The Role of Financial Development on the Impact of FDI on Economic Growth

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"I certify that I have the right to deposit the contribution with MPRA"

- Alabi Amina.

THE ROLE OF FINANCIAL DEVELOPMENT ON THE IMPACT OF FDI ON ECONOMIC GROWTH.

BY - Alabi Amina.

Abstract.

This study analyses the role of financial development on the effect of foreign direct investment on economic growth. Literature on this topic focused on M&A FDI is scarce.

Thus, this study contributes to the growing literature by using firm-level data on announced M&A deals for the manufacturing sector in the duration of $2003 - 2006$. Results show a complementary relationship between financial system development in origin and destination country with FDI at the intensive and extensive margins. Further, findings show that country-level factors such as easy accessibility to credit information in origin and destination countries attract M&A FDI. Results remain consistent upon analysis with the pooled fixed effects and Heckman selection model.

Keywords: Mergers and Acquisitions, origin and destination country, financial system development, negative externalities.

1   INTRODUCTION.

Studies have converged on the augmenting effect of Foreign Investment on the growth of the economic sector of countries. Positive externalities such as improved human capital, higher level of technological transfer, development of the local markets, and stimulation of economic development of origin and destination country have highlighted as valuable outcomes of Foreign Direct Investment. Consequently, governments have introduced new policies and restructured old institutional, fiscal, constitutional, and monetary policies to aid Foreign Direct Investment in countries. Developed economies have restructured while Emerging economies have planned new laws. Thus, FDI is very valuable to a country. However, these laws are not without limitations, such as trade barriers that discourage foreign capital investment.

Mergers and Acquisitions are some of the means through which multinational firms engage in FDI activities in countries. M&A has benefitted firms in origin and destination countries and has a positive influence at the country level by securing employment and creating new jobs, providing job security, ensuring a steady capital inflow in the destination country of the acquired firm, and preventing the bankruptcy of firms. The influence of M&A FDI is not one-sided - multinational firms also enjoy benefits such as a broader market, increased information sharing, subdue challenges, increased diversification, and achieved a competitive edge.

Foreign Direct Investment has gained prominence in the existing literature. A study commissioned by the UNCTAD by Willen le Velde (2006) provides some insight and variation to the upsurge of FDI as a stimulus for economic development. He asserted that the linkage between FDI and economic development is not merely a causal correlation. The author subsumed that progress has been made in the literature and extended to factors that affect the link between FDI and the economic growth of a country. This has brought another aspect of research to the limelight; the role of these determining factors.

This research evaluates the role of financial system development in origin and destination country on the consequence of FDI on economic growth. This investigation consists of two main factors: Mergers and Acquisitions FDI and the manufacturing sector. Thus, this study analyses the role of financial system development on the impact of Mergers and Acquisitions FDI in the manufacturing sector on economic growth.

This study assesses the consequence of FDI on economic growth in host and destination countries, analysing a causal relationship between both variables. Then, this paper examines the impact of FDI at the extensive and intensive margins on the economic growth of origin and destination countries. Also, this study provides an evaluation of the significance of the advancement of the financial system of origin and destination country on FDI and economic growth. Lastly, this study explores the influence of other country-level factors like human capital, trade barriers, and institutional quality on the FDI-Growth linkage.

To conduct this analysis, I use deal-level data on Mergers and Acquisitions, country-level data on economic growth, financial system development, human capital, institutional quality, trade barriers, and gravity. I also make use of manufacturing sector data. All data are aggregated to industry level and is gotten traversing the period 2003 – 2006.

A major limitation of studies of this nature is the unavailability of data for some periods. Also, data sources are not the same though data is homogenous for the years covered but heterogenous for countries. Some datasets had the complete list of countries, while others did not. To handle this, I merge all datasets using a correspondence table of countries covered by this study. With this, data for years and countries are homogenous and in uniformity. A problem in panel data analysis is the case of missing values in some datasets, which leads to sampling selection bias which could invalidate results. To mitigate this, I apply the Heckman correction model to deal with selection bias and bootstrap errors. Also, the unavailability of manufacturing sector financial dependence data restricted this study thereby making evaluating sector-level financial fragility impossible.

For M&A FDI it is necessary to define what is considered Mergers and Acquisitions and capital increase. I define M&A as deals with an initial stake of less than 10 percent and a final stake above or equal to 10 percent. I define a capital increase as a deal with an acquired stake of 10 percent and a final stake greater than or equal to 10 percent.

Upon analysis, results are similar to findings by Desbordes and Wei (2017) there exists a complementary relationship between M&A FDI and economic growth in the origin country. Thereby asserting that multinational firms that engage in FDI are from economically advanced countries also, Mergers and Acquisitions FDI activities in origin country speed up economic development. I also find that financial system development in origin and destination is beneficial in attracting FDI. The intuition is that manufacturing firms require external finance and because countries with well-developed financial systems are characterized by low

constraints in accessing credits and loans there are attractive destinations. I also find that technical barriers to trade in origin and destination countries discourage FDI at the extensive and intensive margins this is due to the fixed costs incurred because of trade barriers which put multinationals at a disadvantage from their indigenous counterpart firms. A novelty in this study is the effect of institutional financial development on FDI at the intensive margin. I find that origin and destination countries that have easy accessibility to credit information attract M&A FDI therefore the importance of financial system development is in tandem with the value of clear and secure credit information. This research aims to contribute to the growing empirical studies on the role of financial systems development on the effect of M&A FDI on the economic growth of origin and destination countries for a broad range of countries. This study utilizes a panel analysis for the time of $2003 - 2006$ with data aggregated to the 2 digits ISICrev3 for the manufacturing industry. I conduct a pooled fixed effects estimation with industry and year fixed effects and the Heckman correction model for a balanced panel dataset of over 40 countries.

This other parts of this paper is as follows; section 2 reviews relevant literature, sector 3 describes the data and presents descriptive statistics, section 4 describes variables and econometric models used, section 5 discusses the results and, section 6 contains the conclusion and policy recommendation. Subsequent sections contain references, tables and appendix.

2   PREVIOUS STUDIES

Literature most connected to this paper is by Desbordes and Wei (2017) who concur with the augmenting impact of FDI on economic growth posited by many studies. They show using panel data for the manufacturing sector that the extent of financial development of a host and destination country has a direct and indirect impact on greenfield, Mergers and Acquisitions and expansion FDI by boosting accessibility to external finance and activities of the manufacturing sector in origin and destination countries.

Their study is an analysis of the influence of financial development in destination and origin countries on FDI, findings show that financial system development of origin and destination country have direct and indirect effects on all kinds of FDI.

Like Desbordes and Wei (2017), this study is on the role of financial development in origin and destination countries as an intervening factor in the FDI – Growth link. Unlike Desbordes and Wei (2017) this study is focused on Mergers and Acquisitions FDI. I control for M&A FDI at the extensive and intensive margins and I include variables such as trade barriers and property rights to control for direct and indirect effects.

Underdevelopment of a country's financial market can restrict the ability to benefit from FDI spill overs as shown by Alfaro et al. (2009) their study posits financial markets and FDI variables as "proximate determinants" rather than "causal determinants" and further highlights Total Factor Productivity (TFP) as the major channel through which countries with advanced financial systems benefit from direct FDI inflows as against capital accumulation. However, from the standpoint of this paper, the medium through which financial development affects FDI does not matter. The focus is on the concomitance of a country's financial development on M&A FDI. Also, my paper fixates on establishing causality betwixt financial development and Mergers and Acquisitions FDI. Consequently, for achieve causal identification I include variables on other factors relating to financial development that could affect Mergers and Acquisitions FDI such as measures of trade barriers, human capital measures, institutional quality measures and Gravity measures.

Likewise, existing literature have argued that financial development adds to improving the level absorptive capacity of a country by accentuating efficient allocation of resources, Hermes and Lensink (2003), for example, shows that an advanced financial system improves the

technological dissemination related to foreign direct investment, accentuates the issuance of resources, and increases the absorptive capacity of FDI inflows. The authors subsumed that for FDI to affect growth positively, the level of financial development of the destination country is essential. This study characterizes financial development as a prerequisite for FDI inflows, as a well-developed system will probably induce the procedure of technological circulation connected to FDI. This study further certifies that financial development helps improve the favourable relationship betwixt foreign direct investment and economic growth.

Financial development acts as an important signal of economic development in destination countries. Ross Levine (1997) upon examination of literature on experimental and hypothetical literature on financial system development and growth proposes a "first-order relationship" between both factors. The author made conclusions suggesting that financial development is a prominent sign of economic growth additionally, the author theorizes that the extent of financial development in a country has a beneficial external finance effect on foreign direct investment. The author explains that an advanced financial system alleviates the external finance impediment affecting firms.

Studies have attempted to weigh the impact of these variables (FDI, financial development and economic growth) against each other. Lee and Chang (2009) show for 37 countries using models of panel cointegration and panel correction that there is a "strong long-run" connection of FDI, financial development indices, and economic growth and emphasized stronger correlation of financial indicators and economic growth than with FDI.

Additionally, Saini et al, (2009) proved the influence of a threshold effect using financial market indicators as threshold variables and showed that policies that attract FDI must be implemented in tandem with policies that promote financial market development because the efficacious effect of foreign direct investment on economic growth occurs after financial Development surpasses a limited level.

However, criticism of the estimation method has arisen notably from the paper by Arestis and Panicos (1997) their study reviewed empirical literature on the association betwixt financial development and growth, they contend that cross-country regressions are not sufficient for analysis and result from such estimations should be treated with caution because of an "oversimplified" nature stating that more time-series analysis is needed to negate this. But, with a time series analysis, there is the risk of generalization from a single study.

2.1   The Effects of Financial development

Indeed, financial system development of a country has an external finance impact on FDI (Rajan and Zingales 1998; Ross Levine 1997) because most firms face external finance constraints, especially in sectors that require lots of finance. In most cases, these firms cannot finance their operations and need external finance, like loans and credits. These firms are more attracted to countries with developed financial systems. A focal point of this research is to determine if there is indeed an external finance upshot of financial system development on foreign direct investment.

Rajan and Zingales (1996) studied the contribution of financial dependence on economic growth for US manufacturing firms and got results positing a sanguine indirect effect of financial development on FDI, showing that sectors that are dependent on external finance develop more in countries with a greater level of financial system development. Consonantly, I propose a growth enhancing external finance impact of financial system development on FDI utilizing data on manufacturing sector. Firms in the manufacturing sectors wishing to undertake Cross-Border M&A will prefer countries with enhanced financial systems to enjoy easy access to credit, loans, unobstructed financial transactions, and lower costs of conducting transactions.

Beck (2002) hypothesised using data on 36 industries and 56 countries, that financially developed system in countries is in tandem with higher trade balances and export thereby making such countries better than their counterparts. This study shows that a rise in the external finance to industries that depends on it leads to a comparative advantage which subsequently leads to an increment in export shares of such Industries. The concept of comparative advantage and increase in export shares of industries is not the concern of this paper. However, this study similarly uses industry data on firms in the manufacturing sector and proposes an effect of external finance of financial development on FDI.

Not all effects of FDI are positive, elements such as entry barriers discourage FDI and could lead to a negative impact because of the fixed costs. MNCs that target local markets are more likely to opt for countries with less stringent entry barriers because of the associated costs. This could cause an increase in the price of products, reducing competitiveness with local manufacturers. Theoretically Bilir et al., (2013) proves using data on US multinational firms that financial development encourages the domestic entry of firms which leads to greater competition on MNE products and further showed that higher costs of entry in destination

countries may affect the price of goods and services of MNCs leading to an increase in their prices above local producers therefore negatively affecting their sales. They characterize it as a negative indirect competition effect and make destination countries unfavourable for FDI.

The outcome of foreign direct investment on economic growth can be dependent on other factors as proven by Carkovic and Levine (2005) who researched the role of foreign capital on growth in an economy with data on 72 countries. They show with the Generalized Method of Moment (GMM) model that exogenous components of foreign investment do not expend a large positive ascendancy on growth and although FDI flows and economic success work jointly, the influence of foreign capital on growth is not independent. Thus, FDI affects economic growth, but this impact is not unfettered by other growth factors.

For M&A FDI, in their study on financial system development and cross border M&A, Nasir et al. (2016) got results suggesting that domestic financial conditions are necessary for stimulating outward M&A.

Hyun and Kim (2007) empirically investigated the indicators of Mergers and Acquisitions with the gravity model for a panel dataset of 101 countries, showed that financial market development alongside legal and institutional quality improves the volume of M&A for countries.

Also, studies argue that growth of the exchange market of destination countries is an essential catalyst for the positive effect of financial development on FDI. Host country of Multinational firms wishing to engage in FDI have sophisticated exchange markets. Thus, a destination country with well rounded stock market could encourage FDI.

Utilizing panel data of 30 countries (Nor et al., 2015) show with the GMM estimator using the financial freedom index that the standard of exchange market development is an essential catalyst for the FDI and economic growth nexus. Arestis et al., (2001) employing time series data on banking systems studied the relationship stock markets, financial system development and economic growth. The authors also included data on volatility and development of the exchange market for five well-developed countries from 1972 to 1998. They theorize with results gotten by carrying out unit root tests and cointegration analysis that though stock markets impact only a fraction of the banking system (between one-seventh to one third) it could contribute to long-term economic growth.

Country-specific studies, although criticized for having narrow results, are worthy of mention. Time series analysis like studies by Ang (2008) and (Muhammad et al., 2001) on the consequences of FDI and financial development in Thailand got results asserting a positive advantage of financial system development on growth of Thailand's economy.

Also, Sirag et al. (2018) with a time series data showed a long-haul relationship of financial development, FDI and economic growth variables using cointegration and unit root tests. The study also posited financial system development as an important determinant on the effect of FDI on Growth of the Sudan economy.

Ono (2012) showed that the magnitude of local financial sector development is a prerequisite for growth in Russia, employing a VEC model for estimation and using money supply and loans related to GDP as proxies for financial system development, findings showed that an appreciation of oil exports caused an ascension of the Russian Ruble which increased money supply and subsequently economic growth. However, using macroeconomic indicators as a measure for financial development calls for careful consideration of such results because these indicators are subject to changes by many factors. Also, the appreciation of a currency as an indicator of the money supply is not the most efficient because of exchange volatility.

A lapse in the literature reviewed is the use of BoP FDI data, even though this data is easily accessible and contains equity capital and reinvestment of earnings. It is not the most comprehensive database for M&A FDI deals and excludes important variables like non-equity cross-border transactions and data on capital raised locally and may inevitably lead to incorrect conclusions. I correct this by using data FDI data from the Zephyr database which provides data on M&A trade flows, data includes primary sector of target and acquiror, equity stake, deal value and year of completed transaction. In addition, data is sourced from different sources like news services, official sources, company press release and data advisor submissions.

Next is the lack of causal identification between variables as the extent of financial system development of a country is more likely related to other variables that affect FDI like institutional quality, gravity variables, human capital, and trade barriers.

Finally, some studies are country specific which limits the application of results for other countries.

I mitigate these lapses by using firm-level data on real FDI projects. This data includes variables such as deals financed through equity, the total deal value, and the industry of target and acquirer. For causal identification, this paper collects data on variables such as human capital, institutional quality, and gravity variables and tests the interaction between these variables and Mergers and Acquisitions FDI. Also, the study contains a large sample size which increases the applicability of results.

3 DATA

This research is on the role of financial systems development on the effect of Foreign Direct Investment on Economic Growth of countries. Hence, I use micro level data on real M&A FDI deals across the world, financial development indicators, data on country level variables that FDI, sector specific data, gravity data and trade barriers data all aggregated to the industry level.

3.1 The dependent Variable:

As was used by previous research by Desbordes and Wei (2017) The firm-level data of the dependent variable–FDI is from the Zephyr database, which provides broad information on Mergers and Acquisitions of various countries and sectors. This database provides the most comprehensive data on deal information. This database relays information on value of a deal, industry of target and acquiror firm, deal number, equity value and final stake, etc. Data is available from 2003 onwards.

I consider M&A deals from 2003 to 2006 for the manufacturing sector and collect data on announced deals and not on rumours. This is done to get correct estimates on actual Mergers and Acquisitions deals. I define M&A FDI as deals with an initial stake of less than 10% and a final stake greater than or equal to 10% dropping deals if missing final stake, to reduce zero outcomes. In tandem, I define capital increase as FDI with acquired stake higher than 10% and the final stake greater than or equal to 10% dropping deals with missing acquired stake. The main problem of this dataset is that it is classified using NACE2 rev code therefore merging with other industry level data which was classified using ISIC codes was an extra task. The process was, therefore, download ISIC 3-3.1, ISIC 3.1-4, ISIC4-NACE2 classifications,

afterwards I created a correspondence table and merged all classifications into ISIC3 codes and modified to two digits.

3.2 Data on independent variables include:

Typically, financial development should be the measure of interaction between producers and the market. It should be the measure of confidence and ease of doing business between buyers and sellers. Therefore, financial development should correlate to elements such as the market, institutions, ease of doing business, evaluation, monitoring, and factors that relate to interrelationship between buyers and sellers. There is no specific database that measures financial development therefore for the purpose of this research I make use of closely related proxies such as data on the ratio of domestic Credit to GDP from World Bank database. This is a popular measure of financial development as used by (Desbordes and Wei 2017; Rajan and Zingales 1996). A drawback of this data is that credit to private sector data may sometimes include state-owned enterprises, therefore, not entirely accurate.

Another proxy for financial systems development is the Strength of legal index and Depth of Credit Information index from the World Bank Doing Business dataset. It was launched in 2002 and provides information for over 190 economies worldwide. This dataset measures the quality of financial institutions with variables, such as the strength of the legal rights index and the depth of credit information index. This measure was used in the study by Desbordes and Wei (2017)

3.2.1 Measure of Financial Institution development:

This study uses financial institution measures (Banks) variable as opposed to the stock market variable used in some papers. Stock market data is not available for a wide range of countries and research has shown that Bank based measures are more reliable (a major advantage of this is that information is available for more countries and research has shown that Bank based measures are more reliable than stock market measures (Arestis 2001). Therefore, this study uses Bank based measure of financial institutions data like Desbordes and Wei (2017) Rajan and Zingales (1996). Data on quantitative measurement of financial institutions is gotten from the World Bank. This dataset contains data from 1960 through 2011 for over 203 countries. However, it does not include data notably for Taiwan, and most of the dataset countries have

old Iso codes. To mitigate this, I created a correspondence table containing new country names with ISO codes and merged it with all datasets except Zephyr.

3.2.2 Sector Specific Variable:

Because this study focuses on the manufacturing sector, I use manufacturing data from the UNIDO INDSTAT2 dataset and combine historical time series data available since 1963. It is a combination of INDSTAT3 ISICrev2 and INDSTAT4 ISISCrev3. This database has provided data using a single classification consistently for over 40 years, making it a reliable source. Data is at the 2digit level of ISICrev3. To combine the Zephyr data with the UNIDO dataset, I created a correspondence table comprising ISICrev3, ISICrev4, and NACE2 classification codes.

3.2.3 Economic Growth Variable:

The GDP per capital is used as a measure of economic growth. It is the addition of goods and services produced within a country averaged by the entire population.

3.2.4 Country level data that affects FDI:

Other data include the gravity data from CEPII, which gathers data required for estimating gravity equations for country pairs between 1948 and 2019. It provides information on bilateral trade flows, trade facilitation measures, geographical distance, macroeconomic indicators, and proxies for cultural proximity.

Data on Human Capital is from the Barro-Lee database and Institutional quality dataset from the economic freedom index of the Heritage Foundation database.

3.2.5 Trade Barriers Data:

Finally, data on Trade barriers (TBT) is from the World Trade Organization (WTO) I-TIP database. It includes measures notified to the WTO as defined in the TBT agreement.

All data used is collected for the period of 2003 through 2006 and is aggregated to the 2 digits ISICrev3 for the manufacturing sector.

4 Variables Description

This section contains a description of all variables used in this analysis. A list of all countries, industry and years covered by this study can be found in the appendix.

4.1 Dependent Variable:

The Value of FDI (intensive margin measure)*:* is the amount paid for the precise stock acquired. This is the most appropriate measure of FDI as it shows the economic value of a Merger and Acquisition deal. This is also the intensive margin of FDI. Number of FDI deals refers to the extensive margin of FDI.

4.2 Dependent variables for alternative specifications of FDI

For substitute measures of FDI flow, I use Equity FDI and the total target value of fdi which is described respectively as the worth of a specific number of shares where the volume and cost of each share is known and the total worth of the target company when all shares has been procured.

4.3 INDEPENDENT VARIABLES:

The main measure of financial development is the Private Credit to GDP ratio data from the Worldbank. it is defined as the financial instruments proffered through various means such as loans and credits by financial establishments viz deposit banks, pension funds and insurance companies.

This measure has been used by several research including (Desbordes and Wei 2017; Beck et al, 2009). Variable is taken in log form and lagged by 2 years to reduce simultaneity bias with previous studies. When lagged by 2 years, the mean of the value across countries for the period of 2003 – 2006 is approximately 61% with a relatively high standard deviation of 48% which shows. It ranges from a minimum of 10% to a maximum of 198% as shown in table 1 of descriptive statistics. This variable also has a high standard deviation of 48%(table 1) the graph shows that variables is dispersed.

Institutional measure of financial development is proxied by two variables; Strength of legal rights index which is the extent that laws on bankruptcy and collateral propels borrowing and the protection of receivers and lenders rights, this variable ranges from 1 to 12 and has a low standard deviation of 3%. The second proxy is the depth of credit information index, this variable gauges the laws and conventions that impact the availability of credit information gotten from bureaus and credit reporting

service providers, this variable ranges from 40 – 100 and has a 15%. Both institutional measures of financial development have relatively low standard deviations this indicates that variables are clustered around mean.

To measure the impact of trade barriers the technical barriers to trade variable is used, it involves fixed costs and it is a non-tariff trade barrier measure put in place by countries to protect their local industries and regulate local market among other things. It ranges from 0 – 269 in the sample and is a widely dispersed variable with a standard deviation of 50%.

The measures of financial institution quality includes variables from the economic freedom index, there are twelve variables in the index however, I select variables more relevant to this topic; Property rights protection refers to the rule of law channelled towards protection of private property rights to encourage entrepreneurial practices and capital accumulation to facilitate investment and production in a country. In the sample, this variable ranges from 10 – 90 and is clustered around mean at 20% standard deviation. Government Integrity refers to government practices that affects the functioning of a free market such as corruption and bribery and its impact on the economic freedom of a country. Investment Freedom measures the ability of individuals to make investment decisions such as where and when to invest. And the overall score is the average of all 12 economic freedom indexes.

Data on quantitative measurement of financial institutions is gotten from the World Bank Financial development and Structure dataset. This dataset contains data from 1960 through 2011 for over 203 countries. The variables used are ratio of domestic credit contributed by banks to GDP and the ratio of domestic credit contributed by banks and other financial institutions to GDP.

The GDP per capital is the measure of economic growth. The Gross Domestic Product is gotten by summing up the gross value added of producers with taxes for entire population.

Sector Specific Variable The INDSTAT2 dataset contains variables like establishment which refers to the number of manufacturing establishments in a country, output which is the amount of output produced in the manufacturing sector, it includes the value of products, industrial work and goods shipped etc in the manufacturing sector, value added is the value of output minus the value of input in a sector, wages is a payment made to employees either in cash or kind.

Gravity Variables There are several gravity indicators distance *dist* which refers to distances across regions in a country, proxies for cultural proximities such as common language com*lang* which is dummy variable that takes the value of 1 if countries share a common language, colonial ties *col44* is also a dummy variable that takes the value of 1 if a countries shares colonial ties from 1945 and Contiguity *contig* is also a dummy variable for 1 if country is contiguous, pop refers to the total population in a country.

5 ECONOMETRIC MODEL(S).

This study is a panel data analysis on the role of financial development on the effect of FDI on Economic Growth. Utilizing data for the manufacturing industry under the isicrev3 2 digit code. Data for analysis is on real FDI deals, Measures of Financial development for a broad range of countries, measures of human capital, institutional quality, gravity, value added and technical barriers to trade aggregated to industry level. The total sample consists of over 4 million observations and 88 variables. Descriptive statistics (table 1), shows that dataset is homogenous.

5.1 Econometric Model(s)

The first econometric model used in this study is the Pooled Fixed Effects with year and industry fixed effects with FDI variables separately as dependent variables and all other variables as independent variables. This is done first to estimate variables and establish causal relationships between all variables and FDI. This model helps to identify the country level variables that influence Mergers and Acquisitions FDI at the extensive and intensive margins and additionally Equity and Total target value of M&A deals.

For the second model, I use the Heckman Correction Model to correct for errors and missing values. To do this, i create a binary outcome for value FDI and estimate at the first stage with trade barriers variables and other variables that reflect entry barriers. I also use the Heckman model to estimate FDI at the intensive and extensive margins.

5.2 Estimation

5.2.1 Pooled Fixed Effects Model

The first model used in this analysis is the Pooled fixed effects estimator using FDI variables separately as dependent variables and other variables in the dataset as independent variables with year fixed effects for origin and destination countries. Previous studies do not analyse the effect of GDP and other country related variables including trade barriers on all aspects of Mergers and

Acquisitions deals. This is an important novelty of this study. For the pooled regression estimation, this study evaluates the effects of all dependent variables on value of FDI (intensive margin), equity of FDI, total target value of FDI and number of FDI deals (extensive margin).

Quantitatively, I test the following model:

$$y_{it} = X_{it}\beta + \alpha_{ij} + \varepsilon_{ijt}$$

where:

Y_{ijt} is the independent variable for country i at time t observed for independent variables (X_{ijt}). With β as (k*1) matrix parameter and α_i as unobserved time variant individual effect of country i and j and the error term ε_{it}. For this estimation, country i is the origin country and country j is the destination country. As stated in previous sections, the dependent variables are the extensive and intensive margins of M&A FDI, additionally i test effects of independent variables on alternative measures of FDI (Equity and Total target value).

5.2.2 Results

Intensive margin (Table 1)

Using the pooled regression model, using value FDI as the dependent variable and all other variables as independent variables with industry and year fixed effects. As expected, results show a statistically significant relationship between intensive margin of FDI and GDP in origin country. This study hypothesizes that multinational firms are from countries with high level of economic wellbeing and growth (GDP per capital).

It is interesting that economic growth in destination country does not positively impact FDI at the intensive margin, the intuition could be that because multinational firms are from economically developed countries, the level of economic development in destination country is not a determining factor on the valued of FDI deals also, countries with low level of economic growth are usually developing countries which have big and largely untapped markets thus multinational firms can increase the popularity of their brand and probably enjoy tax cuts which is a prevalent measure in developing economies to encourage FDI.

Also, level of financial system development in origin and destination country proxied by the private credit to GDP ratio positively affects the value of M&A FDI deals at the intensive margin. Manufacturing firms usually require external capital in form of loans and credits and as such prefer to acquire firms in countries that are financially developed, firms with these characteristics attract M&A FDI thus leading to a higher value of Mergers and Acquisitions for this target firms (firms in destination countries). Also, higher financial development in origin countries means firms have enough incentives to engage in Mergers and Acquisitions. These results are consistent to the results presented by Desbordes and Wei (2017).

Technical barriers to trade destination country negatively influences intensive margin of M&A FDI deals. Technical barriers to trade are usually fixed costs that firms pay for such things as branding and packaging before entering a new market. Firms pay these fixed costs to enter a destination market, however because these barriers are created to encourage domestic industries therefore domestic industries do not incur these costs. Thus, countries with technical barriers to trade are not attractive for Mergers and Acquisitions. Also, an interaction of the technical barriers to trade value with the number of manufacturing establishments in destination country shows an indirect competition effect of M&A in destination countries, this is consistent with results from Desbordes and Wei (2017) and Bilir et al (2013).

The domestic credit to GDP by financial institutions in origin and destination country also positively influences FDI at the intensive margin and higher ratio of the private credit to GDP by financial institutions can be attributed a high level of prosperity of financial institutions and because of the external capital required by MNCs countries with well-developed financial systems incentivises FDI at the intensive margin.

Conversely, the ratio of contribution of deposit banks to GDP does not influence FDI at the intensive margin, we can posit that this is because the contribution of deposit banks to GDP is low and thus not influential enough to affect FDI.

Results show that the level of economic and growth and ease of credit information in destination country does inversely affects FDI at the intensive margin, intuitively it is more important for destination countries to have a well-developed financial system to attract FDI as this result is strongly correlated to FDI for destination and origin countries.

Other country level measures that are complementary to the intensive margin of M&A FDI in origin and destination country is human capital,

Country level measures like human capital in origin and destination country is complementary to the FDI at the intensive margin countries with high level of human capital development characterized by high levels of education, skills and experience in the labour force is complementary to FDI at the intensive margin. All gravity variables except population in origin and destination countries have an inverse effect on the intensive margin of M&A FDI.

Extensive margin (Table 2)

At the extensive margin of FDI, results show that financial system indicators in origin and destination countries positively impacts FDI at the extensive margin. The level of financial system development in

destination countries also encourages firms to increase the number of M&A FDI deals(extensive margin). Other financial system indicators such as private credit to GDP by financial institutions in origin and destination country which is an indicator of a profit making financial system which translates to a well functional system where Multinationals can obtain loans and credits is positively significant for FDI at the extensive margin. The ease of getting credit information influences FDI at the extensive margin only in origin country. This study finds an inverse competition effect of technical barriers to trade in destination countries on M&A FDI. Intuitively, the costs associated with technical trade barriers affects the number of FDI activities in origin and destination countries.

In conclusion, ceteris paribus financial system development in origin and destination countries is an incentive for M&A FDI and thus attracts Multinational firms this is cognate to the results obtained by Desbordes and Wei (2017). Multinational firms prefer a system of laissez faire which is hindered by interference and government activities such as bribery, corruption and nepotism. This study finds an inverse competition effect of technical barriers to trade in destination country at the extensive and intensive margins of FDI. Economic growth although a significant parameter of estimate is only significant in origin countries for the intensive and extensive margins of FDI, this could be because multinational firms are from countries with high level of development thus, the level of economic development in destination country does not necessarily encourage M&A however this does not deter Multinational firms if destination country has an advanced financial system.

5.3   Robustness checks on Substitute measures of FDI flows

In addition to the intensive and extensive measures of FDI, I estimate all independent variables on the alternative measures of FDI flows – Equity FDI and Total target value FDI :

EQUITY FDI

Financial system development in origin and destination country has a positive effect on the number of shares of an M&A deal, one of the institutional measures of financial development (Getting credit score) in origin and destination country also has a favourable impact on the number of shares issued by multinationals. The ratio of private credit to GDP by all financial institutions also positively affects the number of shares issued by MNCs. The level of economic growth, however, does not influence the number of shares issued by multinationals positively, the intuition is that the number of equity issued by a Multinational is more hinged on financial factors which affects demand and supply in the market thus financial system development indicators in origin and destination country have a more positive and direct effect on the number of shares issued by Multinational firms. It is interesting to look at

country level factors that can affect the number of equity shares and results show that labour market indicators such as the human capital in origin and destination country has a complimentary relationship with the number of shares issued by multinational firm, this is a market indicator and therefore intuitively will have a positive impact of the number of shares issued by MNCs, results also show that technical barriers to trade which is measure that involves trade costs in origin and destination country has an impact of the number of equity issued by multinationals, ceteris paribus the volume of shares issues by MNCs impacted by market factors as highlighted earlier thus, technical barriers to trade which affects entry of multinationals impacts the volume of equity shares by multinationals positively. Population is positively correlated with Equity FDI but other gravity variables have a negative effect.

TOTAL VALUE OF FDI.

In estimating the total value of target firms upon completion of M&A, results show that the GDP ratio is an insignificant parameter. Financial system indicators and ease of credit information in origin and destination country positively impacts the total target value of M&A FDI, this is not far fetched as Multinational firms because of their need for external capital are incentivised to perform Merger and Acquisition activities in countries with advanced financial systems. Human capital measure and population in origin and destination country also positively affects the total target value of M&A FDI.

5.4   Heckman Selection Model

The problem of sample selection is prevalent in panel data analysis, this is mostly dues to the large number of observations and diverse sources of data. To account for zeros and reduce sample selection bias, I use the Heckman selection model. Previous studies such as Desbordes and Wei(2017) use the difference in difference approach, this method although reduces selection bias does not totally account for zeros in data.

5.4   Methodology

First, I create a binary variable FDI using value FDI. The binary variable FDI takes the value of 1 if fdi flows occurs and 0 otherwise. A probit regression model is estimated with entry barriers are institutional quality variables. Typical for probit model, we only interpret coefficients which do not make any statistical inference for this study hence we interpret only results at the second stage of the heckman model – intensive and extensive margins of FDI.

The intensive and extensive margins are estimated seperately as dependent variables using probability of FDI occurrence, financial development and gravity indicators as independent variables.

Quantitatively, I estimate the following model : fdi_{ij}

$$= X_{ij} \beta + \varepsilon_i$$

with fdi as the dependent variable and for countries i and j, $X_{ij} \beta$ as independent variable intercepts for countries i and j and ε_{ij} as the error term.

The probability of FDI occurrence is not absolute, thus at the first stage I estimate:

$$Log(fdi - \alpha_{ij}) - prob(fdi>0) * fdi + prob(fdi = 0) * 0$$

After the log of both sides i estimate the probability that fdi is greater than zero multiplied by real FDI flows plus probability that FDI is zero this estimation is done using the probit regression and a binary variable FDI (1 if FDI flows occur, 0 otherwise) with independent variables for entry barriers. Ideally, there should be no restrictions for firms to enter a market for M&A FDI I find this to be true with the positive coefficient of the main entry barrier variable (technical barriers to trade) (Table 6).

At the second stage, I estimate this probability with everything that at the intensive and extensive margins, with the errors from the first stage and independent variables.

$$Log(prob) + log (fdi) + log * X_{ij}\beta + \varepsilon_{ij}$$

I obtain the following results

5.5   Results

INTENSIVE MARGIN (table 7)

In (table 7) I present the results of the heckman model at the intensive margin, results show a positive relationship between financial system development in both origin and destination country with value of FDI deals by directly enhancing accessibility to external capital. The ease of access to credit information increases the FDI at the intensive margin. The intuition is that the manufacturing sector has been highlighted as a capital-intensive sector, multinational firms can seldom finance entire operations with internal funds hence the need for credit, loans, and an appreciation for countries with easy credit information accessibility.

EXTENSIVE MARGIN (table 8)

(Table 8) shows the results of the Heckman model at the extensive margin, Mergers and Acquisitions deals is influenced by the level of financial development of destination country albeit weakly (only at 10% significant level). The ease of credit information in origin and destination countries incentivises extensive margin of FDI. Credit information is beneficial to manufacturing sector firms hence, countries with this characteristic are attractive for M&A FDI.

In conclusion, results are in accordance with previous literature (Desbordes and Wei (2017), Rajan and Zingales (1996)). This study finds that ceteris paribus, financial system development in origin and destination country has a positive effect of M&A FDI at the intensive margin, further this study finds that this effect is usually accompanied by ease of getting credit information thus like Beck(2000) we can posit that countries with high level of financial system development have a comparative advantage in attracting M&A FDI than their peers, this comparative advantage is more enhanced when the country provides easy accessibility of credit information. At the extensive margin, financial system development in destination country influences M&A FDI positively. This study also finds an inverse competition effect of technical trade barriers in origin and destination countries at the extensive and intensive margins.

6.   Conclusion

In this study, I analyse the role of financial system development on the effect of foreign direct investment on economic growth. I conduct a panel data analysis with balanced dataset using the bank measure of financial system and deal level data on Mergers and Acquisitions aggregated to the industry level for the duration of 2003 – 2006 for 46 countries. I show that the level of financial system development of a country (origin and destination) is an important catalyst to attract Multinational firms Mergers and Acquisitions. I also find an inverse competition effect of technical trade barriers on the manufacturing sector, results also show that countries with easy access to credit information can attract M&A FDI, thus countries with well-developed financial systems and uninhibited access to credit information have a higher advantage of attracting M&A FDI. Results are robust for alternative measures of FDI flows with similar results as the intensive and extensive margins of FDI. Economic growth in destination country does not influence M&A FDI, easy accessibility to credits information also doesn't influence M&A FDI in destination country. Therefore, for destination countries financial system is perhaps the most important criteria to attract M&A FDI activities.

Also, I find that for all models at the intensive and extensive margins and alternative measures of FDI, measures of property rights do not increase the chances of countries to get FDI same as the protection of lenders and borrowers rights. The reason for this can be that for M&A deals, they are specific firm level labour laws and contracts that protects the rights of all shareholders including acquiror and target firms thus country level measures and laws may not have a positive effect on Mergers and Acquisitions deals.

 A challenge encountered in this study is the inability to measure sector level financial vulnerability due to the unavailability of data and time constraints of this research, therefore there is need for more research on this topic utilizing measures of manufacturing sector financial fragility. Results are dynamic for the manufacturing industry and the period of study (2003 – 2006) however, the large sample covered by this study can lead to extensive application of results.

The policy implications of this study are straightforward, countries desire to attract FDI particularly Mergers and Acquisitions ceteris paribus must develop their financial systems especially the banking system and make accurate and legitimate information on credits readily and easily available for investors.

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Table outline- Table 1 –

descriptive statistics.

Table 2 – PFE (intensive margin)

Table 3 – PFE (equity FDI)

Table 4 – PFE (Tvalue FDI)

Table 5 – PFE (extensive margin)

Table 6 – Heckman (probit)

Table 7 – Heckman (intensive margin)

Table 8 – Heckman (extensive margin)

TABLE 1: DESCRIPTIVE STATISTICS

Variable	Obs	Mean	Std. Dev.	Min	Max
year	4,477,456	2004.5	1.118034	2003	2006
industry_o	4,477,456	26	6.63325	15	37
industry_d	4,477,456	26	6.63325	15	37
iso2_o	4,477,456	23.5	13.27592	1	46
iso2_d	4,477,456	23.5	13.27592	1	46
contig	4,477,456	.0349716	.183708	0	1
comlang_off	4,477,456	.1238185	.3293744	0	1
col45	4,477,456	.0066163	.0810709	0	1
pop_o	4,477,456	9.941084	1.823225	5.987913	14.08632
pop_d	4,477,456	9.941084	1.823225	5.987913	14.08632
code_o	4,477,456	467.1522	241.1747	32	858
employees_o	3,636,346	165115.3	534394.8	0	6521300
establishm~o	3,260,756	3718.475	8562.331	0	121938
output_o	3,655,390	8.60e+14	4.91e+15	0	6.60e+16
valueadded_o	3,595,084	1.71e+14	1.76e+15	0	3.51e+16
wages_o	3,590,852	1.54e+09	5.51e+09	0	6.04e+10
pcrdbgdp_o	4,477,456	3.682856	.6792031	2.182196	5.031848
pcrdbofgdp_o	4,477,456	3.744962	.8288245	.2842733	5.224363
gdp_o	4,477,456	8.656791	1.139084	6.174993	10.74287
overallsco~o	4,477,456	4.149226	.1405407	3.830813	4.487512
propertyri~o	4,477,456	3.910951	.4516294	2.302585	4.49981
government~o	4,477,456	3.738589	.4147997	2.772589	4.564348
investment~o	4,477,456	4.009264	.3217481	3.401197	4.49981
privatecre~o	3,455,428	3.80887	.9107864	-1.681096	5.28977
TBT_o	3,163,420	3.148312	1.574564	0	5.594711
GettingCre~o	4,477,456	4.194924	.2523436	3.555348	4.60517
Strengthof~o	4,477,456	1.680094	.6611035	0	2.484907
yr_sch_o	4,477,456	8.41585	2.611462	3.259802	12.92598
code_d	4,477,456	467.1522	241.1747	32	858
employees_d	3,636,346	165115.3	534394.8	0	6521300
establishm~d	3,260,756	3718.475	8562.331	0	121938
output_d	3,655,390	8.60e+14	4.91e+15	0	6.60e+16
valueadded_d	3,595,084	1.71e+14	1.76e+15	0	3.51e+16
wages_d	3,590,852	1.54e+09	5.51e+09	0	6.04e+10
pcrdbgdp_d	4,477,456	3.682856	.6792031	2.182196	5.031848
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GettingCre~d	4,477,456	4.194924	.2523436	3.555348	4.60517
Strengthof~d	4,477,456	1.680094	.6611035	0	2.484907
yr_sch_d	4,477,456	8.41585	2.611462	3.259802	12.92598
value_fdi	4,477,456	345.7185	83250.53	0	6.62e+07
equity_fdi	4,477,456	40.30722	13680.46	0	1.32e+07
tvalue_fdi	4,477,456	367.5811	85888.7	0	6.62e+07
number_dea~i	4,477,456	.0021753	.15457	0	60
value_fdi_1	4,477,456	.0091557	.3061387	0	18.00872
equity_fdi_1	4,477,456	.0013924	.1183364	0	16.39573
tvalue_fdi_1	4,477,456	.0093004	.3105332	0	18.0089
number_dea~1	4,477,456	.0008991	.0334649	0	4.110874
dist_log	4,477,456	8.756541	1.012183	1.900016	9.892039

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TABLE 2 : PFE VALUE FDI

HDFE Linear regression
Absorbing 3 HDFE groups

Number of obs	=	989,115
F(32, 989035)	=	762.08
Prob > F	=	0.0000
R-squared	=	0.0264
Adj R-squared	=	0.0264
Within R-sq.	=	0.0241
Root MSE	=	0.5308

value_fdi_1	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
gdp_o	.0099946	.001524	6.56	0.000	.0070076	.0129816
gdp_d	-.0181123	.0017988	-10.07	0.000	-.021638	-.0145867
GettingCreditscore_o	.0526602	.0081282	6.48	0.000	.0367291	.0685912
GettingCreditscore_d	-.0660938	.0094403	-7.00	0.000	-.0845966	-.0475911
Strengthoflegalrightsindex_o	-.0155181	.003144	-4.94	0.000	-.0216803	-.009356
Strengthoflegalrightsindex_d	.0259763	.0035906	7.23	0.000	.0189389	.0330136
propertyrights_o	-.0407618	.0031748	-12.84	0.000	-.0469843	-.0345392
propertyrights_d	-.0459625	.0029035	-15.83	0.000	-.0516533	-.0402717
privatecredtogdp_o	.0073659	.0010341	7.12	0.000	.005339	.0093927
privatecredtogdp_d	.001688	.0009117	1.85	0.064	-.0000989	.003475
pcrdbofgdp_o	.0360489	.0016568	21.76	0.000	.0328017	.0392962
pcrdbofgdp_d	.0080272	.0017094	4.70	0.000	.0046768	.0113775
pcrdbgdp_o	-.0342377	.0022916	-14.94	0.000	-.0387292	-.0297463
pcrdbgdp_d	.0108406	.0023848	4.55	0.000	.0061664	.0155148
TBT_o	-.0029513	.0003754	-7.86	0.000	-.0036871	-.0022156
TBT_d	-.0007919	.0004389	-1.80	0.071	-.0016522	.0000684
overallscore_o	.1365068	.0110122	12.40	0.000	.1149232	.1580904
overallscore_d	.2184687	.0114857	19.02	0.000	.195957	.2409804
investmentfreedom_o	-.0274906	.0029579	-9.29	0.000	-.033288	-.0216932
investmentfreedom_d	-.0423074	.0029371	-14.40	0.000	-.048064	-.0365508
yr_sch_o	.0047692	.0005006	9.53	0.000	.0037881	.0057504
yr_sch_d	.0071795	.0005183	13.85	0.000	.0061637	.0081953
governmentintegrity_o	-.0048339	.0044138	-1.10	0.273	-.0134849	.003817
governmentintegrity_d	.0426295	.0047009	9.07	0.000	.0334158	.0518431
dist_log	-.0626171	.0005725	-109.38	0.000	-.0637392	-.061495
contig	-.0846057	.0030431	-27.80	0.000	-.0905701	-.0786414
comLang_off	-.0057695	.0015873	-3.63	0.000	-.0088806	-.0026585
pop_o	.0180384	.0004619	39.05	0.000	.017133	.0189438
pop_d	.0179703	.0005788	31.05	0.000	.0168359	.0191047
col45	-.1251064	.0061849	-20.23	0.000	-.1372286	-.1129842
TBT_d	0	(omitted)				
establishments_d	-4.28e-07	1.64e-07	-2.61	0.009	-7.50e-07	-1.06e-07
c.TBT_d#c.establishments_d	5.82e-07	3.51e-08	16.59	0.000	5.13e-07	6.51e-07

HDFE Linear regression
Absorbing 3 HDFE groups

Number of obs   =   1,359,001
F(30,1358923)   =   257.67
Prob > F   =   0.0000
R-squared   =   0.0061
Adj R-squared   =   0.0060
Within R-sq.   =   0.0057
Root MSE   =   0.2084

equity_fdi_1	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
gdp_o	-.0016877	.0005083	-3.32	0.001	-.0026839	-.0006914
gdp_d	-.0020708	.0005083	-4.07	0.000	-.003067	-.0010745
GettingCreditscore_o	.0220174	.0027188	8.10	0.000	.0166886	.0273461
GettingCreditscore_d	.0230174	.0027188	8.47	0.000	.0176886	.0283461
Strengthoflegalrightsindex_o	-.0068397	.0010495	-6.52	0.000	-.0088966	-.0047827
Strengthoflegalrightsindex_d	-.0068904	.0010495	-6.57	0.000	-.0089474	-.0048334
propertyrights_o	-.0055134	.0010434	-5.28	0.000	-.0075584	-.0034683
propertyrights_d	-.0063372	.0010434	-6.07	0.000	-.0083823	-.0042921
privatecredtogdp_o	.0020306	.0003336	6.09	0.000	.0013767	.0026846
privatecredtogdp_d	.0020259	.0003336	6.07	0.000	.001372	.0026799
pcrdbofgdp_o	.0098723	.00057	17.32	0.000	.0087551	.0109895
pcrdbofgdp_d	.0099041	.00057	17.38	0.000	.0087869	.0110213
pcrdbgdp_o	-.0094667	.0007714	-12.27	0.000	-.0109787	-.0079547
pcrdbgdp_d	-.0090412	.0007714	-11.72	0.000	-.0105532	-.0075292
IBI_o	.0003811	.000126	3.03	0.002	.0001342	.000628
IBI_d	.0005612	.000126	4.46	0.000	.0003143	.0008081
overallscore_o	.0243317	.0036834	6.61	0.000	.0171123	.0315511
overallscore_d	.0254954	.0036834	6.92	0.000	.018276	.0327148
investmentfreedom_o	-.0108284	.0009924	-10.91	0.000	-.0127735	-.0088832
investmentfreedom_d	-.0114077	.0009924	-11.49	0.000	-.0133528	-.0094626
yr_sch_o	.0021844	.0001666	13.11	0.000	.0018579	.0025108
yr_sch_d	.0022834	.0001666	13.71	0.000	.0019569	.0026098
governmentintegrity_o	-.0024423	.0014837	-1.65	0.100	-.0053503	.0004657
governmentintegrity_d	-.0031279	.0014837	-2.11	0.035	-.0060359	-.0002199
dist_log	-.0114197	.0001906	-59.91	0.000	-.0117933	-.0110461
comlang_off	-.0038016	.000491	-7.74	0.000	-.0047639	-.0028392
contig	-.0187549	.0009955	-18.84	0.000	-.020706	-.0168037
pop_o	.0022164	.0001559	14.22	0.000	.0019109	.002522
pop_d	.002145	.0001559	13.76	0.000	.0018394	.0024505
col45	-.0248831	.0021991	-11.32	0.000	-.0291933	-.0205729

TABLE 4: PFE TVALUE

HDFE Linear regression

Absorbing 3 HDFE groups

				Number of obs	=	1,359,001
				F(30,1358923)	=	1025.77
				Prob > F	=	0.0000
				R-squared	=	0.0243
				Adj R-squared	=	0.0242
				Within R-sq.	=	0.0221
				Root MSE	=	0.5147

tvalue_fdi_1	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
gdp_o	.0022709	.0012556	1.81	0.071	-.00019	.0047319
gdp_d	.0021462	.0012556	1.71	0.087	-.0003148	.0046071
GettingCreditscore_o	.0418967	.0067161	6.24	0.000	.0287334	.05506
GettingCreditscore_d	.0857535	.0067161	12.77	0.000	.0725902	.0989168
Strengthoflegalrightsindex_o	-.0147733	.0025925	-5.70	0.000	-.0198545	-.0096921
Strengthoflegalrightsindex_d	-.0274986	.0025925	-10.61	0.000	-.0325798	-.0224174
propertyrights_o	-.0151941	.0025775	-5.89	0.000	-.0202459	-.0101423
propertyrights_d	-.0392235	.0025775	-15.22	0.000	-.0442753	-.0341717
privatecredtogdp_o	.0081342	.0008242	9.87	0.000	.0065189	.0097496
privatecredtogdp_d	.0067606	.0008242	8.20	0.000	.0051453	.008376
pcrdbofgdp_o	.0378071	.001408	26.85	0.000	.0350474	.0405667
pcrdbofgdp_d	.0325091	.001408	23.09	0.000	.0297494	.0352688
pcrdbgdp_o	-.0401926	.0019056	-21.09	0.000	-.0439276	-.0364576
pcrdbgdp_d	-.0173013	.0019056	-9.08	0.000	-.0210363	-.0135663
TBT_o	-.0007136	.0003112	-2.29	0.022	-.0013235	-.0001038
TBT_d	.0022977	.0003112	7.38	0.000	.0016879	.0029076
overallscore_o	.1219548	.009099	13.40	0.000	.1041211	.1397885
overallscore_d	.1061492	.009099	11.67	0.000	.0883065	.1239738
investmentfreedom_o	-.0348685	.0024515	-14.22	0.000	-.0396735	-.0300636
investmentfreedom_d	-.0372514	.0024515	-15.20	0.000	-.0420564	-.0324465
yr_sch_o	.0082381	.0004115	20.02	0.000	.0074316	.0090446
yr_sch_d	.0080177	.0004115	19.49	0.000	.0072112	.0088241
governmentintegrity_o	-.0048906	.0036651	-1.33	0.182	-.0120741	.0022929
governmentintegrity_d	-.0220304	.0036651	-6.01	0.000	-.0292139	-.0148469
dist_log	-.056586	.0004709	-120.00	0.000	-.057429	-.0555831
comlang_off	-.0071326	.0012129	-5.88	0.000	-.0095099	-.0047554
contig	-.0630569	.0024591	-25.64	0.000	-.0678768	-.0582371
pop_o	.0169626	.0003851	44.05	0.000	.0162078	.0177174
pop_d	.0136073	.0003851	35.33	0.000	.0128525	.014362
col45	-.1265097	.0054323	-23.29	0.000	-.1371569	-.1158625

TABLE 5: PFE NUMBER DEALS(EXTENSIVE MARGIN)

HDFE Linear regression
Absorbing 3 HDFE groups

Number of obs	=	989,115
F(30, 989037)	=	715.62
Prob > F	=	0.0000
R-squared	=	0.0234
Adj R-squared	=	0.0234
Within R-sq.	=	0.0212
Root MSE	=	0.0588

number_deals_fdi_1	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
gdp_o	.0006722	.0001585	4.47	0.000	.0003772	.0009673
gdp_d	-.0011532	.0001641	-7.03	0.000	-.0014749	-.0008315
GettingCreditscore_o	.0063153	.0008994	7.02	0.000	.0045525	.0080782
GettingCreditscore_d	-.0046876	.0010043	-4.67	0.000	-.0066559	-.0027193
Strengthoflegalrightsindex_o	-.0018899	.000347	-5.45	0.000	-.00257	-.0012099
Strengthoflegalrightsindex_d	.0022732	.0003912	5.81	0.000	.0015065	.0030399
propertyrights_o	-.0049243	.0003512	-14.02	0.000	-.0056126	-.0042361
propertyrights_d	-.0050225	.0003203	-15.68	0.000	-.0056504	-.0043947
privatecredtogdp_o	.0006853	.0001124	6.10	0.000	.000465	.0009057
privatecredtogdp_d	.0000272	.0000999	0.27	0.785	-.0001686	.0002223
pcrdbofgdp_o	.0035143	.0001801	19.52	0.000	.0031614	.0038672
pcrdbofgdp_d	.0013417	.0001807	7.43	0.000	.0009876	.0016958
pcrdbgdp_o	-.0031177	.0002381	-13.09	0.000	-.0035845	-.0026509
pcrdbgdp_d	.0012941	.0002604	4.97	0.000	.0007838	.0018044
TBT_o	-.000204	.0000413	-4.94	0.000	-.0002849	-.0001231
TBT_d	-.0000127	.0000483	-0.26	0.793	-.0001073	.0000819
overallscore_o	.0152768	.0011902	12.84	0.000	.012944	.0176096
overallscore_d	.0252387	.0012679	19.91	0.000	.0227536	.0277238
investmentfreedom_o	-.0031263	.0003276	-9.54	0.000	-.0037684	-.0024841
investmentfreedom_d	-.0046226	.0003253	-14.21	0.000	-.0052602	-.0039849
yr_sch_o	-.0005215	.0000555	9.40	0.000	-.0004128	-.0006301
yr_sch_d	.0006952	.0000565	12.31	0.000	.0005845	.0008059
dist_log	-.0064875	.0000633	-102.46	0.000	-.0066116	-.0063634
comlang_off	-.0008412	.0001729	-4.87	0.000	-.00118	-.0005023
contig	-.0100771	.0003365	-29.94	0.000	-.0107367	-.0094175
col45	-.0134129	.0006838	-19.61	0.000	-.0147532	-.0120726
pop_o	.0017957	.000051	35.21	0.000	.0016958	.0018957
pop_d	.0016845	.0000619	27.23	0.000	.0015632	.0018057
col45	0 (omitted)					
TBT_d	0 (omitted)					
establishments_d	-3.31e-08	1.81e-08	-1.82	0.068	-6.86e-08	2.47e-09
c.TBT_d#c.establishments_d	6.66e-08	3.87e-09	17.20	0.000	5.90e-08	7.41e-08

TABLE 6 – PROBIT (HECKMAN FIRST STAGE)

```
Probit regression                         Number of obs   =  2,256,714
                                          LR chi2(10)     =    7015.12
                                          Prob > chi2     =     0.0000
Log likelihood = -24027.695               Pseudo R2       =     0.1274
```

fdi	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
TBT_o	.0726201	.0041967	17.30	0.000	.0643948	.0808454
TBT_d	.1160076	.0044834	25.87	0.000	.1072202	.124795
governmentintegrity_o	.8712152	.0307458	28.34	0.000	.8109545	.9314759
governmentintegrity_d	.9490027	.0297246	31.93	0.000	.8907436	1.007262
investmentfreedom_o	-.621213	.0239094	-25.98	0.000	-.6680744	-.5743515
investmentfreedom_d	-.7256748	.0235699	-30.79	0.000	-.771871	-.6794785
propertyrights_o	-.0095397	.0335673	-0.28	0.776	-.0753304	.0562511
propertyrights_d	-.2730379	.0317655	-8.60	0.000	-.335297	-.2107787
overallscore_o	-.2365369	.0959342	-2.47	0.014	-.4245644	-.0485094
overallscore_d	-.4199279	.0947665	-4.43	0.000	-.6056668	-.234189

TABLE 7 – HECKMAN: INTENSIVE MARGIN

HDFE Linear regression
Absorbing 1 HDFE group

Number of obs =	2,885
F(104, 2780) =	280.41
Prob > F =	0.0000
R-squared =	0.2818
Adj R-squared =	0.2549
Within R-sq. =	0.2818
Root MSE =	1.9704

value_fdi_log	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
prob_fdi_log	-.0598768	.0477385	-1.25	0.210	-.1534833	.0337296
privatecredtogdp_o	.7631057	.4253394	1.79	0.073	-.0709074	1.597119
privatecredtogdp_d	1.456377	.4218733	3.45	0.001	.6291607	2.283594
dist_log	-.1102029	.0471457	-2.34	0.019	-.202647	-.0177589
pcrdbgdp_o	-1.033923	.1725638	-5.99	0.000	-1.372289	-.6955573
pcrdbgdp_d	-1.042656	.1832984	-5.69	0.000	-1.402071	-.6832416
pcrdbofgdp_o	.32053	.4210883	0.76	0.447	-.5051474	1.146207
pcrdbofgdp_d	.015936	.4186837	0.04	0.970	-.8050263	.8368984
StrengthofLegalrightsindex_o	-1.824146	.4225744	-4.32	0.000	-2.652737	-.9955544
StrengthofLegalrightsindex_d	-2.462652	.4904114	-5.02	0.000	-3.42426	-1.501045
GettingCreditscore_o	3.084235	.7960001	3.87	0.000	1.523423	4.645046
GettingCreditscore_d	5.643803	1.1854474	4.76	0.000	3.319304	7.968302
comlang_off	-.106436	.1887548	-0.56	0.573	-.4765499	.2636778
col45	.286356	.3902059	0.73	0.463	-.4787666	1.051478
contig	-.1460195	.2329309	-0.63	0.531	-.6027545	.3107156
pop_o	.234009	.0415811	5.63	0.000	.152476	.3155419
pop_d	-.0328584	.0549429	-0.60	0.550	-.1405914	.0748746
TBT_d	-.0405322	.0649297	-0.62	0.533	-.1678475	.0867831
establishments_d	7.83e-06	.0000131	0.60	0.550	-.0000179	.0000335
c.TBT_d#c.establishments_d	1.58e-07	2.46e-06	0.06	0.949	-4.66e-06	4.98e-06
industry_d						
16	2.263522	.3395902	6.67	0.000	1.597648	2.929397
17	-1.343295	.5145409	-2.61	0.009	-2.352216	-.3343739
18	-.9060919	.6508771	-1.39	0.164	-2.182343	.3701595
19	-1.014483	.7261715	-1.40	0.163	-2.438373	.409407
20	-.8944033	1.091423	-0.82	0.413	-3.034484	1.245677
21	.7414975	.5477055	1.35	0.176	-.3324531	1.815448
22	-1.088426	.8291167	-1.31	0.189	-2.714173	.5373204
23	1.297969	.7716557	1.68	0.093	-.2151069	2.811045
24	.2161291	.5190548	0.42	0.677	-.8016427	1.233901
25	.3923005	.525551	0.75	0.455	-.6382091	1.42281
26	-.2149763	.5996976	-0.36	0.720	-1.390874	.9609214
27	.4245873	.7195188	0.59	0.555	-.9862579	1.835432
28	-.0400531	.728121	-0.06	0.956	-1.467766	1.387659
29	-1.002937	.5211176	-1.92	0.054	-2.024754	.0188792
30	1.03517	.5930783	1.75	0.081	-.1277486	2.198088
31	-.3925937	.5126817	-0.77	0.444	-1.397869	.6126817
32	-.3555097	.5125261	-0.69	0.488	-1.36048	.6494606
33	-.4879337	.5460181	-0.89	0.372	-1.558576	.5827083
34	.0389355	.5493167	0.07	0.943	-1.038174	1.116046
35	-.8731389	.6593793	-1.32	0.186	-2.166061	.4197836
36	-.3905757	.5289361	-0.74	0.460	-1.427723	.6465715

year						
2004	.5363101	.59889	0.90	0.371	-.638004	1.710624
2005	.429311	.6705539	0.64	0.522	-.8855229	1.744145
2006	.572142	.5377242	1.06	0.287	-.4822371	1.626521
industry_d#year						
16 2003	0	(empty)				
16 2004	0	(empty)				
16 2005	0	(empty)				
16 2006	0	(omitted)				
17 2004	-.1956703	.7139173	-0.27	0.784	-1.595532	1.204191
17 2005	.543861	.7467615	0.73	0.466	-.9204022	2.008124
17 2006	.6195996	.6851646	0.90	0.366	-.7238833	1.963082
18 2004	-.6841935	.9080444	-0.75	0.451	-2.464703	1.096316
18 2005	-.1408494	.8654587	-0.16	0.871	-1.837856	1.556157
18 2006	-.7815951	.8531131	-0.92	0.360	-2.454394	.8912042
19 2004	-.796999	.9016638	-0.88	0.377	-2.564997	.9709992
19 2005	-.4645276	.9294419	-0.50	0.617	-2.286994	1.357938
19 2006	-.9443455	.8325078	-1.13	0.257	-2.576741	.6880505
20 2004	1.076779	1.319817	0.82	0.415	-1.511141	3.664699
20 2005	-.6139955	1.211053	-0.51	0.612	-2.98865	1.760659
20 2006	-.7218143	1.202802	-0.60	0.548	-3.080289	1.636661
21 2004	-2.034918	.8777514	-2.32	0.021	-3.756028	-.3138073
21 2005	-1.66343	.8642622	-1.92	0.054	-3.358091	.03123
21 2006	-1.575328	.8891831	-1.77	0.077	-3.318854	.1681976
22 2004	.717537	1.157113	0.62	0.535	-1.551351	2.986425
22 2005	.9222341	1.1944	0.77	0.440	-1.419767	3.264235
22 2006	.7917912	1.121579	0.71	0.480	-1.407421	2.991003
23 2004	-1.888409	.9574574	-1.97	0.049	-3.765808	-.0110093
23 2005	-1.584914	.9797809	-1.62	0.106	-3.506086	.336258
23 2006	-.9653103	.9769415	-0.99	0.323	-2.880914	.9502939
24 2004	-.6265702	.6936248	-0.90	0.366	-1.986642	.7335016
24 2005	-.1300419	.7406531	-0.18	0.861	-1.582328	1.322244
24 2006	-.3496515	.640566	-0.55	0.585	-1.605685	.9063817
25 2004	-1.820172	.8013461	-2.27	0.023	-3.391465	-.248878
25 2005	-1.713994	.7539286	-2.27	0.023	-3.19231	-.2356774
25 2006	-2.229373	.660068	-3.38	0.001	-3.523646	-.9351003
26 2004	-.2526648	.8124688	-0.31	0.756	-1.845768	1.340438
26 2005	-1.505394	.9295359	-1.62	0.105	-3.328045	.3172563
26 2006	-.2554364	.7752576	-0.33	0.742	-1.775575	1.264702
27 2004	-.5838821	.9477394	-0.62	0.538	-2.442226	1.274462
27 2005	-.9167183	1.039001	-0.88	0.378	-2.95401	1.120574
27 2006	-.1625669	.8630462	-0.19	0.851	-1.854843	1.529709
28 2004	-1.070916	.9561233	-1.12	0.263	-2.945699	.8038678
28 2005	-1.378925	.9400141	-1.47	0.143	-3.222121	.4642714
28 2006	-1.426727	.8700722	-1.64	0.101	-3.13278	.2793257
29 2004	-.0590015	.7047891	-0.08	0.933	-1.440964	1.322961
29 2005	.2447069	.7372247	0.33	0.740	-1.200856	1.69027
29 2006	-.1314994	.6419437	-0.20	0.838	-1.390234	1.127235
30 2004	-2.102201	.804821	-2.61	0.009	-3.680308	-.5240936
30 2005	-.6389029	.8139039	-0.78	0.433	-2.23482	.9570142
30 2006	-2.943674	.8546543	-3.44	0.001	-4.619495	-1.267853
31 2004	-.8385793	.6892284	-1.22	0.224	-2.190031	.512872
31 2005	-.0483845	.7355945	-0.07	0.948	-1.490751	1.393982
31 2006	-.4371752	.6296574	-0.69	0.488	-1.671819	.7974683
32 2004	.8398134	.7286739	1.15	0.249	-.5889833	2.26861
32 2005	-.3201706	.7337962	-0.44	0.663	-1.759011	1.11867
32 2006	-1.003934	.6411154	-1.57	0.117	-2.261044	.2531766
33 2004	-1.083854	.7115491	-1.52	0.128	-2.479072	.3113642
33 2005	-.2419627	.7676619	-0.32	0.753	-1.747208	1.263282
33 2006	-.2812243	.6797451	-0.41	0.679	-1.61408	1.051632
34 2004	-1.179745	.852694	-1.38	0.167	-2.851722	.4922327
34 2005	-.484031	.7749204	-0.62	0.532	-2.003509	1.035447
34 2006	-.9183673	.7116996	-1.29	0.197	-2.313881	.4771459
35 2004	.1671839	.8478488	0.20	0.844	-1.495293	1.829661
35 2005	-.0016675	.8889344	-0.00	0.999	-1.744706	1.741371
35 2006	-.0888724	.7858289	-0.11	0.910	-1.62974	1.451995
36 2004	-.4040938	.7125756	-0.57	0.571	-1.801325	.9981371
36 2005	-.987309	.7707709	-1.28	0.200	-2.49865	.5240322
36 2006	-1.022036	.6503111	-1.57	0.116	-2.297178	.2531051

TABLE 8 – HECKMAN: EXTENSIVE MARGIN

HDFE Linear regression

Absorbing 1 HDFE group

Number of obs	=	2,885
$F(104, 2780)$	=	50.00
Prob > F	=	0.0000
R-squared	=	0.2241
Adj R-squared	=	0.1951
Within R-sq.	=	0.2241
Root MSE	=	0.6397

number_deals_fdi_log	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
prob_fdi_log	.0923645	.0109166	8.46	0.000	.0709591	.1137698
privatecredtogdp_o	-.0142155	.0717729	-0.20	0.843	-.1549491	.1265181
privatecredtogdp_d	.1387784	.0736431	1.88	0.060	-.0056223	.283179
dist_log	-.1312151	.010743	-12.21	0.000	-.1522803	-.11015
pcrdbgdp_o	.0438067	.0446982	0.98	0.327	-.0438384	.1314519
pcrdbgdp_d	-.2833257	.0486042	-5.83	0.000	-.3786297	-.1880216
pcrdbofgdp_o	.0342241	.0695215	0.49	0.623	-.1020949	.1705431
pcrdbofgdp_d	.0494851	.0655881	0.75	0.451	-.0791212	.1780914
StrengthofLegalrightsindex_o	-.1697617	.0910894	-1.86	0.062	-.3483715	.0088481
StrengthofLegalrightsindex_d	-.4576855	.1057372	-4.33	0.000	-.6650168	-.2503542
GettingCreditscore_o	.5146527	.1783236	2.89	0.004	.1649927	.8643126
GettingCreditscore_d	1.405248	.2712118	5.18	0.000	.8734507	1.937045
comlang_off	-.1360629	.0425639	-3.20	0.001	-.219523	-.0526029
col45	-.0375073	.05667	-0.66	0.508	-.1486268	.0736122
contig	-.5099762	.0506653	-10.07	0.000	-.6093217	-.4106307
pop_o	.1332038	.0102274	13.02	0.000	.1131497	.1532578
pop_d	.0073607	.0114752	0.64	0.521	-.01514	.0298614
TBI_d	-.0188168	.0136237	-1.38	0.167	-.0455305	.0078969
establishments_d	6.78e-06	4.10e-06	1.66	0.098	-1.25e-06	.0000148
c.TBI_d#c.establishments_d	-5.00e-07	7.87e-07	-0.63	0.526	-2.04e-06	1.04e-06
industry_d						
16	-.3315791	.1333276	-2.49	0.013	-.5930102	-.070148
17	-.4941826	.184778	-2.67	0.008	-.8564987	-.1318665
18	-.5592583	.1794579	-3.12	0.002	-.9111426	-.207374
19	-.5606767	.1771826	-3.16	0.002	-.9080996	-.2132539
20	-.3482481	.2737641	-1.27	0.203	-.8850496	.1885535
21	-.3038339	.2257305	-1.35	0.178	-.7464502	.1387824
22	-.2753873	.3142424	-0.88	0.381	-.8915594	.3407849
23	.0910965	.2611103	0.35	0.727	-.4208932	.6030862
24	-.2174776	.1955945	-1.11	0.266	-.6010029	.1660476
25	-.5280786	.1930096	-2.74	0.006	-.9065353	-.1496219
26	-.3584126	.1983978	-1.81	0.071	-.7474345	.0306093
27	-.3711542	.2243076	-1.65	0.098	-.8109804	.068672
28	-.3591178	.2161947	-1.66	0.097	-.7830362	.0648006
29	-.4098728	.1815127	-2.26	0.024	-.7657861	-.0539594
30	-.5319481	.1997691	-2.66	0.008	-.9236589	-.1402373
31	-.2300046	.1929664	-1.19	0.233	-.6083765	.1483672
32	-.3060128	.1919324	-1.59	0.111	-.6823572	.0703316
33	-.3465551	.1862218	-1.86	0.063	-.7117021	.0185919
34	-.2136656	.2089228	-1.02	0.307	-.6233251	.195994
35	-.4378903	.1892652	-2.31	0.021	-.8090049	-.0667757
36	-.4022136	.1871178	-2.15	0.032	-.7691174	-.0353097

year						
2004	-.0321354	.2222207	-0.14	0.885	-.4678697	.403599
2005	.0406011	.2340002	0.17	0.862	-.4182307	.4994329
2006	-.2085104	.2051973	-1.02	0.310	-.6108649	.1938441
industry_d#year						
16 2003	0	(empty)				
16 2004	0	(empty)				
16 2005	0	(empty)				
16 2006	0	(omitted)				
17 2004	.1167358	.248526	0.47	0.639	-.3705784	.6040501
17 2005	-.0132822	.2597242	-0.05	0.959	-.5225541	.4959896
17 2006	.6760789	.25 1145	2.69	0.007	.1836294	1.168528
18 2004	-.0361045	.2479792	-0.15	0.884	-.5223466	.4501376
18 2005	-.0004619	.2707569	-0.00	0.999	-.5313669	.5304431
18 2006	.2554106	.2516472	1.01	0.310	-.2380237	.7488448
19 2004	-.0657931	.2288607	-0.29	0.774	-.5145472	.3829609
19 2005	-.1732465	.258587	-0.67	0.503	-.6802884	.3337954
19 2006	.1893745	.2234837	0.85	0.397	-.2488363	.6275854
20 2004	.2621531	.3394326	0.77	0.440	-.4034123	.9277186
20 2005	-.1256178	.3635008	-0.35	0.730	-.8383766	.5871409
20 2006	-.1421296	.3014093	-0.47	0.637	-.7331383	.448879
21 2004	-.3381747	.2728237	-1.24	0.215	-.8731322	.1967828
21 2005	-.3480743	.2931276	-1.19	0.235	-.9228441	.2266955
21 2006	.0477947	.2990603	0.16	0.873	-.5386081	.6341975
22 2004	.0002403	.3694325	0.00	0.999	-.7241496	.7246302
22 2005	-.2364003	.417729	-0.57	0.571	-1.055491	.5826901
22 2006	.5731126	.3884809	1.48	0.140	-.1886277	1.334853
23 2004	-.2033312	.3278601	-0.62	0.535	-.8462051	.4395427
23 2005	-.3735339	.341052	-1.10	0.274	-1.042275	.2952069
23 2006	-.0695869	.3257821	-0.21	0.831	-.7083862	.5692123
24 2004	.0687312	.2579214	0.27	0.790	-.4370056	.574468
24 2005	.0177396	.2671259	0.07	0.947	-.5060455	.5415247
24 2006	.2994343	.2400028	1.25	0.212	-.1711673	.770036
25 2004	-.0663547	.2472405	-0.27	0.788	-.5511481	.4184388
25 2005	-.1031001	.2592621	-0.40	0.691	-.6114659	.4052656
25 2006	.0482801	.2331787	0.21	0.836	-.4089407	.5055009
26 2004	-.0183104	.2755571	-0.07	0.947	-.5586277	.5220069
26 2005	-.1631771	.304954	-0.54	0.593	-.7611363	.434782
26 2006	.23045	.2568856	0.90	0.370	-.2732559	.7341559
27 2004	.1466702	.3024534	0.48	0.628	-.4463856	.7397261
27 2005	-.063584	.2976568	-0.21	0.831	-.6472348	.5200667
27 2006	.0709887	.2742829	0.26	0.796	-.46683	.6088074
28 2004	-.1059936	.268219	-0.40	0.693	-.6319221	.419935
28 2005	-.2347072	.2773145	-0.85	0.397	-.7784704	.309056
28 2006	-.1699443	.2513976	-0.68	0.499	-.6628892	.3230006
29 2004	.1384209	.2439995	0.57	0.571	-.3400177	.6168595
29 2005	-.0239663	.250001	-0.10	0.924	-.5141726	.46624
29 2006	.3547625	.2296848	1.54	0.123	-.0956075	.8051325
30 2004	-.0741804	.2546728	-0.29	0.771	-.5735473	.4251864
30 2005	.4195571	.2922063	1.44	0.151	-.1534061	.9925203
30 2006	.0083468	.2601619	0.03	0.974	-.5017832	.5184768
31 2004	-.0773365	.2487294	-0.31	0.756	-.5650496	.4103766
31 2005	.0132797	.2621206	0.05	0.960	-.500691	.5272505
31 2006	.3079861	.2358955	1.31	0.192	-.154562	.7705342
32 2004	.1039613	.2495278	0.42	0.677	-.3853172	.5932397
32 2005	.0478572	.2598653	0.18	0.854	-.4616912	.5574056
32 2006	.3710557	.2392608	1.55	0.121	-.0980912	.8402026
33 2004	-.079693	.2389065	-0.33	0.739	-.5481451	.3887591
33 2005	.1162535	.2635676	0.44	0.659	-.4005545	.6330615
33 2006	.5878327	.2460912	2.39	0.017	.1052927	1.070373
34 2004	-.0421099	.2912464	-0.14	0.885	-.6131911	.5289712
34 2005	-.0626707	.2809017	-0.22	0.823	-.6134676	.4881263
34 2006	.175134	.2598568	0.67	0.500	-.3343978	.6846657
35 2004	.1581708	.2733774	0.58	0.563	-.3778725	.6942141
35 2005	.0473241	.2626243	0.18	0.857	-.4676342	.5622825
35 2006	.2263285	.2446445	0.93	0.355	-.2533748	.7060318
36 2004	-.1510256	.2373587	-0.64	0.525	-.6164427	.3143916
36 2005	-.1334543	.2522474	-0.53	0.597	-.6280654	.3611568
36 2006	.2018103	.2286867	0.88	0.378	-.2466026	.6502232

APPENDIX.

Table 1 - Iso2_o list

iso2_o	Freq.	Percent	Cum.
AR	97,336	2.17	2.17
AU	97,336	2.17	4.35
BR	97,336	2.17	6.52
CA	97,336	2.17	8.70
CL	97,336	2.17	10.87
CN	97,336	2.17	13.04
CO	97,336	2.17	15.22
CR	97,336	2.17	17.39
CY	97,336	2.17	19.57
CZ	97,336	2.17	21.74
DO	97,336	2.17	23.91
EE	97,336	2.17	26.09
EG	97,336	2.17	28.26
HU	97,336	2.17	30.43
ID	97,336	2.17	32.61
IL	97,336	2.17	34.78
IN	97,336	2.17	36.96
JM	97,336	2.17	39.13
JP	97,336	2.17	41.30
KR	97,336	2.17	43.48
LT	97,336	2.17	45.65
LV	97,336	2.17	47.83
MA	97,336	2.17	50.00
MT	97,336	2.17	52.17
MX	97,336	2.17	54.35
MY	97,336	2.17	56.52
NZ	97,336	2.17	58.70
PE	97,336	2.17	60.87
PH	97,336	2.17	63.04
PK	97,336	2.17	65.22
PL	97,336	2.17	67.39
PY	97,336	2.17	69.57
RU	97,336	2.17	71.74
SA	97,336	2.17	73.91
SG	97,336	2.17	76.09
SI	97,336	2.17	78.26
SK	97,336	2.17	80.43
SV	97,336	2.17	82.61
TH	97,336	2.17	84.78
TR	97,336	2.17	86.96
TT	97,336	2.17	89.13
UA	97,336	2.17	91.30
US	97,336	2.17	93.48
UY	97,336	2.17	95.65
VN	97,336	2.17	97.83
ZA	97,336	2.17	100.00
Total	4,477,456	100.00	

APPENDIX

Table 2 - Iso2_d list

iso2_d	Freq.	Percent	Cum.
AR	97,336	2.17	2.17
AU	97,336	2.17	4.35
BR	97,336	2.17	6.52
CA	97,336	2.17	8.70
CL	97,336	2.17	10.87
CN	97,336	2.17	13.04
CO	97,336	2.17	15.22
CR	97,336	2.17	17.39
CY	97,336	2.17	19.57
CZ	97,336	2.17	21.74
DO	97,336	2.17	23.91
EE	97,336	2.17	26.09
EG	97,336	2.17	28.26
HU	97,336	2.17	30.43
ID	97,336	2.17	32.61
IL	97,336	2.17	34.78
IN	97,336	2.17	36.96
JM	97,336	2.17	39.13
JP	97,336	2.17	41.30
KR	97,336	2.17	43.48
LT	97,336	2.17	45.65
LV	97,336	2.17	47.83
MA	97,336	2.17	50.00
MT	97,336	2.17	52.17
MX	97,336	2.17	54.35
MY	97,336	2.17	56.52
NZ	97,336	2.17	58.70
PE	97,336	2.17	60.87
PH	97,336	2.17	63.04
PK	97,336	2.17	65.22
PL	97,336	2.17	67.39
PY	97,336	2.17	69.57
RU	97,336	2.17	71.74
SA	97,336	2.17	73.91
SG	97,336	2.17	76.09
SI	97,336	2.17	78.26
SK	97,336	2.17	80.43
SV	97,336	2.17	82.61
TH	97,336	2.17	84.78
TR	97,336	2.17	86.96
TT	97,336	2.17	89.13
UA	97,336	2.17	91.30
US	97,336	2.17	93.48
UY	97,336	2.17	95.65
VN	97,336	2.17	97.83
ZA	97,336	2.17	100.00
Total	4,477,456	100.00	

.

APPENDIX TABLE 3- year

year	Freq.	Percent	Cum.
2003	1,119,364	25.00	25.00
2004	1,119,364	25.00	50.00
2005	1,119,364	25.00	75.00
2006	1,119,364	25.00	100.00
Total	4,477,456	100.00	

APPENDIX TABLE 4 – industry_o

```
industry_o |      Freq.    Percent      Cum.
-----------+---------------------------------
        15 |    194,672       4.35       4.35
        16 |    194,672       4.35       8.70
        17 |    194,672       4.35      13.04
        18 |    194,672       4.35      17.39
        19 |    194,672       4.35      21.74
        20 |    194,672       4.35      26.09
        21 |    194,672       4.35      30.43
        22 |    194,672       4.35      34.78
        23 |    194,672       4.35      39.13
        24 |    194,672       4.35      43.48
        25 |    194,672       4.35      47.83
        26 |    194,672       4.35      52.17
        27 |    194,672       4.35      56.52
        28 |    194,672       4.35      60.87
        29 |    194,672       4.35      65.22
        30 |    194,672       4.35      69.57
        31 |    194,672       4.35      73.91
        32 |    194,672       4.35      78.26
        33 |    194,672       4.35      82.61
        34 |    194,672       4.35      86.96
        35 |    194,672       4.35      91.30
        36 |    194,672       4.35      95.65
        37 |    194,672       4.35     100.00
-----------+---------------------------------
     Total |  4,477,456     100.00
```

APPENDIX TABLE 4 – industry_d

```
industry_d |      Freq.    Percent      Cum.
-----------+---------------------------------
        15 |    194,672       4.35       4.35
        16 |    194,672       4.35       8.70
        17 |    194,672       4.35      13.04
        18 |    194,672       4.35      17.39
        19 |    194,672       4.35      21.74
        20 |    194,672       4.35      26.09
        21 |    194,672       4.35      30.43
        22 |    194,672       4.35      34.78
        23 |    194,672       4.35      39.13
        24 |    194,672       4.35      43.48
        25 |    194,672       4.35      47.83
        26 |    194,672       4.35      52.17
        27 |    194,672       4.35      56.52
        28 |    194,672       4.35      60.87
        29 |    194,672       4.35      65.22
        30 |    194,672       4.35      69.57
        31 |    194,672       4.35      73.91
        32 |    194,672       4.35      78.26
        33 |    194,672       4.35      82.61
        34 |    194,672       4.35      86.96
        35 |    194,672       4.35      91.30
        36 |    194,672       4.35      95.65
        37 |    194,672       4.35     100.00
-----------+---------------------------------
     Total |  4,477,456     100.00
```

FREQUENCY DISTRIBUTIONS OF INDEPENDENT VARIABLES.