renewable resources such as oil, a positive result could also indicate investor country strategic FDI motives, in order to protect or augment existing O-advantages, or to reduce the influence of possible competitors. However, as strategic FDI motives are found in more firm specific contexts, and are difficult to test for, the variable Natural resources is in this thesis seen primarily as an indicator of resource seeking motives.

LAW

The variable Law is used as a proxy for quality of institutions in the regressions, and is based on the Worldwide Governance Indicators (WGI) composed by the World Bank Group. The WGI indicators measure six dimensions of governance, which are voice and accountability, political stability and absence of violence, government effectiveness, regulator quality, rule of law, and control of corruption. In the regressions in this thesis, the rule of law index was used, which measures the degree to which one can feel safe with a country's institutions, and that includes property rights, enforcement of contracts, police, and court systems (Kolstad and Wiig, 2012, p. 10). These indicators incorporate a multitude of surveys to produce an aggregate index, ranging from -2.5 to 2.5, with higher values reflecting better institutions in given country. Thus, the Law variable is used as an indicator of the host countries' quality of institutions, as well as their absence of corruption, ease of doing business, and general openness of the economy. The Law variable thereby reflects the in academic literature

hypothesized importance of institutions in the host countries for attracting FDI, as well as the positive relationship between FDI and host country institutions that has been found in empirical research (Kolstad and Wiig, 2012, p. 6). The rule of law index used in this thesis was chosen due to its relatively high degree of coverage, compared with for example the Political Risk Services group (PRS) index, which is another commonly used index for these types of institutional variables (Kolstad and Wiig, 2012, p. 10). The Law variable built on the rule of law index has previously been used by scholars such as Kolstad and Wiig (2012) and Asiedu (2006).

In terms of the OLI framework, quality of institutions belongs to the L-advantage category. However, this is one of the more questioned L-advantages (and likewise, one of the more disputed pull factors) due to the belief that bad institutions and/or lax regulations may actually attract more FDI from some investors, for example from Chinese investors according to some critics (see discussion in section 2.4.1). This is something that makes the interpretation of the values of this variable interesting, but also ambiguous. However, a significant result for this variable could indicate that the investor country does care about institutional quality, whereas a non-significant result indicates that the investor does not care about the quality of institutions in the host country.

4.2 Limitations

As pointed out in section 1.2, there are limitations in the data set both due to missing values, and as a result of the time period chosen. The issues related to missing data could have implications on both the dependent and independent variables in the regressions performed in this thesis, even though efforts have been made to minimize any effects on the included variables (Verbeek, 2012, pp. 50-52). The issues related to the time period that the analysis spans over are exogenous, but must nevertheless be mentioned. Also, in Model 1b when an interaction variable is added to the first regression specification, issues of multicollinearity may arise and come to affect the analysis, as discussed in section 5.1.2 (Verbeek, 2012, pp. 43-46).

In the regressions in this thesis, FDI outflows from China and from G7 directed to SSA are used as dependent variables. Thus, the limitation of available official data on investor countries' FDI flows to SSA was a concern in the construction of the models. But by using

the G7 countries, which have relatively complete data on FDI flows, as counterpart group to compare Chinese FDI against, the amount of missing data for those dependent variables could be sufficiently reduced. Limited availability of data was not an issue for the dependent variable based on Chinese FDI flows, since the Chinese data set on FDI is complete and does not contain any missing values. However, it must be noted that data on Chinese investments might be deceptive since China's official data only consists of approved FDI flows, not realized, and is therefore believed to underestimate actual FDI flows (Cheung and Qian, 2009, pp. 318-319). In this thesis, the official numbers from the Chinese Ministry of Commerce (MOFCOM) are used, since these are the numbers that the UNCTAD FDI database is based upon, so, even though there are no missing values in the Chinese data set, that dependent variable might not reveal the actual extent of Chinese FDI in SSA. One last thing to note in relation to Chinese official data, is that China has been publishing its official data according to the IMF and OECD standards since year 2003. Thus, the G7 and Chinese data used in this analysis can be compared with one another in a feasible way (Cheung and Qian, 2009, p. 318).

However, moving on to the independent variables built on SSA country specific values, the data is relatively incomplete in some cases. Thus, this part of the data set does contain a certain quantity of missing values, which may affect the results of the regressions. Another implication of the limitations in available data in SSA that must be mentioned is that the chosen SSA countries in the empirical analysis could not be randomly selected. This is due to the fact some SSA countries simply are not possible to use in regressions like these, due to lack of data. Regardless of that reason, this fact may still affect the subsequent analysis.

The other issue that causes concerns for the empirical analysis is related to the selected period of time. Between 2006 and 2012, the global economy did experience a large shock due to the financial crisis of 2007-2008. The crisis had a negative impact on the overall trend in FDI flows, which is something that consequently affects the analysis in this thesis (UNCTAD, 2012, pp. xiii, 4). Hence, FDI flows from both China and the G7 countries may have looked different in absence of such a major external shock, and so could the results of the analysis.

4.3 Model and method of estimation

As previously mentioned, each independent variable used in the regressions consists of a factor that is commonly labeled as a pull factor, which are factors that are believed to attract foreign investors into the host country. Through the regressions presented in this section, it can be distinguished which of these pull factors that are significant for the Chinese investors in determining of their FDI flows to the host countries.

First, an ordinary least squares (OLS) model labeled Model 1a is used to perform two regressions, one for China's FDI and one for the G7 countries' FDI. Similar methods of running OLS regressions and comparing their results in order to examine FDI have been used by scholars such as Cheung and Qian (2009), and Kolstad and Wiig (2012). Model 1a is then extended with an interaction variable between Natural resources and Law added to the specification. This extended model is called Model 1b.

After this, a so called gravity model is applied as a second econometric approach to explaining Chinese FDI. This is done through the regression labeled Model 2, which is in line with the approach used by Cheng and Ma (2007). The gravity model is an economic model initially used by economists to explain trade flows, but that more recently has been developed in order to try to explain more complicated FDI flows. Originally inspired by an area completely unrelated to economics, this economic model was constructed in the 1960s as an analogy of Newton's law of gravity (Anderson, 2010, p. 2). The economic version of the gravity model predicts that, all other things equal, the level of trade between two different countries will increase with the size of their economies, but decrease with the distance between them (Krugman et al., 2012, pp. 41-43). In order to estimate a general two-country gravity model, the following equation can be used: $T_{ij} = C * Y_i^a * Y_j^b / D_{ij}^c$ where Tij is the value of the trade between the two different countries represented by the subscripts i and j, C is a constant, Y is the GDP of a given country, and D is the distance between the countries. Simply by looking at this general equation, it is clear that the gravity model predicts that the trade volume between two given countries will be depend positively on the size of their GDP, and that the distance between them will have a negative impact on their trade volume.

When applying a gravity model to FDI, it has been shown that it can do a reasonably good job of explaining cross-country data on FDI (Bloningen, 2005, p. 393), and some scholars have

been successful in explaining patterns of FDI by the use of such a model (Anderson, 2010, pp. 35-37). The gravity model in this thesis, Model 2, can essentially be seen as a way of extending the first OLS models, in order to see if the gravity variables for distance and investor country GDP may have any additional influence on Chinese FDI flows when these variables are estimated together with the other pull factor variables, previously used in Model 1a and 1b.

The reason for using these two different models, both Model 1 in which the separate results for China and G7 are compared, and Model 2 that follows a gravity model equation approach, is to provide more robustness in the interpretation of the results. Especially in light of the fact that previous researchers have reached differing conclusions depending on method of estimation. Further, the gravity model, while perhaps a more common approach in FDI related research in general, was in this particular case restricted due to a lack of specific FDI data on inflows to SSA from the G7 countries, which was why the two model approach was believed to be helpful in order to obtain reliable results. Lack of data might also be the reason to why previous inquiries in this topic also have applied other models than the gravity model.

The regression models used in this thesis look as follows:

MODEL 1a:

$$lnCNFDI_{i,t} = \beta_0 + \beta_1 lnGDPHOST_{i,t} + \beta_2 lnGDPCAPITA_{i,t} + \beta_3 lnNATRES_{i,t} + \beta_4 LAW + Y^* + \varepsilon_{i,t}$$

$$lnG7FDI_{i,t} = \beta_0 + \beta_1 lnGDPHOST_{i,t} + \beta_2 lnGDPCAPITA_{i,t} + \beta_3 lnNATRES_{i,t} + \beta_4 LAW + Y^* + \varepsilon_{i,t}$$

MODEL 1b (EXTENDED VERSION OF MODEL 1a):

$$lnCNFDI_{i,t} = \beta_0 + \beta_1 lnGDPHOST_{i,t} + \beta_2 lnGDPCAPITA_{i,t} + \beta_3 lnNATRES_{i,t} + \beta_4 LAW + \beta_5 lnLAWNATRES_{i,t} + Y^* + \varepsilon_{i,t}$$

$$lnG7FDI_{i,t} = \beta_0 + \beta_1 lnGDPHOST_{i,t} + \beta_2 lnGDPCAPITA_{i,t} + \beta_3 lnNATRES_{i,t} + \beta_4 LAW + \beta_5 lnLAWNATRES_{i,t} + Y^* + \varepsilon_{i,t}$$

MODEL 2 (GRAVITY MODEL):

$$lnFDI_{i,t} = \beta_0 + \beta_1 lnGDPHOST_{i,t} + \beta_2 lnGDPCAPITA_{i,t} + \beta_3 lnGDPINV_{i,t} + \beta_4 lnNATRES_{i,t} + \beta_5 lnDIST_{i,t} + \beta_6 LAW_{i,t} + Y^* + \beta_7 CNDUMMY + \beta_8 CNDUMMYlnDIST + \beta_9 CNDUMMYlnGDPINV + \beta_{10} CNDUMMYlnNATRES + \beta_{11} CNDUMMYLAW + \beta_{12} CNDUMMYlnGDPHOST + \beta_{13} CNDUMMYlnGDPCAPITA + \varepsilon_{i,t}$$

All values in these models, except for Law variable built on the rule of law index have been transformed into logarithmic values, which mean that the results of the regressions can be interpreted as percentage changes (Verbeek, 2012, pp. 58-62). The Y* variable represents a set of year dummies that are used to eliminate year specific effects, and Huber/White/Sandwich adjusted standard errors are applied to eliminate possible heteroskedasticity issues. In Model 2, only one regression is performed in which a dummy representing Chinese FDI has been used to be able to single out the result for China. This dummy variable is then interacted with the different explanatory variables to single out potential differences in Chinese FDI behavior.

Since two different models are used, whereas one of them is also further extended by the addition of an interaction variable, differences in fit it may matter when interpreting the results, i.e. how well the data fits the model (Verbeek, 2012, pp. 20-22). In Model 1a, the r^2 is 0,608 for Chinese FDI as dependent variable, and 0,422 for G7 FDI, which means that about 60 and 40 percent respectively of the variation in FDI is explained by that model. When an interaction variable is added in Model 1b, the r^2 rises slightly to 0,656 and 0,423 for China and G7 respectively, which means that the fit is marginally better in Model 1b when the interaction variable is added. In Model 2, the gravity model, the r^2 is 0,486, which means this model has roughly the same explanatory power as Model 1a and 1b.

5.0 Results and discussion

5.1.1 Results Model 1a

Model 1a Results	Regression 1 Chinese FDI		Regression 2 G7 FDI	
constant	4,041	(0.409)	-3,353	(0.215)
lnGDPHOST	0,567**	(0.004)	0,768***	(0.000)
lnGDPCAPITA	-0,023	(0.866)	0,432*	(0.019)
lnNATRES	0,647**	(0.024)	0,417	(0.091)
LAW	-0,068	(0.816)	0,201	(0.487)
Y2	0,537	(0.403)	0,143	(0.754)
Y3	1,531	(0.039)	-0,085	(0.863)
Y4	1,376	(0.003)	-0,129	(0.779)
Y5	1,479	(0.001)	0,134	(0.788)
Y6	1,603	(0.006)	-0,542	(0.301)
Y7	2,361	(0.000)	-0,579	(0.304)
Number of obs	65		189	
R-squared	0,608		0,422	

(See further details in Appendix 9.1)

Host country GDP (lnGDPHOST): the variable Host country GDP is significant on a one percent level for both investors. This means that both Chinese and G7 country investors are more prone to invest the larger the host country market is, which in turn suggests that both investors could be driven by a degree of market seeking FDI motives in the SSA region. Furthermore, since the value for the Host country GDP variable is higher for the G7 countries than for China, this could mean that the G7 country investors are more driven by market seeking motives than Chinese investors.

Host country GDP per capita (lnGDPCAPITA): the variable Host country GDP per capita is significant for the G7 country investors, which indicates that wage levels in the host countries affect FDI decisions in SSA. These results suggest that the G7 countries are more interested in skilled labor or more capital-intensive production, while this does not affect the FDI decisions of Chinese firms.

Natural resources (lnNATRES): the variable Natural resources is only significant for China. Since the variable has a positive value, it indicates that Chinese investors would be more prone to invest the more abundant the host country is in natural resources such as fuels, ores, and minerals. Thus, this result suggests that Chinese investors could be driven by resource seeking FDI motives, and hence, are more attracted to accessing host country natural resources than G7 country investors.

Law (LAW): the variable Law is not significant for either investor. This suggests that the quality of institutions in the host countries does not affect FDI decisions, and hence, that neither good nor bad institutions have effects on FDI flows. It must be noted that the values of the Rule of law-index in the selected SSA countries are very low in general, and not seldom negative. Therefore, the fact that the Law variable is not significant for either China or G7 suggests that investors do not let the general poor quality of institutions in these SSA countries affect their FDI decisions. Furthermore, the non-significance also indicates that Chinese firms would not be more attracted to invest in countries with bad or corrupt institutions than other investors are, which contravenes one of the more often cited arguments in the debate surrounding Chinese FDI in SSA.

5.1.2 Results Model 1b

A concern mentioned in section 2.3 and 2.4.1 is connected to China's investments in countries with a lower quality of institutions, and a perceived Chinese business advantage in such informal environments. Kolstad and Wiig (2012) further suggest that to properly take this concern into account, not only natural resources and institutions have to be included in regressions on Chinese FDI, but also the interaction effect between quality of institutions and natural resources. After running Model 1b, where an interaction variable between institutions and natural resources is added to the previous specification of Model 1a, the results show the following:

Model 1b Results	Regression 1 Chinese FDI		Regression 2 G7 FDI	
constant	3,626	(0.397)	-3,438	(0.210)
lnGDPHOST	0,520**	(0.003)	0,776***	(0.000)
lnGDPCAPITA	0,419	(0.101)	0,391	(0.109)
lnNATRES	1,246***	(0.001)	0,354	(0.344)
LAW	-0,934*	(0.050)	0,280	(0.466)
NATRESLAW	4,662*	(0.014)	-0,397	(0.791)
Y2	0,398	(0.526)	0,167	(0.718)
Y3	1,324	(0.040)	-0,076	(0.878)
Y4	1,139	(0.022)	-0,099	(0.834)
Y5	1,155	(0.015)	0,178	(0.735)
Y6	1,284	(0.021)	-0,491	(0.385)
Y7	2,013	(0.000)	-0,522	(0.391)
Number of obs	65		189	
R-squared	0,656		0,423	

(See further details in Appendix 9.2)

As can be seen, the results of Model 1b show no major differences in significance for the G7 investors, but in China's case, the variables Law and the interaction variable Lawnatres have now become significant. The Law variable is negative, and keeping in mind that the institutions index rule of law runs from a negative to a positive 2.5, this indicates that Chinese FDI is drawn to countries with bad institutions, and discouraged by good institutions. The interaction variable however is positive, which would indicate that Chinese FDI is drawn to natural resources in countries with good institutions, and discouraged by natural resources in countries with bad institutions. This result is inconsistent with the idea of China exploiting countries with bad institutions to acquire natural resources. Further, it is not in line with the results of Kolstad and Wiig (2012), who find evidence of this idea. The difference might be explained by the fact that they use a different, earlier, time period, suffer from less multicollinearity issues, and use a different index for natural resources (Kolstad and Wiig, 2012, pp. 11, 13-15). However, it should be mentioned that Model 1b causes concerns due to possible multicollinearity problems between the interaction variable and the variables from which it is created, something that is important to note when interpreting the results (Appendix 9.3).

5.1.3 Results Model 2:

Model 2	Results	
constant	4,942	(0.428)
lnGDPHOST	0,845***	(0.000)
lnGDPCAPITA	0,375*	(0.034)
lnGDPINV	-0,743**	(0.002)
lnNATRES	0,604*	(0.012)
lnDIST	1,351*	(0.026)
LAW	0,185	(0.535)
Y2	-0,042	(0.909)
Y3	-0,017	(0.967)
Y4	-0,181	(0.628)
Y5	-0,1	(0.810)
Y6	-0,656	(0.155)
Y7	-0,673	(0.189)
CNDUMMY	-62,294*	(0.018)
CNDUMMYlnDIST	-2,279	(0.287)
CNDUMMYlnGDPINV	3,172***	(0.000)
CNDUMMYlnNATRES	0,03	(0.932)
CNDUMMYLAW	-0,255	(0.534)
CNDUMMYlnGDPHOST	-0,282	(0.197)
CNDUMMYlnGDPCAPITA	-0,318	(0.331)
Number of obs	254	
R-squared	0,4863	

(See further details in Appendix 9.4)

As can be seen from the results of Model 2, none of the China specific variables are significant, except for the GDP of investor variable, i.e. China's GDP. This suggests that China may be even more driven by GDP growth than other countries to invest abroad, which is a plausible indication due to its high growth rate, as discussed in section 2.1. Contrary to the theoretical underpinnings of the gravity model, size of investor GDP appears to be negatively correlated to FDI in this regression, while distance appears positive. Thus, interpreting this result is difficult, since it does not seem intuitive that distance to host country should increase FDI while economic size of the investor should decrease it. However, as pointed out in the theoretical framework, it has been speculated that investments abroad are now cheaper and easier by virtue of technological advances in communications and transports, which could provide a sufficient explanation for the results regarding distance.

Another possible explanation is bias in the data, since the two largest investors in the sample, China and the US, are also among those farthest away, which might produce an unwarranted link between increasing distance and increasing FDI. The China specific variables appear to follow the predicted gravity model results, which in turn might indicate that Chinese FDI behavior is different to the G7 behavior, and perhaps more similar to prior FDI practices, whereas the G7 countries have changed their FDI behavior. The gravity specific variables aside, this regression shows that natural resources and GDP, as well as GDP per capita of the recipient country are positively related to FDI. To conclude, according to this model, there is no difference between Chinese and G7 country FDI behavior, except for the fact that Chinese FDI increases with Chinese GDP, while G7 countries decrease their FDI as their GDP increase.

Finally, just as in Model 1b where a regression using the interaction term between natural resources and the institution index variable Law is tested, this approach was tested for Model 2 as well. This term is then interacted with a China dummy, and while the interaction variables are insignificant for FDI in general, it proved significant and positive for Chinese FDI, and further, just as in section 5.1.2, the variable Law turned significant and positive for China. However, as discussed in section 5.1.2, issues with multicollinearity arise with this type of interacted variables, which might make interpretations difficult (Appendix 9.5 and 9.6).

5.2 Robustness

As an alternative to the institutional index used in the regressions for the variable Law, there are a number of similar indices that could have been used, for example the PRS index mentioned in section 4.1. The PRS index does however lack data, especially for recent years, which is why the WGI index was chosen over the PRS index in this thesis. Furthermore, there are other alternatives that could be used as variables instead of indices for quality of institutions, judicial environment, and openness in the economy, since these institutional indices often are composed of a variety of data sources and surveys that are vulnerable to bias. One such alternative variable could be trade, defined as imports and exports as a percentage of GDP. Trade as a variable would then indicate openness in the economy to foreign goods and services and international contacts for exports. It could also proxy for ease of doing business, because a high amount of exports and imports indicates a better business

climate for foreign investors to operate in. Hence, the variable trade could also capture effects of global trade agreements and trade policies (following the discussion in section 2.3). Replacing the institution variable Law with a variable for trade does not significantly change the results for the G7 countries. However, in China's case the trade variable is positive and significant (as opposed to the Law variable in the original specification), indicating that increased trade relative to GDP will attract more Chinese FDI (Appendix 9.5 and 9.6; Cheung and Qian, 2009, p. 325; Kolstad and Wiig, 2012, p. 11). The variable for trade is obviously different from our institutional rule of law index, and does not directly take into account such things as quality of the judicial system or corruption in the same way, which affects its interpretation. However, a trade variable might more accurately reflect the interests of investors regarding FDI, which is why it is interesting to control for. Also, when the interaction between trade and natural resources is tested for, in a similar way to the interaction between institutions and natural resources discussed in section 5.1.2, the results are the same for the G7 investors. For China however, the interacted variable is now negative, while the trade variable is positive. This indicates that Chinese FDI is drawn to natural resources in countries that are not very open to trade, but also that openness to trade in general increases Chinese FDI in said country (Appendix 9.8).

Another alternative to one of the variables in the regression specifications is to, instead of using total natural resource rents for the variable Natural resources, use metal/ore exports and/or fuel exports as percentages of total exports. This could be a more appropriate proxy, in the sense that the amounts of resources actually exported might be more interesting to a foreign investor. On the other hand, exports might also be less important to foreign investors since already exported resources should matter less than total existing resource rents including non-exports which can potentially be channeled into new exports. Indices for exports rather than total natural resource rents were used by Kolstad and Wiig (2012) as well as Cheung and Qian (2009), but neither of them tests alternative indices for natural resources. Also, the different export indices lacked data for several countries, most notably for the major oil exporting country Angola, and such missing data is likely to produce skewed results.

An alternative to the variable GDP per capita could have been to use actual wage data for each of the SSA countries, but such data is lacking for several SSA countries. Further, one possible disadvantage of using actual wage data might be if informal economies present in the

set of SSA countries are large, which would mean that official wage data is not accurate (Chen, 2005, pp. 5-6). In that case, host country wage levels are thus more appropriately proxied by GDP per capita data. Moreover, since Chinese firms have been known to import labor from China, host country wage levels might not be affecting Chinese firms' FDI decisions anyways, at least not as much as for other investor countries (Zafar, 2007, p. 106). Thus, if there is truth in the claim of large quantities of the labor being imported from China, neither actual wage levels nor the proxy in form of GDP should be relevant for Chinese FDI in the regression.

Other alternatives for proxying development levels, such as infrastructure variables, could also be appropriate to use in regressions like the ones in this thesis. Asiedu (2002; 2006) as well as Kolstad and Wiig (2012) include phone usage as a proxy for infrastructure. This measurement is advantageous due to the availability of reliable data compared to other existing measurements of infrastructure such as roads, which normally is difficult to measure accurately. When a variable based on cell phone subscriptions per 100 people was included in the regressions, it showed positive significance for the G7 country investors, but no significance for China, while the other results remained robust. The results also remained robust when it was used together with the extended specification in Model 1b, except for minor changes in significance levels. It was also significant and positive in Model 2, but when this new variable was interacted with a dummy for Chinese FDI, the result was insignificant (Appendix 9.9 and 9.10; Asiedu, 2002, pp. 111, 115; Asiedu, 2006, pp. 68-69; Kolstad and Wiig, 2012 p. 14)

Something that was mentioned in section 2.3, is that Chinese FDI may be explained as serving as a channel for the country's trade balance surplus, since a large surplus is believed to be an influential push factor for Chinese investors to seek investments abroad. This explanation might be plausible considering the fact that China already has large reserves of currency, especially compared to other investor countries. In order to see if this may affect FDI flows in the context of this analysis, a variable indicating currency reserves was added. This showed that the results for the original variables remain the same for China as in Model 1a, but the variable for reserves was significant and positive, indicating that increased reserves increases Chinese FDI. On the contrary, the variable was significant and negative for the G7 countries, indicating that increased reserves decrease FDI. The results were also robust

when the extended specification from Model 1b was included (Appendix 9.11 and 9.12; Cheung and Qian, 2009, pp. 312, 327).

Another issue that could be relevant to consider in the regression specifications of this thesis is to control for influence of 'cultural' factors, especially in light of Africa's colonial heritage as mentioned in section 2.2. However, this is difficult to adequately test for. Kolstad and Wiig (2012) control for such 'cultural factors' with a variable for the relative amount of ethnic Chinese in the population, but their results are found to be insignificant. For the analysis in this thesis, lack of accurate data regarding ethnicities, as well as the general ambiguity of concepts such as ethnicity, would most likely lead to biased results, or at least results that are difficult to interpret (Kolstad and Wiig, 2012, p. 12). Closely related to cultural factors are potential effects of language, which is something that Cheng and Ma (2007, pp. 10-11) control for in their regressions. This makes sense in their setting, since they examine Chinese outward FDI flows to different parts of the world, including Chinese-speaking areas such as Hong Kong and Macao. Hence, they can capture the effect of common culture, languages, and other bilateral bonds through such a language variable. In the setting of this thesis, a language variable does not change much in the case of Chinese FDI. However, language could be affecting FDI flows from some of the G7 countries, particularly from the United Kingdom or English speaking countries, since many of the SSA countries in the sample are former British colonies. Hence, language effects, together with 'cultural ties' may bias the results for some countries.

Inflation is another issue that can be considered when estimating FDI flows, which is something that Kolstad and Wiig (2012) control for in their regression. An inflation variable can in addition serve as a proxy for general macroeconomic stability. When an inflation variable derived from host country CPI was included to the regression specifications in this thesis, this variable was not significant for neither China or for the G7 countries, and all other results stayed robust. However, when an inflation variable derived from a host country GDP deflator was included, this variable turned out to be significant and negative for China, at the same time as all other results stayed robust. For G7, this inflation variable was not significant. Hence, host country inflation may have an impact on Chinese FDI behavior, although its inclusion does not change any of the other previous results. When included in the extended specification in Model 1b, the results remained similar and robust, with the exception of a loss

of significance in the Law variable for China when the CPI variable was included, and a minor gain in significance for GDP per capita for China when the GDP deflator variable was included. Finally, for the gravity model approach in Model 2, inflation variables based on GDP deflators or CPI were not significant, and they did not either change the results of the regression with one exception of the natural resource variable which lost some significance when the CPI inflation variable was included (Appendix 9.13, 9.14, 9.15 and 9.16)

Agglomeration effects are an additional thing that could be considered in the, since it might not be realistic to assume that bilateral FDI decisions are made independent of existing FDI (Blonigen, 2005, p. 397). Agglomeration economies are likely to be an important determinant of FDI, since closeness to already realized investments might be an important L-advantage, resulting from for example from increasing returns to scale, availability of skilled labor, and resources. Cheung and Qian (2009) incorporate effects of agglomeration economies in their regression specification as a ratio of FDI in the host country to that years' total outward FDI from the investor country. When this variable was included in Model 1a, the agglomeration variable was highly correlated with the dependent variable for China, resulting in non-interpretable results. For the G7 countries however, the variable was significant and positive, but the variable for GDP per capita lost significance. These results remain the same when included in the extended specification in Model 1b. Finally, similar results where found when this variable was included in Model 2, where it resulted in a general loss in significance, and non-interpretable results for all the interacted China variables. However, if a better proxy for agglomeration effects were to be found, i.e. one that explains agglomeration effects without being correlated with the dependent variable, an agglomeration variable could perhaps be used in the regression specification and produce interpretable results (Appendix 9.17, 9.18, 9.19 and 9.20).

An alternative approach in the construction of the models related to issues of time would be to use lagged variables in the regressions. This is theoretically plausible, since factors affecting FDI probably will not affect the FDI flows instantly, but rather with a certain delay. However, it must be noted that it is difficult to determine the 'best' length of lags added to the specification. Tests using this approach with both one and two year lags on the dependent variables show limited results. In Model 1a, the only significant difference with one-year lags is that the variable for natural resources is no longer significant for Chinese FDI, nor the

variable GDP per capita for G7 FDI. Using two-year lags entailed even larger significance losses. Using lagged variables for Model 1b, the result remained robust for one-year lags, while two-year lags once again resulted mainly in losses in significance. (Appendix 9.21, 9.22, 9.23 and 9.24). One and two year lags have also been tested on the gravity model approach in Model 2, but this did not result in any difference in significance levels for the China specific variables, and only minor differences in the explanatory variables in general, with a few previously significant variables becoming insignificant as the size of the lags increased (Appendix 9.25 and 9.26).

Another method for capturing time effects is to use the averages of FDI for a period of time. Kolstad and Wiig (2012) do this in their regressions by using the average of the period 2000-2002 as the explanatory variable for FDI in the period 2003-2006. They motivate this by referring to other studies which smooth out FDI flows with period averages, and argue that this method is better than a panel approach with limited data. However, tests using this method on Model 1a, using averages for 2007-2009 as explanatory variables for FDI flows in 2010-2012, showed few significant results for Chinese FDI, and none for the G7 countries. This is likely to be due to the limited number of observations when using averages over such short time periods, which is also the largest issue with this approach (Appendix 9.27; Kolstad and Wiig 2012, p. 12, 18).

Further, to assure that all of the different interacted variables in Model 2 are plausible, regressions including individual or pairs of dummy variables were tested. The results of this were varying, in general only resulting in small changes in the significance levels of the variables for GDP per capita and distance when including just one of the interaction variables in the regression. Further, the China specific dummy variables did not change in significance when they were included separately instead of together, indicating that the results in section 5.1.3 are robust. However, when including only interaction terms for the gravity variables, i.e. distance, host and investor GDP, the results proved significant for the interaction terms as well as all the explanatory variables apart from the institutional variable Law. This lends further support to the conclusion discussed in section 5.1.3, that China follows predicted gravity model behavior in its FDI, whereas the G7 countries do not. In general, the loss of significance in these variables as more interaction terms are included might be due to multicollinearity issues.

Finally, as briefly discussed in section 3.1, linkages, and so called learning-by-doing, has been hypothesized as an important motive for FDI behavior in theoretical literature. This is not something that has been discussed at length in this thesis, or specifically included in the regressions. While learning from foreign investors might indeed be important for the host economies, it is unlikely that this would be the primary purpose of the investing G7 or Chinese firms in Africa, since these investors are generally more 'advanced' than the host economies. Similarly, there is always a positive bias to keep in mind when discussing SSA as a region, since the 'worst' countries in the region are naturally the ones where data is missing.

6.0 Conclusions

The purpose of this thesis was to examine if Chinese investor behavior in SSA differs from the behavior of other investor countries. To be able to answer this question, both general FDI theory as well as real life empirical descriptions of present day and historic FDI were used as a starting point to be able to understand the arguments in the current debate and perceived controversy surrounding China's investments in SSA, and moreover, to distinguish what factors that actually determine Chinese FDI flows to SSA. In chapter two and three, factors that are commonly labeled as push and pull factors, which are believed to affect FDI behavior, were identified and discussed in the context of Chinese investments in SSA. In order to empirically examine Chinese investor behavior in SSA, both a gravity model and a 'regular' OLS model were used to regress four main variables on FDI flows, where these variables were derived from four of the different pull factors identified in the preceding chapters. The four variables that the empirical analysis focuses on were chosen to capture effects on FDI of market size, wage level or general level of development, abundance of natural resources, and quality of institutions in the SSA host country. In addition, an interaction variable between natural resources and institutions was included in the extension of the model, and a variable for distance and investor country GDP was used in the subsequent gravity model. These four independent variables are all commonly discussed in relation to Chinese FDI in SSA as well as in general FDI theory, which is why they were chosen as main focus of the analysis. Moreover, several other variables and alternative approaches were tested in the robustness section. The robustness tests were performed in order to assure accurate results, and thereby assure a sufficient level of reliability in all subsequent interpretations and conclusions.

As in much of the existing research on similar FDI topics, the results from the empirical analysis in this thesis are ambiguous. Following the results of Model 1a, what is found is that Chinese investors may be driven by resource seeking motives to a greater extent than investors from the G7 countries, but also that both China and the G7 countries are driven by market seeking FDI motives in many of the emerging economies in SSA. Moreover, the results do not provide any solid evidence supporting the claim that China care less about host country institutional environments or take advantage of cheap labor, as argued by some critics of Chinese FDI in SSA. After extending this model by including an interaction variable between quality of institutions and natural resources, the obtained results of Model 1b suggest that Chinese investors might be drawn to countries with bad institutions, but also that Chinese investors seek to acquire natural resources primarily in countries with good institutions. These two implications of Model 1b are somewhat conflicting, but cannot be seen as fully reliable, since this model may not be sufficient due to multicollinearity issues. Moreover, the result of Model 2 indicates that the only discernable difference between Chinese and G7 country FDI behavior is the fact that Chinese FDI increases with Chinese GDP, as opposed to the G7 countries. Hence, China is actually following the type of behavior that is predicted in an economic gravity model of FDI. Investors from G7 countries do not follow the standard predictions of the gravity model, since these G7 countries do not invest as much in SSA as would be expected judging from the size of their GDPs. This implication from the gravity model can be linked to what is discussed in the introduction of this thesis, about the fact that SSA traditionally has received modest amounts of FDI and lagged behind other developing countries in receiving FDI, but that China despite this overall tendency has become an influential investor in this previously neglected region. Further, the fact that China might be more engaged in SSA FDI can also be linked to what was discussed in section 2.3, about China being characterized by more influential domestic push factors, such as rapid economic growth and government encouragement. Finally, as discussed briefly in section 5.1.3, it is possible that China as a new investor is following the more traditional determinants for FDI predicted by the gravity model. Meanwhile, the G7 countries' FDI behavior may be determined by factors other than distance or economic size, due to decreased costs of transportation and communications, but also the benefits of 'new' advantages discussed in section 3.1 and 5.2, such as linkages, agglomeration effects et cetera.

Returning to the results of Model 1a, in which the results actually pointed towards one area in which Chinese FDI behavior differ from the G7 country behavior, seen in the different significance levels of the Natural resources variable. This does suggest that China is interested in investing in natural resources in SSA, and that this motive for FDI is more salient for Chinese investors than for investors from the G7 countries. The significance of the Natural resource variable is not surprising, since SSA over a long period of time has been a destination for resource seeking FDI. The fact that the G7 countries did not have significant results in this variable is perhaps more remarkable. However, the Chinese focus on natural resources may be linked to the rapid economic growth in China, together with the entailing concern that the country might not be endowed with enough natural resources to manage the growing demand (Cheung and Qian, 2009, p. 330; Zafar, 2007, pp. 104-105). As Chinese investors are mainly state-owned (as mentioned in section 2.3) the attraction to natural resources may also reflect the Chinese government's concerns for the country's growing need of such resources more than individual firm decisions.

The other significant variable in Model 1a is the host country GDP variable that serves as a proxy for host country market size and/or the condition of the host country market. The fact that host country market size is significant for both China and the G7 countries may not only say something about these investors' motives for FDI, but also indicates something about SSA—a region in which many countries have started to emerge as new participants in global markets. Large host country markets, or just large host countries per se, may also mean that agglomeration effects have something to do with FDI decisions regarding these SSA countries, since it should theoretically be easier to invest in a country that already has a certain amount of FDI inflows from a given country or sector. Large countries, or countries with large markets, may also be politically important, which could matter in the case of the state-owned Chinese investors.

More than interpreting the results of the empirical analysis of recent Chinese FDI inflows to SSA, it must also be asked what implications these results have in the SSA countries, as well as their implications for the future of FDI in this region. To begin with implications in SSA today, benefits of FDI are, as mentioned in the introduction of this thesis, highly dependent on the existence of functioning policy frameworks in the host countries, and on whether these frameworks are designed for directing FDI inflows to foster financial stability, promote

economic growth, and eventually increase the countries' overall level of well-being. Since the SSA countries in this analysis generally have very low scores on indices such as rule of law, it might be questioned if some of these countries currently have existing policy frameworks designed to not only promote economic growth, but rather, promote an inclusive type of economic growth that benefits all parts and layers of a given society. Since results of the empirical analysis in this thesis suggest that Chinese investments are more focused on acquiring natural resources, it might be the case that this fraction of Chinese FDI is not beneficial for the host countries due to the fact that resource seeking FDI is believed to often entail costs in the form of rent seeking, and by reinforcing the power of corrupt elites. Furthermore, resource seeking FDI may lead to an intensified industrial focus on natural resources in the host country, which can lead to both deindustrialization of other sectors as well as deagriculturalization (Zafar, 2007, p. 108). This in turn, can make the host countries' economies too dependent on the given natural resource—resulting in what in economic literature is known as 'the Dutch disease'. Moreover, the fact that Chinese investors are known to import a considerable amount of Chinese labor, may also prevent the benefits of foreign investments from spreading in the host countries' economies (Zafar, 2007, pp. 106-107, 124; Feenstra, 2004, p. 20). To conclude the discussion of present day implications in SSA, an important fact that must be considered is that FDI inflows have both benefits and costs (Ajayi, 2006, p. 2), and it is not guaranteed that the benefits in a given SSA country will exceed the costs of Chinese FDI as long as the existing policy frameworks are not designed to channel the inflows of capital to fostering an inclusive as well as sustainable type of economic growth.

Regarding the future of Chinese FDI in SSA, these flows are not expected to decline, part as a result of the agglomeration effect described in section 3.1 as well as in the robustness discussion in section 5.2. Drawing on the results of China's focus on natural resource seeking motives, a continuation of Chinese investments in the commodity sectors in SSA is not unlikely. The question of whether such FDI will benefit the SSA region as a whole is as previously mentioned both a question of defining what the term beneficial actually means, as well as a question depending on the condition of political and economic frameworks in the host countries. However, a commodity boom would lead to capital inflows, which could increase macroeconomic stability—something that could attract more investors, perhaps also in other sectors. Thus, even though much Chinese FDI is directed towards natural resource

industries and might not be sustainable or long term, as discussed in section 2.4.1, such a short term economic boost from the commodity industry could perhaps attract more and different types of FDI, for example due to the previously mentioned possibility of agglomeration effects.

However, as mentioned in section 2.1 and 3.1, FDI flows are in general very sensitive to exogenous factors, and this is obviously the case with Chinese FDI in SSA as well. Therefore, financial crises, natural disasters, or any other exogenous events that cannot be controlled for can certainly affect the current positive trend in SSA. Moreover, any new or alternated multilateral, bilateral and/or regional trade agreements may also affect general FDI flows, and so does specific countries' trade policies, for example in line with the predictions of the concentration-proximity hypothesis mentioned in section 3.1. Exogenous factors like the ones mentioned here, can therefore change the relative importance of the push and pull factors discussed in this thesis, by for example making previously significant pull factors less attractive for investors, or making previously non-significant pull factors increasingly important in the FDI decisions of Chinese investors.

Also, as mentioned in the introduction of this thesis, SSA is by many investors still perceived as risky, so changing this image might result in substantial positive effects, not only on Chinese FDI inflows, but on overall foreign capital inflows to the region (Ajayi, 2006, pp. 13-21; Asiedu, 2002, p. 116). Hopefully, the above mentioned agglomeration effect may assist in this process. Finally, as pointed out by OECD (2008) and as mentioned above, the importance of political and economic frameworks being adjusted to correspond to FDI flows does matter for the host countries' economies, and should hence not be undervalued. Thus, given that the SSA countries keep adjusting their country specific FDI frameworks, in order to become perceived as more 'safe' by foreign investors (Ajayi, 2006, p. 2), the remarkable Chinese economic growth may spread its effects to SSA—and contribute to promoting economic growth and enhance well-being in a region previously overlooked in the global economy.

6.0 Further Research

The results of this thesis naturally open up ideas for further research. The enquiry into the subject was of course limited by time as well as by the availability of data. Therefore an expansion of the scope of the econometric analysis, by bringing in more SSA countries and

perhaps other areas of the world into the analysis would be interesting, as would increasing the time span, especially with regards to FDI before and after the financial crisis of 2007-2008. This would allow for further comparisons, and possibly in results that could allow for more general and definitive conclusions regarding Chinese FDI. On the other hand, a more detailed study on firm level or even on specific cases of Chinese FDI into SSA countries, perhaps into some of the major Chinese projects, using non-econometric and/or qualitative methods would also be interesting. An approach similar to these suggested ones would allow for the possibility of exploring some of the factors left out of the econometric analysis in this thesis. Examples of such factors are the 'cultural' ties or the perception of Chinese FDI in some of the SSA host countries, which both are briefly discussed in this thesis.

Ultimately such types of econometric analyses are always highly dependent on the availability and precision of data. This is in turn is obviously affected by the fact that the countries in question are developing or recently developed countries with limited opportunities for extensive data collection, so at present times there will always be limitations due to data. However, further on into the future when the availability of data in the regions in question becomes better, the above suggested questions would not only be possible to examine, but even more comprehensive and exhaustive research could be done.

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9.0 Appendix

9.1 Model 1a

Linear regression

Number of obs =	65
F(10, 54) =	13.31
Prob > F =	0.0000
R-squared =	0.6079
Root MSE =	1.1649

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	-.0227997	.13406	-0.17	0.866	-.2915739	.2459745
lnGDPHOST	.5667803	.1866239	3.04	0.004	.1926219	.9409387
lnNATRES	.6473373	.2778808	2.33	0.024	.0902199	1.204455
LAW	-.0684593	.2924399	-0.23	0.816	-.654766	.5178475
Y2	.537435	.6381357	0.84	0.403	-.74195	1.81682
Y3	1.530668	.7252694	2.11	0.039	.0765904	2.984745
Y4	1.375771	.4420078	3.11	0.003	.4895988	2.261944
Y5	1.479248	.4394228	3.37	0.001	.5982579	2.360237
Y6	1.603375	.5625253	2.85	0.006	.4755796	2.73117
Y7	2.360607	.4518933	5.22	0.000	1.454615	3.266599
_cons	4.040729	4.853167	0.83	0.409	-5.689284	13.77074

Linear regression

Number of obs =	189
F(10, 178) =	16.80
Prob > F =	0.0000
R-squared =	0.4223
Root MSE =	1.7555

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.4323713	.1827187	2.37	0.019	.0717977	.7929449
lnGDPHOST	.7677516	.1230292	6.24	0.000	.5249682	1.010535
lnNATRES	.4174017	.2459301	1.70	0.091	-.067912	.9027153
LAW	.2012529	.2887831	0.70	0.487	-.3686261	.7711319
Y2	.1426245	.4545744	0.31	0.754	-.7544239	1.039673
Y3	-.0850531	.4920131	-0.17	0.863	-1.055982	.8858761
Y4	-.128606	.4585777	-0.28	0.779	-1.033555	.7763425
Y5	.134285	.4981821	0.27	0.788	-.848818	1.117388
Y6	-.5419204	.5224283	-1.04	0.301	-1.57287	.4890297
Y7	-.5793433	.5620943	-1.03	0.304	-1.688569	.5298828
_cons	-3.353009	2.696811	-1.24	0.215	-8.674845	1.968827

9.2 Model 1b

Linear regression

Number of obs =	65
F(11, 53) =	12.31
Prob > F =	0.0000
R-squared =	0.6556
Root MSE =	1.1021

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.419021	.2513199	1.67	0.101	-.0850629	.923105
lnGDPHOST	.5202067	.1657149	3.14	0.003	.1878246	.8525887
lnNATRES	1.246379	.340522	3.66	0.001	.5633782	1.929379
LAW	-.9340485	.4646466	-2.01	0.050	-1.866011	-.0020855
NATRESLAW	4.662239	1.843728	2.53	0.014	.9641888	8.360289
Y2	.3982541	.6241675	0.64	0.526	-.8536674	1.650176
Y3	1.324313	.6274316	2.11	0.040	.0658451	2.582782
Y4	1.139362	.4828026	2.36	0.022	.1709823	2.107741
Y5	1.154847	.4583206	2.52	0.015	.2355719	2.074121
Y6	1.28376	.5407841	2.37	0.021	.1990849	2.368436
Y7	2.01327	.4647387	4.33	0.000	1.081122	2.945417
_cons	3.625884	4.24945	0.85	0.397	-4.897432	12.1492

Linear regression

Number of obs =	189
F(11, 177) =	15.56
Prob > F =	0.0000
R-squared =	0.4225
Root MSE =	1.7601

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.3914931	.2432039	1.61	0.109	-.0884593	.8714456
lnGDPHOST	.7763799	.1277763	6.08	0.000	.5242187	1.028541
lnNATRES	.3542879	.3733071	0.95	0.344	-.3824178	1.090994
LAW	.2800606	.3836539	0.73	0.466	-.477064	1.037185
NATRESLAW	-.3966715	1.494069	-0.27	0.791	-3.345152	2.551809
Y2	.1667978	.4619531	0.36	0.718	-.7448468	1.078442
Y3	-.0757025	.4932946	-0.15	0.878	-1.049198	.8977932
Y4	-.099285	.4717455	-0.21	0.834	-1.030255	.8316846
Y5	.1776385	.5248327	0.34	0.735	-.8580964	1.213373
Y6	-.4914017	.5641747	-0.87	0.385	-1.604776	.6219728
Y7	-.5216805	.6061593	-0.86	0.391	-1.71791	.6745488
_cons	-3.437509	2.73213	-1.26	0.210	-8.82925	1.954233

9.3 Multicollinearity Table 1

(obs=65)

	lnFDI	lnGDPH~T	lnGDPINV	lnGDPC~A	lnNATRES	LAW	NATRES~W
lnFDI	1.0000						
lnGDPHOST	0.5954	1.0000					
lnGDPINV	0.4456	0.1218	1.0000				
lnGDPCAPITA	-0.0020	0.2387	0.1168	1.0000			
lnNATRES	0.5092	0.4206	0.0051	-0.3612	1.0000		
LAW	-0.3367	-0.1803	-0.0499	0.4751	-0.7040	1.0000	
NATRESLAW	-0.3105	-0.3749	0.0309	0.0447	-0.7757	0.7644	1.0000

(obs=189)

	lnFDI	lnGDPH~T	lnGDPINV	lnGDPC~A	lnNATRES	LAW	NATRES~W
lnFDI	1.0000						
lnGDPHOST	0.6223	1.0000					
lnGDPINV	-0.0617	0.0799	1.0000				
lnGDPCAPITA	0.4881	0.6432	0.1073	1.0000			
lnNATRES	0.1007	0.1072	0.0405	-0.2043	1.0000		
LAW	0.0734	0.0867	0.0893	0.3746	-0.7163	1.0000	
NATRESLAW	-0.1533	-0.1428	-0.0274	-0.0304	-0.8033	0.7692	1.0000

9.4 Model 2

Linear regression

Number of obs =	254
F(19, 234) =	16.47
Prob > F =	0.0000
R-squared =	0.4863
Root MSE =	1.5813

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.3746688	.1756437	2.13	0.034	.0286238	.7207138
lnGDPHOST	.8452069	.1310732	6.45	0.000	.5869726	1.103441
lnGDPINV	-.7434064	.2352503	-3.16	0.002	-1.206886	-.2799272
lnNATRES	.6039053	.2372795	2.55	0.012	.1364283	1.071382
lnDIST	1.351392	.6027773	2.24	0.026	.1638279	2.538955
LAW	.184549	.2969148	0.62	0.535	-.4004187	.7695167
Y2	-.042308	.3697082	-0.11	0.909	-.7706899	.6860739
Y3	-.0173166	.4187312	-0.04	0.967	-.8422814	.8076482
Y4	-.1805683	.3725738	-0.48	0.628	-.914596	.5534594
Y5	-.0999732	.4152622	-0.24	0.810	-.9181035	.7181572
Y6	-.6556008	.4590144	-1.43	0.155	-1.55993	.2487282
Y7	-.6725893	.5108216	-1.32	0.189	-1.678986	.3338078
CNDUMMY	-62.29449	26.22555	-2.38	0.018	-113.9628	-10.62613
CNDUMMYlnDIST	-2.279301	2.136843	-1.07	0.287	-6.489211	1.930609
CNDUMMYlnGDPINV	3.171613	.5862445	5.41	0.000	2.016621	4.326604
CNDUMMYlnNATRES	.0297693	.3462487	0.09	0.932	-.6523938	.7119324
CNDUMMYLAW	-.2552173	.4096147	-0.62	0.534	-1.062221	.5517866
CNDUMMYlnGDPHOST	-.2820838	.2180942	-1.29	0.197	-.7117629	.1475953
CNDUMMYlnGDPCAPITA	-.3177944	.3259473	-0.97	0.331	-.9599606	.3243719
_cons	4.941592	6.228189	0.79	0.428	-7.328897	17.21208

9.5 Model 2 Extended

Linear regression

Number of obs =	254
F(21, 232) =	14.81
Prob > F =	0.0000
R-squared =	0.4966
Root MSE =	1.5721

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.2325754	.2362231	0.98	0.326	-.2328413	.6979921
lnGDPHOST	.8791611	.1397626	6.29	0.000	.6037949	1.154527
lnGDPINV	-.7691978	.2399432	-3.21	0.002	-1.241944	-.2964516
lnNATRES	.3984062	.3470403	1.15	0.252	-.2853472	1.08216
lnDIST	1.437919	.6257936	2.30	0.022	.2049542	2.670884
LAW	.440314	.3556055	1.24	0.217	-.2603148	1.140943
Y2	.0041912	.3730967	0.01	0.991	-.7308996	.7392821
Y3	.0174108	.4093233	0.04	0.966	-.7890551	.8238766
Y4	-.0970308	.3919331	-0.25	0.805	-.8692339	.6751723
Y5	.0125899	.4424558	0.03	0.977	-.8591552	.8843349
Y6	-.4954433	.5057972	-0.98	0.328	-1.491986	.5010995
Y7	-.4894769	.5654476	-0.87	0.388	-1.603546	.6245917
NATRESLAW	-1.330214	1.489115	-0.89	0.373	-4.26413	1.603702
CNDUMMY	-32.93956	31.33025	-1.05	0.294	-94.66773	28.78861
CNDUMMYlnDIST	-3.879158	2.293494	-1.69	0.092	-8.397896	.6395799
CNDUMMYlnGDPINV	2.634859	.6490476	4.06	0.000	1.356078	3.91364
CNDUMMYlnNATRES	.8638901	.5112456	1.69	0.092	-.1433875	1.871168
CNDUMMYLAW	-1.502746	.5904397	-2.55	0.012	-2.666055	-.3394368
CNDUMMYlnGDPHOST	-.3853906	.2130183	-1.81	0.072	-.8050881	.034307
CNDUMMYlnGDPCAPITA	.4584744	.4952237	0.93	0.356	-.5172361	1.434185
CNDUMMYNATRESLAW	6.316669	2.502549	2.52	0.012	1.386043	11.2473
_cons	4.559157	6.327149	0.72	0.472	-7.906858	17.02517

9.6 Multicollinearity Table 2

(obs=254)

	lnFDI	lnGDPC~A	lnGDPH~T	lnGDPINV	lnNATRES	lnDIST	LAW	NATRES~W
lnFDI	1.0000							
lnGDPCAPITA	0.3865	1.0000						
lnGDPHOST	0.6151	0.5463	1.0000					
lnGDPINV	-0.0125	0.1018	0.0534	1.0000				
lnNATRES	0.1928	-0.2451	0.1921	0.0212	1.0000			
lnDIST	-0.0049	0.2114	-0.1155	0.5202	-0.2854	1.0000		
LAW	-0.0209	0.4006	0.0136	0.0698	-0.7131	0.3080	1.0000	
NATRESLAW	-0.1846	-0.0128	-0.1949	-0.0137	-0.7934	0.2617	0.7658	1.0000

9.7 Variable Trade

Linear regression

Number of obs =	65
F(10, 54) =	14.37
Prob > F =	0.0000
R-squared =	0.6258
Root MSE =	1.1381

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	-.1653988	.1326445	-1.25	0.218	-.431335	.1005375
lnGDPHOST	.6993775	.2020316	3.46	0.001	.2943286	1.104426
lnNATRES	.6369462	.2238511	2.85	0.006	.1881518	1.085741
lnTRADE	.7631083	.3497661	2.18	0.033	.0618695	1.464347
Y2	.5098966	.6394624	0.80	0.429	-.7721483	1.791942
Y3	1.49584	.6969074	2.15	0.036	.098625	2.893055
Y4	1.401577	.4643963	3.02	0.004	.4705188	2.332636
Y5	1.48545	.4605665	3.23	0.002	.5620696	2.40883
Y6	1.710954	.5729264	2.99	0.004	.5623058	2.859602
Y7	2.294643	.4623841	4.96	0.000	1.367619	3.221668
_cons	2.146662	4.876124	0.44	0.662	-7.629379	11.9227

Linear regression

Number of obs =	189
F(10, 178) =	14.88
Prob > F =	0.0000
R-squared =	0.4212
Root MSE =	1.7572

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.4320876	.2246759	1.92	0.056	-.0112836	.8754587
lnGDPHOST	.7921022	.1651706	4.80	0.000	.4661577	1.118047
lnNATRES	.2876603	.1915792	1.50	0.135	-.0903983	.665719
lnTRADE	.11548	.5581277	0.21	0.836	-.9859187	1.216879
Y2	.1461631	.4516977	0.32	0.747	-.7452086	1.037535
Y3	-.042052	.4910468	-0.09	0.932	-1.011074	.9269703
Y4	-.1521189	.4600999	-0.33	0.741	-1.060071	.7558334
Y5	.1423549	.4972538	0.29	0.775	-.8389162	1.123626
Y6	-.5115706	.5240573	-0.98	0.330	-1.545735	.5225941
Y7	-.5719638	.5591235	-1.02	0.308	-1.675327	.5313998
_cons	-4.270786	2.882307	-1.48	0.140	-9.958676	1.417104

9.8 Variable Natrestrade

Linear regression

Number of obs =	65
F(11, 53) =	13.06
Prob > F =	0.0000
R-squared =	0.6564
Root MSE =	1.1008

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.018375	.1854369	0.10	0.921	-.3535643	.3903143
lnGDPHOST	.6871539	.199175	3.45	0.001	.2876596	1.086648
lnNATRES	1.471733	.4213739	3.49	0.001	.6265636	2.316902
lnTRADE	1.741133	.5619475	3.10	0.003	.6140087	2.868257
NATRESTRADE	-5.109479	2.022646	-2.53	0.015	-9.166394	-1.052564
Y2	.3540667	.6194962	0.57	0.570	-.8884853	1.596619
Y3	1.206758	.6399255	1.89	0.065	-.0767695	2.490286
Y4	1.266461	.4606961	2.75	0.008	.3424216	2.190501
Y5	1.247972	.4656012	2.68	0.010	.3140944	2.18185
Y6	1.410172	.5641593	2.50	0.016	.2786121	2.541733
Y7	2.015985	.4801259	4.20	0.000	1.052975	2.978996
_cons	3.993264	4.693488	0.85	0.399	-5.42068	13.40721

Linear regression

Number of obs =	189
F(11, 177) =	14.02
Prob > F =	0.0000
R-squared =	0.4270
Root MSE =	1.7533

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.2895988	.2406861	1.20	0.230	-.1853849	.7645825
lnGDPHOST	.8185088	.1589161	5.15	0.000	.5048948	1.132123
lnNATRES	-.2267617	.4154915	-0.55	0.586	-1.046716	.5931929
lnTRADE	-.4786746	.6660934	-0.72	0.473	-1.793181	.8358321
NATRESTRADE	2.748302	1.936525	1.42	0.158	-1.073347	6.569952
Y2	.305944	.457409	0.67	0.504	-.5967331	1.208621
Y3	.0799844	.4882278	0.16	0.870	-.8835123	1.043481
Y4	-.0162651	.4634992	-0.04	0.972	-.9309608	.8984307
Y5	.3718902	.5100945	0.73	0.467	-.6347594	1.37854
Y6	-.2105937	.5616263	-0.37	0.708	-1.318939	.8977518
Y7	-.2478461	.5968527	-0.42	0.678	-1.425709	.9300171
_cons	-5.663566	2.930457	-1.93	0.055	-11.4467	.1195648

9.9 Variable Phones – Model 1a

Linear regression

Number of obs =	65
F(11, 53) =	12.15
Prob > F =	0.0000
R-squared =	0.6079
Root MSE =	1.1759

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	-.0216255	.1389523	-0.16	0.877	-.3003287	.2570776
lnGDPHOST	.5666484	.186825	3.03	0.004	.1919249	.9413719
lnNATRES	.646885	.2835979	2.28	0.027	.0780596	1.21571
LAW	-.0687593	.2955815	-0.23	0.817	-.6616207	.5241021
lnPHONE	-.0036341	.1849042	-0.02	0.984	-.3745049	.3672368
Y2	.5394813	.6620832	0.81	0.419	-.7884895	1.867452
Y3	1.533765	.8048901	1.91	0.062	-.08064	3.14817
Y4	1.379751	.5115034	2.70	0.009	.3538051	2.405697
Y5	1.483894	.5319499	2.79	0.007	.416938	2.550851
Y6	1.608911	.6479852	2.48	0.016	.3092172	2.908604
Y7	2.366579	.5701975	4.15	0.000	1.222908	3.51025
_cons	4.026757	5.095846	0.79	0.433	-6.194216	14.24773

Linear regression

Number of obs =	189
F(11, 177) =	19.37
Prob > F =	0.0000
R-squared =	0.4502
Root MSE =	1.7174

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.3954653	.1709533	2.31	0.022	.0580962	.7328344
lnGDPHOST	.7965855	.1223871	6.51	0.000	.5550597	1.038111
lnNATRES	.4878469	.2443043	2.00	0.047	.0057229	.969971
LAW	.1791462	.2798886	0.64	0.523	-.373202	.7314943
lnPHONE	.5057247	.1372844	3.68	0.000	.2347999	.7766495
Y2	-.0893567	.4360717	-0.20	0.838	-.9499255	.7712121
Y3	-.4287002	.4734664	-0.91	0.366	-1.363066	.5056655
Y4	-.5759519	.4588788	-1.26	0.211	-1.48153	.3296259
Y5	-.4460687	.4980201	-0.90	0.372	-1.42889	.5367527
Y6	-1.229472	.522252	-2.35	0.020	-2.260114	-.1988295
Y7	-1.318305	.5879734	-2.24	0.026	-2.478645	-.1579648
_cons	-2.752432	2.695105	-1.02	0.309	-8.071106	2.566241

9.10 Variables Phones – Model 1b

Linear regression

Number of obs =	65
F(12, 52) =	11.11
Prob > F =	0.0000
R-squared =	0.6556
Root MSE =	1.1126

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.4229796	.2572711	1.64	0.106	-.0932726	.9392318
lnGDPHOST	.5197632	.1663582	3.12	0.003	.1859411	.8535854
lnNATRES	1.245131	.3449295	3.61	0.001	.5529791	1.937282
LAW	-.9353309	.4696832	-1.99	0.052	-1.877819	.0071574
lnPHONE	-.0117594	.1766479	-0.07	0.947	-.3662294	.3427107
NATRESLAW	4.663917	1.862648	2.50	0.015	.9262405	8.401593
Y2	.4048258	.6383075	0.63	0.529	-.8760319	1.685683
Y3	1.334262	.6985168	1.91	0.062	-.0674149	2.735938
Y4	1.152154	.5392564	2.14	0.037	.0700573	2.234252
Y5	1.169767	.530921	2.20	0.032	.1043955	2.235138
Y6	1.301559	.6086	2.14	0.037	.080314	2.522804
Y7	2.032469	.5616247	3.62	0.001	.905487	3.159452
_cons	3.580523	4.421012	0.81	0.422	-5.290887	12.45193

Linear regression

Number of obs =	189
F(12, 176) =	17.82
Prob > F =	0.0000
R-squared =	0.4505
Root MSE =	1.7218

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.4420704	.2218136	1.99	0.048	.0043137	.8798272
lnGDPHOST	.7871158	.1260381	6.25	0.000	.5383753	1.035856
lnNATRES	.5620271	.3708994	1.52	0.131	-.1699556	1.29401
LAW	.0876698	.3557034	0.25	0.806	-.6143231	.7896627
lnPHONE	.5145523	.136535	3.77	0.000	.2450959	.7840088
NATRESLAW	.458496	1.456859	0.31	0.753	-2.416665	3.333657
Y2	-.121347	.4475411	-0.27	0.787	-1.004585	.7618908
Y3	-.4455067	.4820978	-0.92	0.357	-1.396943	.5059299
Y4	-.6176515	.4754236	-1.30	0.196	-1.555916	.3206133
Y5	-.5063096	.5251745	-0.96	0.336	-1.542759	.5301403
Y6	-1.299865	.5638907	-2.31	0.022	-2.412723	-.1870078
Y7	-1.397854	.6321694	-2.21	0.028	-2.645462	-.150246
_cons	-2.644279	2.738816	-0.97	0.336	-8.049427	2.760868

9.11 Variable Reserves – Model 1a

Linear regression

Number of obs =	65
F(10, 54) =	13.31
Prob > F =	0.0000
R-squared =	0.6079
Root MSE =	1.1649

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	-.0227997	.13406	-0.17	0.866	-.2915739	.2459745
lnGDPHOST	.5667803	.1866239	3.04	0.004	.1926219	.9409387
lnNATRES	.6473373	.2778808	2.33	0.024	.0902199	1.204455
LAW	-.0684593	.2924399	-0.23	0.816	-.654766	.5178475
lnRESERVES	2.066294	.3955528	5.22	0.000	1.273259	2.85933
Y2	-.2028103	.5819004	-0.35	0.729	-1.36945	.9638298
Y3	.29428	.6580277	0.45	0.657	-1.024986	1.613546
Y4	-.3177854	.2961884	-1.07	0.288	-.9116073	.2760365
Y5	-.5700366	.301053	-1.89	0.064	-1.173612	.0335384
Y6	-.6745745	.4752253	-1.42	0.162	-1.627344	.2781949
Y7	0	(omitted)				
_cons	-53.21356	12.06231	-4.41	0.000	-77.39703	-29.03009

Linear regression

Number of obs =	189
F(11, 177) =	24.92
Prob > F =	0.0000
R-squared =	0.5311
Root MSE =	1.5861

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.4986752	.1720139	2.90	0.004	.1592132	.8381372
lnGDPHOST	.7774794	.1105672	7.03	0.000	.5592799	.995679
lnNATRES	.5597291	.2218251	2.52	0.013	.1219668	.9974915
LAW	.4742929	.2588357	1.83	0.069	-.0365084	.9850941
lnRESERVES	-.876175	.1456343	-6.02	0.000	-1.163578	-.588772
Y2	.2745905	.4505287	0.61	0.543	-.6145085	1.16369
Y3	.0019568	.4815036	0.00	0.997	-.94827	.9521836
Y4	.3983585	.4385146	0.91	0.365	-.4670314	1.263748
Y5	.6582612	.4797	1.37	0.172	-.2884061	1.604929
Y6	.0571775	.5067899	0.11	0.910	-.9429507	1.057306
Y7	-.0834676	.5630253	-0.15	0.882	-1.194574	1.027639
_cons	18.70749	4.665897	4.01	0.000	9.499542	27.91544

9.12 Variables Reserves – Model 1b

Linear regression

Number of obs =	65
F(11, 53) =	12.31
Prob > F =	0.0000
R-squared =	0.6556
Root MSE =	1.1021

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.419021	.2513199	1.67	0.101	-.0850629	.923105
lnGDPHOST	.5202067	.1657149	3.14	0.003	.1878246	.8525887
lnNATRES	1.246379	.340522	3.66	0.001	.5633782	1.929379
LAW	-.9340485	.4646466	-2.01	0.050	-1.866011	-.0020855
lnRESERVES	1.762262	.4067966	4.33	0.000	.946331	2.578192
NATRESLAW	4.662239	1.843728	2.53	0.014	.9641888	8.360289
Y2	-.2330722	.5732454	-0.41	0.686	-1.382857	.9167125
Y3	.2698465	.5610904	0.48	0.633	-.8555584	1.395251
Y4	-.3050067	.3279538	-0.93	0.357	-.9627987	.3527852
Y5	-.5929079	.2667031	-2.22	0.030	-1.127847	-.0579692
Y6	-.6590137	.4252203	-1.55	0.127	-1.511898	.1938703
Y7	0	(omitted)				
_cons	-45.20406	12.10753	-3.73	0.000	-69.48868	-20.91944

Linear regression

Number of obs =	189
F(12, 176) =	24.54
Prob > F =	0.0000
R-squared =	0.5315
Root MSE =	1.5898

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.437387	.2119658	2.06	0.041	.0190653	.8557087
lnGDPHOST	.7904483	.1087108	7.27	0.000	.5759038	1.004993
lnNATRES	.4651583	.3329835	1.40	0.164	-.1919962	1.122313
LAW	.593	.3572538	1.66	0.099	-.1120527	1.298053
lnRESERVES	-.8773806	.1458275	-6.02	0.000	-1.165176	-.5895851
NATRESLAW	-.5956108	1.449365	-0.41	0.682	-3.455982	2.26476
Y2	.3110689	.4595455	0.68	0.499	-.59586	1.217998
Y3	.0161166	.478847	0.03	0.973	-.9289045	.9611377
Y4	.4431098	.4506216	0.98	0.327	-.4462074	1.332427
Y5	.7240784	.5058569	1.43	0.154	-.2742476	1.722404
Y6	.1338567	.538659	0.25	0.804	-.9292053	1.196919
Y7	.0037967	.605792	0.01	0.995	-1.191755	1.199348
_cons	18.61097	4.691759	3.97	0.000	9.351619	27.87031

9.13 Variable CPI inflation – Model 1a

Linear regression

Number of obs =	61
F(11, 49) =	16.87
Prob > F =	0.0000
R-squared =	0.6441
Root MSE =	1.1296

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	-.0617795	.1298197	-0.48	0.636	-.322662	.1991031
lnGDPHOST	.6445932	.2036901	3.16	0.003	.2352626	1.053924
lnNATRES	.8808985	.2503736	3.52	0.001	.377754	1.384043
LAW	.4454997	.3547964	1.26	0.215	-.2674904	1.15849
lnINFLCPI	.0248817	.1257523	0.20	0.844	-.227827	.2775905
Y2	.4989909	.6550316	0.76	0.450	-.8173444	1.815326
Y3	1.346084	.7062667	1.91	0.063	-.0732118	2.76538
Y4	1.41529	.4592424	3.08	0.003	.4924079	2.338172
Y5	1.382552	.4529773	3.05	0.004	.4722603	2.292844
Y6	1.227502	.5047401	2.43	0.019	.2131892	2.241815
Y7	2.146566	.4502245	4.77	0.000	1.241806	3.051326
_cons	3.232742	4.922285	0.66	0.514	-6.658961	13.12445

Linear regression

Number of obs =	180
F(11, 168) =	13.27
Prob > F =	0.0000
R-squared =	0.4044
Root MSE =	1.7824

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.4402753	.1851924	2.38	0.019	.0746712	.8058795
lnGDPHOST	.7616019	.1280122	5.95	0.000	.5088822	1.014322
lnNATRES	.397197	.390334	1.02	0.310	-.3733947	1.167789
LAW	.1303326	.5736905	0.23	0.821	-1.002239	1.262904
lnINFLCPI	-.0943662	.136969	-0.69	0.492	-.3647685	.176036
Y2	.1685618	.4665073	0.36	0.718	-.75241	1.089534
Y3	.0005436	.5444798	0.00	0.999	-1.07436	1.075448
Y4	-.0506094	.4792501	-0.11	0.916	-.9967379	.8955192
Y5	.0895576	.5302335	0.17	0.866	-.9572215	1.136337
Y6	-.6372442	.5697389	-1.12	0.265	-1.762014	.4875258
Y7	-.6477848	.6009714	-1.08	0.283	-1.834214	.5386441
_cons	-3.541246	2.732175	-1.30	0.197	-8.935066	1.852574

9.14 Variable GPD Deflator inflation – Model 1a

Linear regression

Number of obs =	61
F(11, 49) =	10.13
Prob > F =	0.0000
R-squared =	0.6245
Root MSE =	1.1636

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.0093037	.143281	0.06	0.948	-.2786303	.2972376
lnGDPHOST	.5624083	.1945716	2.89	0.006	.1714021	.9534145
lnNATRES	.7990026	.2849502	2.80	0.007	.2263738	1.371631
LAW	-.0068036	.2951884	-0.02	0.982	-.6000068	.5863996
lnINFLGDPDEF	-.4103003	.1593186	-2.58	0.013	-.730463	-.0901375
Y2	.2739327	.6433448	0.43	0.672	-1.018917	1.566783
Y3	1.46862	.6816567	2.15	0.036	.0987796	2.83846
Y4	1.427892	.4765143	3.00	0.004	.470301	2.385484
Y5	1.287591	.4581655	2.81	0.007	.3668729	2.208309
Y6	1.440881	.5291116	2.72	0.009	.3775915	2.504171
Y7	2.138534	.4518878	4.73	0.000	1.230431	3.046636
_cons	3.482538	5.087971	0.68	0.497	-6.742122	13.7072

Linear regression

Number of obs =	180
F(11, 168) =	14.89
Prob > F =	0.0000
R-squared =	0.4282
Root MSE =	1.7625

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.4936773	.1875403	2.63	0.009	.123438	.8639165
lnGDPHOST	.7436075	.1274991	5.83	0.000	.4919007	.9953144
lnNATRES	.5711778	.2677669	2.13	0.034	.0425562	1.099799
LAW	.3270926	.308566	1.06	0.291	-.2820738	.936259
lnINFLGDPDEF	-.2488445	.1939927	-1.28	0.201	-.6318221	.1341331
Y2	.1030526	.4702217	0.22	0.827	-.8252521	1.031357
Y3	-.0773553	.5043795	-0.15	0.878	-1.073094	.9183833
Y4	.0632414	.5169422	0.12	0.903	-.9572982	1.083781
Y5	.2033053	.5194811	0.39	0.696	-.8222467	1.228857
Y6	-.5512616	.5293159	-1.04	0.299	-1.596229	.493706
Y7	-.6787734	.5664948	-1.20	0.233	-1.797139	.4395922
_cons	-3.43927	2.778114	-1.24	0.217	-8.92378	2.045241

9.15 Variables CPI inflation – Model 1b

Linear regression

Number of obs =	61
F(12, 48) =	12.79
Prob > F =	0.0000
R-squared =	0.6819
Root MSE =	1.079

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.3995024	.2779217	1.44	0.157	-.1592966	.9583015
lnGDPHOST	.5201059	.1857832	2.80	0.007	.1465637	.8936481
lnNATRES	1.28146	.336891	3.80	0.000	.6040954	1.958825
LAW	-.859259	.6394797	-1.34	0.185	-2.145019	.4265012
lnINFLCPI	-.1031736	.1492815	-0.69	0.493	-.4033241	.1969769
NATRESLAW	4.585028	2.00153	2.29	0.026	.5606828	8.609374
Y2	.4214766	.6342038	0.66	0.510	-.8536757	1.696629
Y3	1.299895	.6270103	2.07	0.044	.0392067	2.560584
Y4	1.240077	.4733679	2.62	0.012	.2883072	2.191847
Y5	1.114281	.477659	2.33	0.024	.1538835	2.074679
Y6	.9701873	.4963481	1.95	0.056	-.0277875	1.968162
Y7	1.853012	.4610005	4.02	0.000	.9261088	2.779916
_cons	3.672112	4.293829	0.86	0.397	-4.96121	12.30543

Linear regression

Number of obs =	180
F(12, 167) =	12.16
Prob > F =	0.0000
R-squared =	0.4045
Root MSE =	1.7877

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.4305744	.2746167	1.57	0.119	-.1115933	.9727422
lnGDPHOST	.7645713	.1406483	5.44	0.000	.4868935	1.042249
lnNATRES	.3902186	.4178807	0.93	0.352	-.434791	1.215228
LAW	.1581158	.8183263	0.19	0.847	-1.457482	1.773714
lnINFLCPI	-.0913591	.152534	-0.60	0.550	-.3925025	.2097844
NATRESLAW	-.0840627	1.719943	-0.05	0.961	-3.479695	3.31157
Y2	.1720938	.4676577	0.37	0.713	-.7511892	1.095377
Y3	-.0023555	.548176	-0.00	0.997	-1.084603	1.079892
Y4	-.0458078	.4842746	-0.09	0.925	-1.001897	.9102815
Y5	.0969868	.5451588	0.18	0.859	-.9793044	1.173278
Y6	-.6294521	.5813685	-1.08	0.280	-1.777231	.5183268
Y7	-.6383202	.6194048	-1.03	0.304	-1.861193	.5845528
_cons	-3.553988	2.738531	-1.30	0.196	-8.960589	1.852614

9.16 Variables GPD Deflator inflation – Model 1b

Linear regression

Number of obs =	61
F(12, 48) =	10.33
Prob > F =	0.0000
R-squared =	0.6860
Root MSE =	1.0751

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.5072679	.248782	2.04	0.047	.0070581	1.007478
lnGDPHOST	.5071055	.1713695	2.96	0.005	.1625439	.8516671
lnNATRES	1.446944	.3459194	4.18	0.000	.751426	2.142461
LAW	-1.067607	.4496511	-2.37	0.022	-1.971691	-.1635224
lnINFLGDPDEF	-.4141338	.1546412	-2.68	0.010	-.7250608	-.1032068
NATRESLAW	5.302648	1.80642	2.94	0.005	1.670596	8.934699
Y2	.0328696	.6025674	0.05	0.957	-1.178673	1.244413
Y3	1.175773	.5538742	2.12	0.039	.0621342	2.289412
Y4	1.02251	.5082087	2.01	0.050	.0006875	2.044332
Y5	.8339206	.4702346	1.77	0.083	-.1115494	1.779391
Y6	.9922171	.4968545	2.00	0.052	-.0067758	1.99121
Y7	1.655355	.4679422	3.54	0.001	.7144937	2.596215
cons	3.071561	4.426039	0.69	0.491	-5.827588	11.97071

Linear regression

Number of obs =	180
F(12, 167) =	13.88
Prob > F =	0.0000
R-squared =	0.4288
Root MSE =	1.7668

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.4212136	.2515857	1.67	0.096	-.0754847	.9179119
lnGDPHOST	.7591083	.1328452	5.71	0.000	.4968359	1.021381
lnNATRES	.4642267	.388202	1.20	0.233	-.3021893	1.230643
LAW	.4752784	.4218807	1.13	0.262	-.3576284	1.308185
lnINFLGDPDEF	-.2452095	.1946261	-1.26	0.209	-.6294541	.1390351
NATRESLAW	-.6939579	1.543049	-0.45	0.653	-3.740354	2.352438
Y2	.156713	.482892	0.32	0.746	-.7966466	1.110073
Y3	-.0533448	.5061679	-0.11	0.916	-1.052657	.9459676
Y4	.1249757	.5369876	0.23	0.816	-.9351833	1.185135
Y5	.2889904	.5609528	0.52	0.607	-.8184824	1.396463
Y6	-.4531285	.583692	-0.78	0.439	-1.605495	.6992377
Y7	-.566846	.6249417	-0.91	0.366	-1.80065	.6669583
_cons	-3.579907	2.817734	-1.27	0.206	-9.142877	1.983063

9.17 Variable Agglomeration – Model 1a

Linear regression

Number of obs =	65
F(11, 53) =	.
Prob > F =	0.0000
R-squared =	1.0000
Root MSE =	5.5e-07

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	-4.96e-08	7.53e-08	-0.66	0.513	-2.01e-07	1.01e-07
lnGDPHOST	1.35e-07	8.67e-08	1.56	0.125	-3.89e-08	3.09e-07
lnNATRES	7.80e-08	1.44e-07	0.54	0.589	-2.10e-07	3.66e-07
LAW	8.86e-08	1.42e-07	0.63	0.535	-1.96e-07	3.73e-07
lnAGGL	.9999999	6.81e-08	1.5e+07	0.000	.9999998	1
Y2	.4075424	2.61e-07	1.6e+06	0.000	.4075419	.4075429
Y3	1.15386	2.33e-07	5.0e+06	0.000	1.15386	1.153861
Y4	1.164925	1.94e-07	6.0e+06	0.000	1.164924	1.164925
Y5	1.361535	2.51e-07	5.4e+06	0.000	1.361534	1.361535
Y6	1.443035	1.71e-07	8.4e+06	0.000	1.443035	1.443036
Y7	1.605278	2.34e-07	6.9e+06	0.000	1.605278	1.605279
_cons	23.59309	2.33e-06	1.0e+07	0.000	23.59309	23.5931

Linear regression

Number of obs =	174
F(11, 162) =	51.08
Prob > F =	0.0000
R-squared =	0.7406
Root MSE =	1.198

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.167056	.1244961	1.34	0.182	-.0787885	.4129004
lnGDPHOST	.3379839	.099498	3.40	0.001	.1415036	.5344641
lnNATRES	.3208997	.1753871	1.83	0.069	-.02544	.6672394
LAW	.1467015	.2162478	0.68	0.498	-.2803265	.5737294
lnAGGL	.6639437	.0545278	12.18	0.000	.5562669	.7716205
Y2	-.0633811	.2459428	-0.26	0.797	-.5490482	.422286
Y3	-.5641504	.3410516	-1.65	0.100	-1.23763	.1093297
Y4	-.7625371	.2464694	-3.09	0.002	-1.249244	-.2758301
Y5	-.5756196	.2813845	-2.05	0.042	-1.131274	-.0199651
Y6	-.5577876	.2394238	-2.33	0.021	-1.030582	-.0849936
Y7	-2.303209	.5207725	-4.42	0.000	-3.331587	-1.274831
_cons	14.04794	2.683813	5.23	0.000	8.748173	19.34771

9.18 Variable Agglomeration – Model 1b

Linear regression

Number of obs =	65
F(12, 52) =	.
Prob > F =	0.0000
R-squared =	1.0000
Root MSE =	5.5e-07

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	-1.14e-07	1.06e-07	-1.07	0.288	-3.27e-07	9.89e-08
lnGDPHOST	1.32e-07	8.62e-08	1.53	0.132	-4.12e-08	3.05e-07
lnNATRES	-2.15e-08	1.97e-07	-0.11	0.914	-4.17e-07	3.74e-07
LAW	2.17e-07	1.96e-07	1.11	0.273	-1.76e-07	6.10e-07
lnAGGL	.9999999	6.77e-08	1.5e+07	0.000	.9999998	1
NATRESLAW	-6.84e-07	7.10e-07	-0.96	0.340	-2.11e-06	7.41e-07
Y2	.4075424	2.58e-07	1.6e+06	0.000	.4075419	.407543
Y3	1.15386	2.34e-07	4.9e+06	0.000	1.15386	1.153861
Y4	1.164925	2.00e-07	5.8e+06	0.000	1.164924	1.164925
Y5	1.361535	2.64e-07	5.2e+06	0.000	1.361534	1.361535
Y6	1.443035	1.88e-07	7.7e+06	0.000	1.443035	1.443036
Y7	1.605278	2.49e-07	6.4e+06	0.000	1.605278	1.605279
_cons	23.59309	2.31e-06	1.0e+07	0.000	23.59309	23.5931

Linear regression

Number of obs =	174
F(12, 161) =	47.91
Prob > F =	0.0000
R-squared =	0.7414
Root MSE =	1.1998

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	.2515559	.1584714	1.59	0.114	-.0613946	.5645065
lnGDPHOST	.320136	.1004619	3.19	0.002	.1217431	.5185289
lnNATRES	.4507569	.262299	1.72	0.088	-.0672334	.9687472
LAW	-.0129136	.2765539	-0.05	0.963	-.5590545	.5332273
lnAGGL	.6647511	.054678	12.16	0.000	.5567726	.7727297
NATRESLAW	.820109	1.076708	0.76	0.447	-1.306183	2.946401
Y2	-.1139785	.2538431	-0.45	0.654	-.61527	.387313
Y3	-.5881322	.3536842	-1.66	0.098	-1.286591	.1103263
Y4	-.8246285	.2573208	-3.20	0.002	-1.332788	-.3164692
Y5	-.665074	.306468	-2.17	0.031	-1.270289	-.0598585
Y6	-.6635708	.2753695	-2.41	0.017	-1.207373	-.1197688
Y7	-2.425733	.5452468	-4.45	0.000	-3.50249	-1.348975
_cons	14.2304	2.694466	5.28	0.000	8.909345	19.55145

9.19 Variable Agglomeration – Model 2

Linear regression

Number of obs =	174
F(13, 160) =	57.68
Prob > F =	0.0000
R-squared =	0.7892
Root MSE =	1.0867

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITA	-.0120099	.1091577	-0.11	0.913	-.2275856	.2035658
lnGDPHOST	.3406624	.114923	2.96	0.003	.1137009	.567624
lnGDPINV	.3938701	.1747486	2.25	0.026	.0487589	.7389813
lnNATRES	.1960076	.1746936	1.12	0.264	-.148995	.5410103
lnDIST	1.063064	.4313623	2.46	0.015	.2111662	1.914963
LAW	-.1338457	.2076747	-0.64	0.520	-.5439828	.2762913
lnAGGL	.7814304	.0704862	11.09	0.000	.642227	.9206338
Y2	-.1018929	.2124832	-0.48	0.632	-.5215263	.3177406
Y3	-.746852	.3034538	-2.46	0.015	-1.346143	-.1475607
Y4	-.9227478	.2149429	-4.29	0.000	-1.347239	-.4982567
Y5	-.6169803	.202282	-3.05	0.003	-1.016467	-.2174932
Y6	-.5213373	.1646631	-3.17	0.002	-.8465307	-.1961439
Y7	-2.477516	.4934912	-5.02	0.000	-3.452113	-1.502919
CNDUMMYlnAGGL	0	(omitted)				
CNDUMMY	0	(omitted)				
CNDUMMYlnDIST	0	(omitted)				
CNDUMMYlnGDPINV	0	(omitted)				
CNDUMMYlnNATRES	0	(omitted)				
CNDUMMYLAW	0	(omitted)				
CNDUMMYlnGDPHOST	0	(omitted)				
CNDUMMYlnGDPCAPITA	0	(omitted)				
_cons	-5.22429	4.072319	-1.28	0.201	-13.26672	2.81814

9.20 Multicollinearity Table 3

(obs=65)

	lnFDI	lnGDPC~A	lnGDPH~T	lnNATRES	LAW	lnAGGL	NATRES~W
lnFDI	1.0000						
lnGDPCAPITA	-0.0020	1.0000					
lnGDPHOST	0.5954	0.2387	1.0000				
lnNATRES	0.5092	-0.3612	0.4206	1.0000			
LAW	-0.3367	0.4751	-0.1803	-0.7040	1.0000		
lnAGGL	0.9480	-0.0423	0.6140	0.5715	-0.3693	1.0000	
NATRESLAW	-0.3105	0.0447	-0.3749	-0.7757	0.7644	-0.3699	1.0000

(obs=174)

	lnFDI	lnGDPC~A	lnGDPH~T	lnNATRES	LAW	lnAGGL	NATRES~W
lnFDI	1.0000						
lnGDPCAPITA	0.5139	1.0000					
lnGDPHOST	0.6492	0.6450	1.0000				
lnNATRES	0.1227	-0.2058	0.1058	1.0000			
LAW	0.0793	0.3827	0.1054	-0.7063	1.0000		
lnAGGL	0.7800	0.5241	0.5932	0.0785	0.0890	1.0000	
NATRESLAW	-0.1598	-0.0275	-0.1382	-0.8006	0.7649	-0.1062	1.0000

9.21 Variable 1 Year Lags – Model 1a

Linear regression

Number of obs =	56
F(9, 46) =	8.25
Prob > F =	0.0000
R-squared =	0.5539
Root MSE =	1.169

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITAt_1	-.028539	.1271261	-0.22	0.823	-.2844305	.2273526
lnGDPHOSTt_1	.6608542	.2372689	2.79	0.008	.1832566	1.138452
lnNATRESt_1	.3105363	.3850808	0.81	0.424	-.464591	1.085664
LAWt_1	-.3226089	.3485143	-0.93	0.359	-1.024132	.378914
Y2	-.8649611	.7828838	-1.10	0.275	-2.440824	.7109023
Y3	0	(omitted)				
Y4	-.340096	.6559945	-0.52	0.607	-1.660544	.9803523
Y5	.0492766	.7092882	0.07	0.945	-1.378446	1.477
Y6	.1278214	.7321357	0.17	0.862	-1.345891	1.601534
Y7	.718773	.6753469	1.06	0.293	-.6406299	2.078176
_cons	2.616238	6.06467	0.43	0.668	-9.59131	14.82379

Linear regression

Number of obs =	164
F(9, 154) =	15.43
Prob > F =	0.0000
R-squared =	0.4169
Root MSE =	1.7445

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITAt_1	.3574273	.1969387	1.81	0.071	-.0316227	.7464773
lnGDPHOSTt_1	.8184226	.1279394	6.40	0.000	.5656799	1.071165
lnNATRESt_1	.3206064	.2648619	1.21	0.228	-.202625	.8438378
LAWt_1	.0314224	.3169926	0.10	0.921	-.5947927	.6576376
Y2	.8737089	.5246803	1.67	0.098	-.1627908	1.910209
Y3	.7162888	.527505	1.36	0.176	-.325791	1.758369
Y4	.3115858	.5068171	0.61	0.540	-.6896252	1.312797
Y5	1.030616	.5510171	1.87	0.063	-.0579116	2.119144
Y6	.210988	.5411794	0.39	0.697	-.8581055	1.280082
Y7	0	(omitted)				
_cons	-4.877359	2.841973	-1.72	0.088	-10.49164	.7369241

9.22 Variable 2 Year Lags – Model 1a

Linear regression

Number of obs =	46
F(8, 37) =	9.78
Prob > F =	0.0000
R-squared =	0.5126
Root MSE =	1.0737

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITAt_2	.0025971	.1338104	0.02	0.985	-.2685285	.2737227
lnGDPHOSTt_2	.5309929	.2634	2.02	0.051	-.0027063	1.064692
lnNATRESt_2	.3750819	.4492496	0.83	0.409	-.5351842	1.285348
LAWt_2	-.2572394	.419193	-0.61	0.543	-1.106605	.5921264
Y2	0	(omitted)				
Y3	-.7030558	.6802533	-1.03	0.308	-2.08138	.6752684
Y4	-1.151974	.3255974	-3.54	0.001	-1.811697	-.4922509
Y5	-.8346412	.3232415	-2.58	0.014	-1.489591	-.1796916
Y6	-.5171068	.4604472	-1.12	0.269	-1.450061	.4158478
Y7	0	(omitted)				
_cons	6.511438	7.192872	0.91	0.371	-8.062706	21.08558

Linear regression

Number of obs =	139
F(8, 130) =	13.80
Prob > F =	0.0000
R-squared =	0.4060
Root MSE =	1.7922

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITAt_2	.3649105	.2055686	1.78	0.078	-.0417823	.7716033
lnGDPHOSTt_2	.8457157	.1350042	6.26	0.000	.578626	1.112805
lnNATRESt_2	.2514643	.2891513	0.87	0.386	-.3205869	.8235156
LAWt_2	-.158193	.3447701	-0.46	0.647	-.8402793	.5238934
Y2	0	(omitted)				
Y3	0	(omitted)				
Y4	-.4986856	.4357195	-1.14	0.255	-1.360705	.3633334
Y5	-.0123219	.4680261	-0.03	0.979	-.9382556	.9136118
Y6	-.3728011	.4813315	-0.77	0.440	-1.325058	.5794558
Y7	-.77409	.5313855	-1.46	0.148	-1.825373	.2771927
_cons	-4.88235	2.947252	-1.66	0.100	-10.71313	.9484355

9.23 Variable 1 Year Lags – Model 1b

Linear regression

Number of obs =	56
F(10, 45) =	8.14
Prob > F =	0.0000
R-squared =	0.6053
Root MSE =	1.1116

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITAt_1	.3934005	.2404824	1.64	0.109	-.0909559	.8777569
lnGDPHOSTt_1	.6205127	.2282655	2.72	0.009	.1607623	1.080263
lnNATRESt_1	.9056415	.3987242	2.27	0.028	.1025698	1.708713
LAWt_1	-1.146968	.5004004	-2.29	0.027	-2.154826	-.1391098
NATRESLAWt_1	4.355862	1.860258	2.34	0.024	.6091111	8.102613
Y2	-.611248	.7436949	-0.82	0.415	-2.109126	.8866305
Y3	0	(omitted)				
Y4	-.1483243	.6371607	-0.23	0.817	-1.431632	1.134983
Y5	.0711252	.6620731	0.11	0.915	-1.262358	1.404609
Y6	.0972317	.6668304	0.15	0.885	-1.245834	1.440297
Y7	.6481809	.6182044	1.05	0.300	-.5969467	1.893308
_cons	1.9125	5.975283	0.32	0.750	-10.12234	13.94734

Linear regression

Number of obs =	164
F(10, 153) =	13.78
Prob > F =	0.0000
R-squared =	0.4172
Root MSE =	1.7498

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITAt_1	.4018252	.2564058	1.57	0.119	-.1047277	.9083781
lnGDPHOSTt_1	.8116224	.1317871	6.16	0.000	.5512651	1.07198
lnNATRESt_1	.3951001	.3892736	1.01	0.312	-.3739451	1.164145
LAWt_1	-.0679936	.4384081	-0.16	0.877	-.9341084	.7981211
NATRESLAWt_1	.492845	1.580913	0.31	0.756	-2.630392	3.616082
Y2	.9282419	.5634299	1.65	0.102	-.1848648	2.041349
Y3	.7712817	.5667349	1.36	0.176	-.3483543	1.890918
Y4	.3494702	.5159314	0.68	0.499	-.6697989	1.368739
Y5	1.054933	.5605724	1.88	0.062	-.0525279	2.162395
Y6	.2237125	.5426745	0.41	0.681	-.84839	1.295815
Y7	0	(omitted)				
_cons	-4.899369	2.842956	-1.72	0.087	-10.51589	.7171476

9.24 Variable 2 Year Lags – Model 1b

Linear regression

Number of obs =	46
F(9, 36) =	11.42
Prob > F =	0.0000
R-squared =	0.6129
Root MSE =	.97005

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITAt_2	.5083425	.2095338	2.43	0.020	.0833882	.9332967
lnGDPHOSTt_2	.488066	.2567357	1.90	0.065	-.0326182	1.00875
lnNATRESt_2	1.050669	.3854354	2.73	0.010	.2689697	1.832368
LAWt_2	-1.300029	.5168177	-2.52	0.016	-2.348184	-.2518743
NATRESLAWt_2	5.153432	1.376316	3.74	0.001	2.362134	7.94473
Y2	0	(omitted)				
Y3	-.4373859	.6398873	-0.68	0.499	-1.735138	.8603657
Y4	-.9850477	.3410437	-2.89	0.007	-1.676716	-.293379
Y5	-.558255	.2444487	-2.28	0.028	-1.05402	-.06249
Y6	-.4310915	.3993595	-1.08	0.288	-1.24103	.3788471
Y7	0	(omitted)				
_cons	5.383939	7.073198	0.76	0.452	-8.961171	19.72905

Linear regression

Number of obs =	139
F(9, 129) =	12.19
Prob > F =	0.0000
R-squared =	0.4060
Root MSE =	1.7991

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITAt_2	.3567833	.2860414	1.25	0.215	-.2091568	.9227233
lnGDPHOSTt_2	.8468056	.1397026	6.06	0.000	.5704005	1.123211
lnNATRESt_2	.2363321	.4673769	0.51	0.614	-.6883845	1.161049
LAWt_2	-.1415177	.4820853	-0.29	0.770	-1.095335	.8122999
NATRESLAWt_2	-.0859883	1.801619	-0.05	0.962	-3.650537	3.47856
Y2	0	(omitted)				
Y3	0	(omitted)				
Y4	-.4917958	.465329	-1.06	0.293	-1.412461	.428869
Y5	-.0064702	.4917178	-0.01	0.990	-.979346	.9664055
Y6	-.364332	.5239752	-0.70	0.488	-1.40103	.6723657
Y7	-.7611294	.6068033	-1.25	0.212	-1.961705	.4394457
_cons	-4.890806	2.977521	-1.64	0.103	-10.7819	1.000293

9.25 Variable 1 Year Lags – Model 2

Linear regression

Number of obs =	220
F(16, 201) =	.
Prob > F =	.
R-squared =	0.4514
Root MSE =	1.606

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITAt_1	.3141494	.1991911	1.58	0.116	-.0786229	.7069216
lnGDPHOSTt_1	.8676194	.1399055	6.20	0.000	.5917486	1.14349
GDPINVt_1	-7.74e-14	3.94e-14	-1.96	0.051	-1.55e-13	3.12e-16
lnNATRESt_1	.4348664	.2730585	1.59	0.113	-.1035603	.9732931
lnDIST	.8102355	.6767137	1.20	0.233	-.5241332	2.144604
LAWt_1	.0301734	.3265723	0.09	0.926	-.6137737	.6741205
CNDUMMY	16.0774	18.82583	0.85	0.394	-21.04405	53.19886
CNDUMMYlnNATRESt_1	-.0456291	.4538965	-0.10	0.920	-.9406387	.8493805
CNDUMMYLAWt_1	-.2756673	.4825231	-0.57	0.568	-1.227124	.6757894
CNDUMMYlnGDPCAPITAt_1	-.3046473	.342293	-0.89	0.375	-.979593	.3702985
CNDUMMYlnGDPHOSTt_1	-.2234223	.2628206	-0.85	0.396	-.7416616	.2948169
CNDUMMYlnGDPINVt_1	5.44e-13	1.54e-13	3.53	0.001	2.40e-13	8.49e-13
CNDUMMYlnDIST	-1.188104	2.239158	-0.53	0.596	-5.603358	3.22715
Y2	0	(omitted)				
Y3	.0792064	.3812161	0.21	0.836	-.6724893	.8309022
Y4	-.4553507	.3355634	-1.36	0.176	-1.117027	.2063254
Y5	.143885	.3661342	0.39	0.695	-.5780718	.8658418
Y6	-.5504452	.4175169	-1.32	0.189	-1.37372	.2728299
Y7	-.7956551	.5052229	-1.57	0.117	-1.791872	.2005619
_cons	-11.68639	7.547251	-1.55	0.123	-26.56834	3.195553

9.26 Variable 2 Year Lags – Model 2

Linear regression

Number of obs =	220
F(16, 201) =	.
Prob > F =	.
R-squared =	0.4514
Root MSE =	1.606

lnFDI	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnGDPCAPITAt_1	.3141494	.1991911	1.58	0.116	-.0786229	.7069216
lnGDPHOSTt_1	.8676194	.1399055	6.20	0.000	.5917486	1.14349
GDPINVt_1	-7.74e-14	3.94e-14	-1.96	0.051	-1.55e-13	3.12e-16
lnNATRESt_1	.4348664	.2730585	1.59	0.113	-.1035603	.9732931
lnDIST	.8102355	.6767137	1.20	0.233	-.5241332	2.144604
LAWt_1	.0301734	.3265723	0.09	0.926	-.6137737	.6741205
CNDUMMY	16.0774	18.82583	0.85	0.394	-21.04405	53.19886
CNDUMMYlnNATRESt_1	-.0456291	.4538965	-0.10	0.920	-.9406387	.8493805
CNDUMMYLAWt_1	-.2756673	.4825231	-0.57	0.568	-1.227124	.6757894
CNDUMMYlnGDPCAPITAt_1	-.3046473	.342293	-0.89	0.375	-.979593	.3702985
CNDUMMYlnGDPHOSTt_1	-.2234223	.2628206	-0.85	0.396	-.7416616	.2948169
CNDUMMYlnGDPINVt_1	5.44e-13	1.54e-13	3.53	0.001	2.40e-13	8.49e-13
CNDUMMYlnDIST	-1.188104	2.239158	-0.53	0.596	-5.603358	3.22715
Y2	0	(omitted)				
Y3	.0792064	.3812161	0.21	0.836	-.6724893	.8309022
Y4	-.4553507	.3355634	-1.36	0.176	-1.117027	.2063254
Y5	.143885	.3661342	0.39	0.695	-.5780718	.8658418
Y6	-.5504452	.4175169	-1.32	0.189	-1.37372	.2728299
Y7	-.7956551	.5052229	-1.57	0.117	-1.791872	.2005619
_cons	-11.68639	7.547251	-1.55	0.123	-26.56834	3.195553

9.27 Variables Averages

Linear regression

Number of obs =	10
F(4, 5) =	3.28
Prob > F =	0.1125
R-squared =	0.7267
Root MSE =	.79991

lnFDI1012	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnNATRES0709	.3223009	.5457658	0.59	0.581	-1.080635	1.725236
lnGDPCAPITA0709	-.113243	.2626875	-0.43	0.684	-.7885027	.5620166
lnGDP0709	.7161594	.2589512	2.77	0.040	.0505043	1.381815
lnGDPINV0709	0	(omitted)				
LAW0709	.2791635	1.687908	0.17	0.875	-4.059741	4.618069
_cons	2.098762	5.883033	0.36	0.736	-13.02406	17.22158

Linear regression

Number of obs =	29
F(5, 23) =	4.24
Prob > F =	0.0071
R-squared =	0.3665
Root MSE =	1.8929

lnFDI1012	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnNATRES0709	-.0344801	.5984805	-0.06	0.955	-1.272531	1.203571
lnGDPCAPITA0709	.7807512	.4474863	1.74	0.094	-.1449446	1.706447
lnGDP0709	.5040993	.3651435	1.38	0.181	-.2512575	1.259456
lnGDPINV0709	-.4094096	.5536691	-0.74	0.467	-1.554761	.7359421
LAW0709	-1.564925	2.409303	-0.65	0.522	-6.548949	3.419099
_cons	11.64807	16.71106	0.70	0.493	-22.9214	46.21753