

This research study deals with studying the relationship between foreign direct investments and economic growth. Here the country under examination is China. The aim of the study is to find the link of FDI and economic growth using the determinants of economic growth such as exports and sector wise distribution of FDI. China is world's third largest economy and it's taking lead in almost every field. The research has shown the trend of FDI in China and it has shown that how much it effects the overall economic growth of the country. Apart from FDI the other independent variables included in the regression of real GDP are exports, inflation, real exchange rate and trade openness on which annual data is collected from 1986 to 2013.

FDI can be shortly described as an investor's large stake in another firm. FDI is regarded as a matter of great concern in the countries that have focus on importing and exporting countries. There are two sides of this issue, one is that the countries having major exporting concern fear that their own domestic market might get shrink due to capital leaving the domestic market. On the other side countries having major importing concerns fear that due to excess imports the foreign firms might get control of the economy of the country. On the larger scale, FDI is regarded as positive sign.

The methodology used in this research is the analysis of statistical data related to FDI and economic growth i.e. using the secondary data and analyzing it quantitatively. The estimation technique utilized in this dissertation is Ordinary Least Square and Granger causality test. Significant relationship and a two way link between FDI and economic growth is found. Moreover the research approach used was deductive. Hypotheses were developed with the help of theoretical framework made by the researcher. The results are tested and checked and recommendations are postulated out as accordingly. There were few limitations faced by the researcher in the collection of data through secondary sources and time management.

***Key Words: Foreign Direct Investment, Longterm Economic Growth, China***

## CHAPTER 1: INTRODUCTION

## 1.1. Foreign Direct Investment

Foreign Direct Investment (FDI) is stated as an investment which is undertaken for a longer time period and shows a long time attentiveness by domestic country or firm into an economy which can be called as foreign direct investor of parent firm FDI demands the investor to put a great effect on managing the firm residing in another economy involving transactions at initial stage as well as at subsequently among two separate bodies (entities) no matter combined or uncombined. In addition to this FDI can also be carried out by single bodies or business bodies. . It has become tripled from 1980s till now and the FDI is increasing rapidly. FDI is growing as an important shift of international capital from last ten years. FDI (Foreign direct investment) has been reported throughout the globe in the past 30 years which has shown mixed results in developed and under developed countries. A significant growth can be seen in foreign direct investment (FDI) which in countries with industrial growth as well as countries which are emerging from last thirty years. FDI is an acquisition of an investor while managing a firm existing in another country and it is normally long term investment which influences the whole firm as well as investors. It is observed that in the world of development both countries that either export their capital or import it have different issues related to FDI. The countries that export capital have serious concerns related to the harmful effects of the exporting capital to the investment in home country. On the other hand the country that imports capital have issues like the legislators or labors shows the risk that the firms in home country may not get under the ownership of foreigners. It is important to study the relationship between foreign direct investment and long term economic growth. There are many factors that need to be studied, many previous researches show results that may or may not apply to all countries and situations. In this study we will study about the relationship between foreign direct investment and long term economic growth in China which is an emerging Asian country.

## 1.2. FDI and Economic growth in China

China has successfully organized inner Foreign Direct Investment (FDI). China is achieving 20% of FDI to countries that are in process of development from a decade with the help of utilizing opportunities and growing size of the China's market. FDI in 2008 reached to \$100 billion from developing countries. When we talk about FDI in terms of GDP or investment then it has reached to 2.5% of average GDP in just five years. Apparently it may seem to be less but it is actually determined by the economy's size. China is considered to be on third number in economy's size world-wide after Japan and United States of America (USA).

Inward FDI is playing an essential part in the development of China's economy and success of export. As stated by the Ministry of Commerce (MOFCOM), almost 50% of China's exports and imports are under Foreign Invested Enterprises (FIEs). It not only give output from industry which is 30% but it also make profits on industrial level which is 22% and at the same time employment labor is provided up to 10%. Technology has played its significant role in industries improvement, so the industries which are reporting to have more FDI also have more productivity as compare to other industries in the market having a positive impact on country's growth. The most important thing to discuss here is that it is due to foreign investment which has reformed the economy of China. From 1980-2010 China has maintained a growth rate of 10% with the help of assistances from FDI. Now the challenge China is facing is to tempt the most appropriate type of FDI so that it can maintain a balance in its economy, enhance the overall situations and improve the value addition to its economy. Strategies that are being in use for FDI is tempting the sustaining environment, industries boosting advancement in technologies and proficient energy related issues.

In manufacturing and service industries China has the potential for Foreign Direct Investment. However China is cautious in its ongoing method of freedom in coordinating with the developing potential of organizations. In this way, China was able to deal with the financial problems they were facing. In coming years there is a possibility that China will work further on freedom of Finance and telecommunication service sectors. FDI agreement and law abiding is decentralized in China which creates openings for rivalry for FDI in between national establishments but at the same hand it may be a cause of corruption on bureaucratic level. In decentralized environment, clearness of

laws and regulations, free communication Government bodies with business personnel holds great significance. The main thing is to create a facility where investors can have all rules and methods at one stop or single place.

In last few years, China is getting famous as a leading trade and manufacturing country whose economic growth is faster than other emerging nations of the world. China has somehow managed to convert itself into an economy which is a global one from poor economy of the world. They are known as the suppliers of manufacturers who are labor-intensive. After getting attached with World Trade Organization (WTO), its desire to be the top ranking trading nations all over the world has accomplished. In this research study the focus would be on the role of foreign direct investment in the economic growth of China.

### 1.3.           Aim of the research

This research aims at finding out the relationship between the foreign direct investment and economic growth in the context of China. China is among the fastest growing economy and it has potential to become a leading economy in the world so there was a need to study on how economic growth is effected by foreign direct investment and vice versa.

### 1.4.           Research Question

In this research the problem statement is to find out the relationship and effect foreign direct investment on economic growth of China. Every country has its own pattern of economic growth caused by different types of factors. This study is concerned with the economic growth of China due to foreign direct investment.

### 1.5.           Research Objectives

The research objectives are as follows:

1. To define FDI and its impact on economic growth previously conducted researches.

2. To study the determinants of economic growth which has great impact on FDI.
3. To explore the impact of FDI on economic growth in China
4. To overview the background history of China and the growth of economy linked with FDI.
5. To find two way relation between FDI and economic growth in China.
6. To create a link between previous researches and actual research with the help of analysis of latest secondary data available through official sources i.e. official websites of China (Ministry of Commerce MOFCOM, National Bureau of Statistics of China).

## 1.6. Significance of the Research

The research holds great significance as foreign direct investment plays an important role in the development of economy. Many researches have been conducted in order to find out the relation of foreign direct investment with the growth of economy. This study is conducted on China, which is an emerging economy and has the potential to come under the list of leading economies of the world. After studying the previous researches a gap was found and therefore the researcher has decided to fill this gap by studying China in this context.

## 1.7. Break down of Chapters

### **Chapter2: Literature review**

In this chapter, detailed rich past researcher has discussed on the research topic of foreign direct investment and economic growth. Moreover the country selected for this research is China so the researcher has also explained in detail the studies of previous researchers in the field of foreign direct investment and its linkage with economic growth. Theoretical framework will be made in this part of research report and it will also include the hypotheses which will be either accepted or rejected after the analysis of findings.

### **Chapter 3: Data and Methodology**

In this third chapter known as data and methodology, researcher's techniques to collect the data and the research methodologies that will be required and applied according to the research type identified by the researcher.

### **Chapter 4: Finding Analysis and Discussion**

In this chapter the data collected will be analysed using statistical tools, averages and visual aids. Discussion will be done based on the results and findings. Critical analysis of the data will be included in this chapter.

### **Chapter 5: Conclusion and Recommendation**

This is the last chapter of the dissertation in which the researcher will conclude the study and give his findings that would be useful for the others. The gaps in this research will also be discussed in this chapter while recommendations and future implications will be made for other researchers, economist and managers of the companies that will help them learn from the study.

## **1.8. Summary**

This chapter has given an overview of FDI and its importance and then it has focused on the research aim, research questions, research objectives and significance of the research. In this chapter brief introduction of FDI and its linkage with economic growth was explained. The chapter has also given the structure of the whole research as well.

# CHAPTER 2: LITERATURE REVIEW

## 2.1. Introduction

In this chapter a detailed and rich literature will be discussed related to past researches in this field. Many researchers have conducted researches on FDI and its impact in economic growth in different countries. This study is limited to China but in this chapter we will discuss the studies conducted in other countries as well which can give us a rich background that how different economies are effected due to foreign direct investment.

## 2.2. Foreign Direct Investment (FDI)

Foreign Direct Investment (FDI) is stated as an investment which is undertaken for a longer time period and shows a long time attentiveness by domestic country or firm into an economy which can be called as foreign direct investor of parent firm FDI demands the investor to put a great effect on managing the firm residing in another economy involving transactions at initial stage as well as at subsequently among two separate bodies (entities) no matter combined or uncombined. In addition to this FDI can also be carried out by single bodies or business bodies (Lensink, 2003).

There is vague image of the effect of Foreign Direct Investment (FDI) on the growth of the economy (Gorg & Greenaway, 2004). According to Huang (2003), foreign investment is explained as direct investment only if the home country's assets are given under the control of foreigners. The kind of FDI and its arrangement is responsible for growth of the economy (Chakraborty & Nunnenkamp, 2008). Foreign direct investment (FDI) is considered to be a significant aspect which is recognized around the globe and in economy on International level. FDI flows imitate increase in economic connections between countries that are in phase of development and the countries which are industrialized. FDI flows are said to be more in developing countries (LDC's) and it is responsible for about 40% of FDI around the globe.

FDI (Foreign direct investment) has been reported throughout the globe in the past 30 years which has shown mixed results in developed and under developed countries. FDI can be shortly described as an investor's large stake in another firm. FDI is regarded as a matter of great concern in the countries that have focus on importing and exporting countries. There are two sides of this issue, one is that the countries having major exporting concern fear that their own domestic market might get shrink due to capital leaving the domestic market. On the other side countries having major importing concerns fear that due to excess imports the foreign firms might get control of the economy of the country. On the larger scale, FDI is regarded as positive sign.

## 2.3. FDI and Economic Growth

Researches came up with facts that prove that how FDI might not be able to accelerate growth of the economy because foreign firms might over take the local industry by acquiring major stakes in it (Aitken & Harrison 1999). The historical background among FDI and economic growth can be traced back to the theories given by modernization and dependency theory (Adams, 2009). With time different researchers have given new dimensions to the countries which says that countries should focus more on the technological transfer to the under developed countries so that such countries might also get benefited in the form of improvements in Education, independent financial markets, and political and economic stability (Calve et al., 2009). Some other good effects



of FDI could be seen in the form of better management skills, improved knowledge about the market, and results in the contacts with huge multi-national firms (Nath, 2005).

## 2.4. FDI and China's Exports

China is showing its ability to export the products which requires less labour and are cost effective e.g. textiles and consumer goods. In the beginning the firms of China has to face tremendous difficulties in making connections with distributors, knowing customers' demands and changing needs, understanding the rules and standards set for running industries and above all in making a perception of customers about latest manufactured product i.e. marketing skills.

FDI plays an important role in exports through investments of capital in exploring the low cost labour of China. This type of FDI fills the vacuum of resources and also help in the development of latest exports. In the establishment of added capital which was difficult for Chinese to make it's starting labour effective base for exports manufacturing. According to Zhang & Song (2000), FDI helps in providing capital to China for production which is based on exports in the manufacturing of products which are vibrant and demanding technology. The assets are specific to firm, expensive and problematic for companies of China to procure on independent basis. The transference of these assets from foreign investors or non-equity companions with the help of training and development, dissemination of knowledge gives the forecast of more spread of knowledge into other companies and economy of China as a whole. Many other firms which includes the local companies of China can also help in progress of exports in addition with issues related to rivalry may be ingrained in the economy of China.

Foreign Direct Investment (FDI) is giving promoting the exports of China by providing the facility of exploring markets. According to Zhang & Markusen (1999), MNCs arrange the exports with in a production system which is run on vertical integration i.e. own network and chain of suppliers and distributors etc. FDI has improved manufacturing sector of China when we talk about activities related to exports carried out by local companies of China. It can be

explained as local firms adopt the strategy i.e. learning through observation. They improve their export activities when they observe other doing so with the help of finances they have, transport infrastructure and so on. Moreover the impact of FDI on the rivalry of local firms can be observed through the exports of the firms and the adaption of latest technologies. It is believed that multinational corporations can enhance their competitiveness in market of China using their strength of possessing advanced technology for processing technology expertise in management skills, market knowledge etc. Another thing to be noted is the relationship of foreign firms with local firms. According to UNCTAD (2001 & 2002), foreign subsidiaries which are totally based on exports have improved the buying inputs from domestic firms, exports of China increases with the increase in maturity of subsidiary becomes mature.

## 2.4. Theories on FDI and determinants of Economic Growth

Abbas et al. (2011) has worked on an imperative study and did a testing on the impact of both FDI and CPI on the member countries of SAARC. The results of the study indicated a positive relation between Foreign Direct Investment (FDI) and Gross Domestic Product (GDP). On the other hand a negative linkage among Consumer Price Index (CPI) and the Gross Domestic Product (GDP) can be seen. In this research multiple regression model was used as the relation of FDI with GDP and CPI is studied independently from year 2001 to 2010.

According to Adams (2009) theory has developed a connection in between FDI and growth of economy whose traces can be found in theories of modernization and dependency. The promotion of growth of economy can take place with the help of FDI as suggested by theories of modernization (Adam, 2009). The latest theories on growth put stress on technology's role with the help of FDI as the countries under development require infrastructure like knowledge dissemination, slackened markets of finances and stability of politics and economy [(Calvo & Sanchez-Robles (2002), Adams (2009)]. On

the other side of transferability of technology, FDI complements with the institutional and management related skills, the general knowledge of marketing and accessibility to market with the help of connections with multinational or international companies [Kumar & Pradhan (2002) and Adams (2009)]. On the other hand Nath (2005) made this argument that the role played by FDI is two way process i.e. accumulating the capital and increase in the factor production in total. Numerous models of economics have explained the relation among FDI and growth of economy as dependent or superseding causes such as a model proposed by Hermes & According to Alfaro et al., (2004), with the help of linear model of interaction, local markets of finance are essential for studying the effect of FDI on the rapid growth of economy in general.

FDI plays a multi-faceted positive role in the form of capital accumulation and by improving the total factor productivity. The dependency theory also states that over dependency on FDI is assumed to bring up negative impacts on the balanced distribution of resources among different financial sectors; another negative impact is the creation of monopolies by multinational firms in the country in which they have invested (Bornschier et al., 2009). This implies that the reins of economy goes into the hands of foreign powers and the local authorities lost control over their industry, so in such circumstances the economy starts growing in an un-even manner which ultimately creates dormant growth in economy (Adams, 2009). Basing upon the theoretical concepts given by many researches we come to know the important relation between FDI and economic growth (Makki & Somwaru 2004). According to Baharumshah & Thanoon (2006) who have studied the vibrant panel models explicating the direct influence of FDI on the process of economic growth in all countries of East Asia. It can be explained in other words as all such countries were quite efficacious in tempting the FDI which will bring further investments and it is obvious that it will grow on fast pace as compare to factors discouraging FDI. According to Ogutucu (2002) who has argued that Foreign Direct Investment (FDI) is considered to be a main factor which speeds up the development phase of the country and makes a linkage with the countries under development globally in the field of economy.

## 2.5. FDI and Infrastructure

It has been observed that FDI is found to be successful when the local forces like the availability of the labour force that could take the burden of economic activity and when the local forces emphasize more on export expansion rather than import expansion. Another research shows that FDI is most efficient when the FDI is in the form of technology transfer (Campos, Kinoshita 2002). FDI also shows the micro level effects on the Growth due to FDI, they say that some critics might show disbelief on growth due to FDI as this is not able to control simultaneous bias and country specific effects (Carkovic & Levine, 2005). There are some studies that prove that FDI always exerts insignificant impact on FDI growth. Some researchers believe that the major stake holder in taking the negative impact of FDI is the host country in which the investor invests (Hermes & Lensink, 2003).

## 2.6. Impact of FDI on Economic Growth:

Many causes of connection among growth of the economy and FDI was identified such as practical learning, trade specifically exports, sustainable macroeconomic environment, human resource, investments etc. (Anwara & Nguyen, 2010). According to Neuhauser (2006), FDI has great impact on the change in technology and there are certain ways to follow on which it can be determined such as Direct Transmission, Indirect Transmission, Second round Transmission explained as by Greenfield Investments, Ownership participation and spill overs of technology respectively. According to Hryckiewicz & Kowalewski (2010), there are many other determinants of economic growth which holds great significance in influencing the magnitude and development of FDI in firms under industrial sector. Another study argued that the inflows of FDI exercise an impact on the growth of economy which is positive only when there is skilful labour present but it was also found that there is negative effect of corruption and fraud on the growth of economy and liberation in the trade which actually is responsible for the economic gains efficiently (Wijeweera et al. 2010).

The past researches have concluded that the varied effects of FDI across different countries is found to be relevant in more open economies, so in order to come up with a final conclusion there is need to select one country as case study (Nair & Weinhold, 2001). Large International firms play their significant role in the development of domestic firms especially in the industrial.

Reis (2001) designed as model which works on finding the impact of FDI on economic growth through the returns on investment which came back to home country. According to her when FDI is allowed then in research and development sector, foreign firms take place of the domestic companies. On domestic level it is not so much beneficial because the revenues and return on investments go back to foreign companies and countries. The impact of FDI on the growth of economy is dependent in the rates of interest in this model. It says that if the rate of interest is higher than the rate of interest in domestic country, then it is not going to have positive effects on growth of the economy. On the other hand if the interest rates are less as compare to the interest rates domestic country then FDI has significant and positive impact on economic growth.

Any country cannot get more inflows of FDI because the multinational companies can never be interested in making their contributions for the generation of government revenue rather they don't appreciate the local business, entrepreneurship. They just look for markets which are capital and labour intensive so they are not even interested in making connections with domestic firms. FDI can prove to be harmful if it eradicate the local businesses of the people and changes the way of consumption of the people. According to Bengoa et al., (2003) the relation of FDI and growth in economy was projected with the help of 18 countries of Latin America from 1970-1999. They came up with the results that FDI depicts and provides an important and positive effect on the economic growth of host countries.

The instability of FDI and other alteration in finance related things was under the observation of numerous scholars and researchers (Alfaro et al., 2004;

and Durham, 2004). They all give this argument that countries which are more developed and are well-established in markets have more potential to entice great volumes of inflows of FDI and they are also beneficial for the countries who are investing in them (Host Countries) as they can get much more from such countries because of being able to manage the instability of inflows of capital.

On the other hand, Carkovic & Levine (2005) used the a method to study the link between FDI and growth of economy, the method is known as General Method of Moment (GMM). The data of 1960 to 1995 was used as a sample size, they found that inflows of FDI have no direct influence on growth of economy and also it is not through the impact on human capital. Choe (2003) used another method called as VAR model for exploring a connection between FDI and economic growth in almost eighty countries and the data was collected from 1971-1995, he came up with the prove of Granger cause and effect relationship in FDI and its effect on growth of economy. It showed durable impact of developed growing economy on FDI as compare to its opposite i.e. the effect of FDI on economic growth.

According to Bende et al., (2001) has conducted research on the effect of FDI in growth of economy while studying ASEAN-5 and this was from 1970-1996. It was found that the foreign direct investment act as a catalyst in speeding up the growth of economy both directly and through indirect ways. So this study has proved the positive relation of FDI with economic growth in countries like Philippines, Malaysia, and Indonesia. The negative relation between FDI and economic growth is identified in countries like Thailand and Singapore. Another researcher has studied the impact of FDI on the development of economy in Thailand, Malaysia, Philippines and Indonesia (Marwah & Tavakoli, 2004)

In a same type of study conducted by Vu et al., (2006) has studied inflows of FDI for two countries i.e. China and Vietnam. He has studied the time period of 1985 to 2002 for China and 1990 to 2002 for Vietnam. It was found through

this research that there is a great effect of FDI on growth of the economy and at the same time there is indirect impact because of productivity of labour. From an investigation it was found that the sector which is gaining more as compare to other sectors is manufacturing when we talk about FDI on sector basis.

He created a difference between inputs into developed country's capital known as foreign capital and inputs into developing country's capital known as domestic capital. According to him domestic capital increases with the increase in foreign capital. He also found that the level of shift of technology in a country which is in the phase of development is decreased for both gap in technology as well as the FDI's share in the capital stock in total.

FDI has both positive and negative impact on the economic growth in different sectors. Such as in mining sector there is negative impact of FDI on economic growth. The outcomes of the results show that there is a possibility that FDI will not have positive impact on economic growth. As per Vu et al., (2006), same doubtful results were found to exist on inflows of FDI. On the other hand the correlation of FDI with investment in domestic country is considered to be negative in well developed countries as compare to developing countries.

FDI not only has its direct impact on economic growth but it also affects indirectly by its interface with human capital (Li & Lu, 2005). According to him the economic growth in the countries in long run can be considered through the transfer of knowledge of technology from the countries who are investing to the countries who are hosting them. Carkovic & Levine (2005) in their latest studies argued that it is due to biasness in estimation methodology which is showing positive results. In contrast, when other techniques of estimation are applied like Arellano-Bond GMM) then the results show that there is no relationship in between FDI inflows as well as the growth in domestic country.

Alfaro et al., (2004) and Durham (2004) studied on different means through which the impact of FDI is dependent on the stability of financial markets of the host country. Alfaro et al., (2004) has used a data from 1975 to 1995 and conducted a cross section study of countries. He found that the countries that have developed banking sector and other financial institutions are able to get profits from FDI. Durham (2004) found same type of results, according to him

FDI possess strong impacts on growth of the countries that have good financial systems.

In addition to this he also found that the countries whose governance is of good quality possess, development of institution and a legal environment which appreciates investors to invest in can observe positive impacts of FDI on economic growth. Hsiao & Shen (2003) used the data of developing countries and found that the strong point of the institution and high degrees of urbanization are the factors for showing a positive impact of FDI on growth of economy.

Blonigen & Wang (2005) argued the inappropriateness of combining rich and poor countries in studies of foreign direct investment. They have categorized the data into six groups of developed countries and nine groups of developing countries. It gave three results. Among them the first factor affecting the inflows of FDI are found to be varying whereas the second result showed the effect of growth of FDI in countries which are under the phase of development and the third results was crowding out effect i.e. the effect of FDI on home country's investment is important for already developed countries.

## 2.6. FDI in China

The improvements in trade and investment sector of China are leading it towards increasing FDI since 1990s. This type of increasing flow of FDI is responsible for high profits in production in China which cause fastest growth in economy of the country and its trade related matters. According to the China's statistical year book of 2012, 445,244 Foreign-Invested Enterprises (FIEs) were registered in 2010 which has given employment to approximately 55.2 million people making 15% from the urban population. In the industrial sector of China, FIEs holds an important pie of the total share. According to Zhang & Daly (2011), the Foreign Direct Investment (FDI) of China is in its way to start managing and controlling the economy along with those countries which have high level of goods exported from the country.

### 2.6.1. Growth of China's Economy



According to Berthelemy & Demurger (2000), FDI shows positive impact on growth of the economy. China is considered to have strong advantage regarding resources of labor with the average wages of workers at very low level. The growing economy of China has brought better roads and highways, rail tracks and improved water ways which has helped its economy become stronger as compare to other countries. Their telecommunications sectors are developing on fast pace due to which they were able to minimize the cost incurred in their communication and collection of information for facilitating their business related activities. The industry of China is speeding up in making its structure as well as in developing its high-tech related industry. Therefore the required system of education has been applied in the country and due to this the labour forces of China are more capable including number of persons having technical specialization residing in cities and enjoying improved apparent, budget and technology related setup which is considered to be the determinants for FDI inflows to transfer the technology. The inflows of FDI linked with the centres of research and development are among the most successful examples. There are many sources of minerals and energy in China. Generally Saudi Arabia is considered to be the major producers of oil but China's production of oil is used for fuel is known worldwide as one of the greatest imports due to its level of consumption.

China also produces coal on large scale and known to be one third of the production out of the total world's production. In the coal industry, the electric power of China has huge supplies. Other important natural resources include metal, non-metal or land etc. Therefore they attract the FDI inflows in China which is resource oriented. In this way FDI inflows which are linked with emerging oil and deposits of minerals or industries of metal are the best examples. These were the determinants based on the locations to examine the FDI in china.

## 2.6.2. Comparative Advantage to China

China also enjoys comparative advantage because of its dense population which is almost one-fourth of the population of the world but on the other hand, in world's capital it has only 3% of the total share. The important thing to consider in China is its capital and good which are based on their cheap technology. This is the disadvantage which is responsible for less pays but

more cost of capital. It is a fact that the most of the FDI is coming from the Asian Newly Industrialized Countries known as NIEs is the first step towards the process of improvement.

Previously the trade was carried out mainly between two countries based on their comparative advantages. The reallocation of NIE's production in China was because of their nonstop increase in the salaries in home country. The important part of FDI in NIEs was required in the improvement process of trade as compare to the manufacturing sector. According to Wang (2006), all those things which were imported once are now in use of things which are exported and even today the trade carried out in China is based mostly in between industries.

The government of China has tried its best to simplify and reorganize the management of FDI in addition with its execution and implementation. The major stress is laid on the inflows of FDI having preferences at national level which demands the understanding of complexities that exist in industries, innovations, outsourcing techniques and a cause i.e. playing a role in poor and developing countries and regions. The government of China must keep on doing efforts to give independence, clearness and expectedness of the model for inflows and outflows FDI.

## 2.7. Conclusion

In this chapter the past researches theories have been discussed on FDI and economic growth in general and specifically for China. As China is world's third largest economy after Japan and United States of America (U.S.A), its FDI is also increasing. In previous literature, it can be observed that the FDI and economic growth are influenced by the determinants of the economic growth on vast scale such as GDP, imports, exports, population of the country, industrial sectors etc. This is how the researcher has overviewed the past researches and made a road map after understanding the research problem and identifying the gap to be studied in the research study. The existing empirical studies concerning the topic of FDI and economic growth show mixed results regarding the association between FDI and economic growth of host nations which is almost in comparison with the more established theoretical literature. While briefly concluding the literature review firstly it can

be said that FDI is growth enhancing for host countries but it does not always have autonomous impact on these nations. FDI inflows are usually attracted to the countries having highly educated and trained human capital. FDI may have an immediate impact on economic growth of a country by having a direct contribution in capital accumulation and by transferring new and modern techniques and technologies to the host nation. Additionally, FDI have growth enhancing effect in some way by adding to the stock of knowledge because when FDI comes in a country it leads the labour of that country to get training about new technologies and become skilled one. Also new management skills can be adopted and organizational procedures may get improved. Secondly, FDI produces more beneficial effects in export oriented countries than import substituting. So it can be concluded by reviewing above literature that FDI is growth enhancing but this impact depends on the host country's economic conditions i.e. whether it is an import substituting country or export oriented country and which type and quality of labour and infrastructure does it possesses. It can also be observed from the literature discussed above that developing countries having low skilled labour are unable to attract FDI and if FDI comes it is able to enhance growth only if there is presence of good governance. The law and order situation is also important for FDI generating its positive impact on economic growth. When it comes to the sector wise distribution of FDI the sector which gets more benefits and has more attraction for FDI is manufacturing sector. The importance of FDI in affecting the growth process in a country cannot be ignored but it only helps when it facilitates the actual production in the country and is facilitated by the strong developed financial system and more developed and quality institutions which can assure the foreign firms are not creating monopolies and are not damaging to the environment of the host country.

## 2.8. Theoretical Framework

**Independent Variable  
Variable**

**Dependent**

FDI

Exports

GDP

**Figure 2.1**

**Source: Developed by Author (2014)**

In figure 2.1, theoretical framework which is developed by the researchers consist of an independent variable i.e. FDI and two dependent variables i.e. exports and GDP of China. Exports and GDP are considered here as determinants of economic growth. Economic growth of a country is based on several factors and all of them cannot be studied in this research therefore the researcher has taken only two determinants of economic growth which are GDP and exports.

# CHAPTER 3: METHODOLOGY

## 3.1. Introduction

In this chapter the methodology used in this research will be discussed in detail. The researcher has to formulate strategies, techniques for conducting the research study. It is very essential part of the research as data has to be collected from using the most appropriate techniques which are well suited to the research nature and topic. The aim of any research is to do the analysis of prevailing information by reviewing it and finding out solutions to the problems from that study. In this process the researcher came up with the analysis of main issues related with the subject and build new ideas and methods to understand the process. With the help of systematic approach a new phenomenon is explained in addition with new information and knowledge in that particular area of study (Collins & Hussey, 2003). The systematic way to use is described in this chapter. For the collection of data different kinds of techniques and approaches are used. The researcher has to decide and choose one of the methods which suits perfectly to the type of research. A stepwise approach has used by the researcher to stay on track while conducting the research. Research Methodology is defined as the way which provides solution to the problem of the research in systematic way. The major idea of the study is to find out the affiliation between FDI and economic growth of China and in order to achieve this objective the model is partially adapted by Kim and Bang, (2008). The distinction between their model and this model is that they did not incorporate exports, inflation and real exchange rate into the model used in the study. The model adapted is discussed below:

$$LRGDP_i = \beta_0 + \beta_1 FDI_i + \beta_2 LTO_i + \beta_3 LEX_i + \beta_4 LCPI_i + \beta_5 LRER_i + \mu_i$$

Dependent Variable = ***LRGDP<sub>it</sub>***

Independent Variables= ***FDI<sub>it</sub>***, ***LTO<sub>it</sub>***, ***LEX<sub>it</sub>***, ***LRER<sub>it</sub>***, ***LCPI<sub>it</sub>***

Where,

***LRGDP<sub>it</sub>*** = Log of real gross domestic product

***LDI<sub>it</sub>*** = log of Foreign direct investment

***LTO<sub>it</sub>*** = Log of trade openness

***EX<sub>it</sub>*** = Log of Exports

***LRER<sub>it</sub>*** = Log of real exchange rate

***LCPI<sub>it</sub>*** = Log of consumer price index (taken as proxy of inflation)

= Intercept term

= Slope Terms

$\mu_i$  = Error term

t=1, 2.....30

## 3.2. Research Philosophy

In this research Positivism is used which is linked with objectivism. According to Cooper & Schindler (2006) in positivism approach the researcher explains his point of view for analysing the society using objective approach as compare to subjective approach. In other words it can be said that researcher works on what is reality by collecting the data from the target sample, his personal reflection on the research study has no importance in front of the results of the study (Blaike, 2010). The focus is completely on the outcomes of the research. According to Easter by Smith et al., (2006), this research philosophy is linked with quantitative data collected through primary or secondary sources. In this research FDI and its linkage with economic growth in China will be found by using positivism research approach.

### 3.3. Research Strategy

Using the right kind of strategy is helpful in making timely decisions related to research, reflecting upon the types of strategies that will best and appropriate for the research and lastly using the design which will be able to match with the research study (Easter by Smith et al., 2008). The research is based in relationship between FDI and economic growth so the researcher has used deductive approach to conduct this research. There are two other types of strategies i.e. qualitative and quantitative research. In this study, the researcher has again used only quantitative research approach.

According to Asteriou and Hall (2011), the selection of the methods used for research is the most important part of the process of research. Another approach used for research is collecting the data from primary and secondary sources. But in this research the researcher has focused on quantitative data and secondary sources of collecting the relevant data for finding out the relationship of Foreign Direct Investment and economic growth of China.

### 3.4. Research Design

This research is conducted using explanatory research design which gives the answer to questions that how something is going on so in this research the researcher's focus in on finding the relation between foreign direct investment and economic growth (Tharenou et al, 2007). As stated earlier that researcher has used deductive approach which starts from a theory and explains further about the findings. With the help of this approach the researcher is more able to work in a systematic manner while testing the hypotheses made in the research study.

### 3.5. Sampling Technique

As mentioned above in this research the researcher has used quantitative research approach but it was not possible to conduct survey on huge population of China for studying Foreign Direct Investment (FDI) and

economic growth. In this research secondary data will be used. The secondary data of 1986 to 2013 will be analysed using ordinary Least Square technique of estimation whereas the most recent data till 2012 will be used for understanding the overall FDI and its impact on growth of economy in China.

### 3.6. Data Collection Method

In this dissertation, as mentioned above only quantitative and primary research approach is used therefore the data will be collected through secondary sources (Yardley and Bishop, N.D., Saunders et al, 2009). The secondary data will be used to find the relationship between foreign direct investment and economic growth in China in manufacturing sector. The data will be collected from the official website of China i.e. Ministry of Commerce (MOFCOM) and statistical data on FDI and exports imports of China is taken from the official website of National Bureau of Statistics of China. This quantitative data collected from the above mentioned websites will be used to analyse for studying the impact of foreign direct investment on economic growth. Since the research study is based on finding the relation between dependent and independent variables as show in the theoretical framework in Chapter 2, log of real GDP is taken as dependent variable and FDI, real exchange rate, inflation, trade openness and Exports are taken as independent variables. Economic growth as a whole cannot be measured directly as it is a combination of different factors therefore the researcher has taken two significant determinants of economic growth i.e. GDP and exports. GDP i.e. gross domestic product is considered to be an important determinant of economic growth and exports of any country boosts the economy of that country on high pace. On the other hand FDI is taken as independent variable which is actually influenced by GDP and exports as far as this study is concerned. The variables used in this study are expressed in the form of logarithm and data on them is collected from 1986 to 2013.

### 3.7. Secondary Data

Secondary data analysis is defined as abstraction of information from areas which are not under the current research study (Saunders et al., 2009).



Another definition explains its benefits in terms of discovering more studies done by researchers, according to Cooper and Schindler (2007) secondary data analysis is the studying on research problems with the help of already available data which was actually used in another research for different purpose. It can also be explained as analysing the data which already exist with an objective to solve a research problem. In this case the research problem should be different from the research used for collecting secondary data and it should also give useful findings and conclusions (Hewson, 2006). Secondary data analysis is widely used for quantitative data. According to this research, secondary data will be used i.e. the statistics of FDI and economic growth of China on latest data available will be discussed in detail and it will be analysed using statistical tools. The graph below is sample showing output of industry in investment made by foreign firms in China from 1990 to 2011. The studies have shown an increasing trend of FDI in China, similarly the researcher will study the trend of FDI in China and its impact on the growth of economy between above mentioned time line.

## Advantages and Disadvantages of Secondary Data Analysis

There are many advantages of secondary data analysis and at the same time there are some disadvantages as well. When secondary data is the design of the study and collection of data is not required as it already exists, it is not only consumes less time as compare to primary research but it is also cost effective. It is obviously not easy for a researcher to conduct survey on international level also require many years' therefore secondary data helps the researcher in conducting the research. It is considered to be best way of collecting data for students doing homework, assignments, projects, dissertations etc. There is a possibility of high quality data. In addition to this the researcher gets the access to large sample size which increases the validity of the research. The data collected from secondary sources might have considered several variables which gives broad aspect of any topic.

The disadvantages of secondary data analysis include the irrelevancy of data with the research problem, the knowledge of the study or methods used for

collection of the data may not be of appropriate level. It is also possible that the research may not actually relevant to the current study as it appears to be. The study may have some issues which can be neglected and may create problem in coming up with results and findings.

### 3.8. Secondary Data Analysis

According to Cnossen (1997), the analysis of secondary data is explained as the analysis on second hand which means that the data is being collected by another person who can be a researcher, NGOS, organization who conducts surveys or government statistical departments for general reason or any other reason but which is or which can be used by other researchers as a useful data to study. On the other hand Novak (1996) explains that the secondary data is quite useful while making primary research instruments as it gives a basic information of the area under study and it also helps the researcher to make a comparison between the past findings and methodologies and his findings and methodologies so it is essential to go through the relevant secondary data before conducting the research study.

### 3.9. Data Analysis Technique

The methods used for the analysis of data are different for different types of research designs. In this research after collection of the data, it will be sort out and analysed sector wise, and then statistical tools will be applied on it. The statistical tool that will be used in this research is SPSS. In SPSS, data will be entered and reliability, regression and correlation analysis will be run and results (tables and figures) will be included in the chapter 4 ahead. The data will not only be shown in visual format but also its analysis will be done which will lead the researcher towards some major findings.

### 3.10. Hypotheses Development:

The Hypotheses were developed after studying the previous researches and model of this research and they are as follows:

**H1: There is positive relationship between FDI and GDP of China.**

H1o: There is negative relation between FDI and GDP of China.

**H2: There is positive association between FDI and exports of China.**

H2o: There is negative association between FDI and exports of China.

**H3: There is significant relationship between exports and economic growth of China**

H3o: There is insignificant relationship between exports and economic growth of China.

## 3.11. Limitation of Methodology

In this dissertation, the researcher has faced some limitations in selecting the methodology for collecting the data and statistical tools for analyzing the data. The FDI and economic growth cannot be measured accurately using quantitative analysis of secondary data that is generally by collecting the statistics or secondary data from some authentic and reliable source such as official surveys and statistics and then analyzing it the way which is required in the research study. In this research qualitative research approach cannot be used as it will not be able measure the link between FDI and economic growth accurately moreover, survey was also not suitable for such type of research. Only statistical data can prove to be the most appropriate which the researcher has used in this research.

## 3.12. Research Ethics

The ethics of research are very important while conducting the research. In this research there nothing unethical i.e. no fraud is being done in this research. The studies of other researchers are mentioned and the citations are inserted in text as well as in the references at the end of this report. The researcher has taken care of being honest i.e. showing the real study and the problems in the research, openness i.e. not hiding the findings of the research

and sharing all information collected during the research, integrity i.e. completing the research within the deadline and thereby fulfilling the commitments made with the supervisor, being careful in intellectual property rights of the other researchers i.e. mentioning the name of other researchers wherever their work is used in this research study, objectivity i.e. not being biased in any case during the research and above all confidentiality of important documents and names of special personnel who requested for not showing their names. The researcher has also respected the colleagues and other friends without showing biasness in any case for this research study. So all norms related to ethics are fulfilled by the researcher in this study.

### 3.13. Conclusion:

In this chapter the methodology used by the researcher is discussed in detail. The research problem is to find the relationship between FDI and economic growth for which the determinants of economic growth are also discussed. Quantitative data analysis of secondary data is conducted in this research study as it can't be measured with the help of surveys and interviews. Secondary data is considered to be the most appropriate data collection technique for this research study.

## CHAPTER 4: RESULTS AND FINDINGS

### 4.1. Introduction

In this chapter, the secondary data will be analysed and the results will be interpreted and discussed. The data utilised is statistics of FDI, GDP and exports of China. These were considered as the determinants of economic growth of the country. In this research the impact of Foreign Direct Investment (FDI) on economic growth was analysed using the data collected from the authentic sources. Hypotheses which were developed will be tested using regression analysis run from statistical tool commonly known as SPSS. The

results of the regression will determine the relationship of Foreign Direct Investment (FDI) with GDP, Exports and economic growth in general.

## 4.2. Impact of FDI on economic determinants

FDI has significant impact on the key determinants of economic growth which are exports and imports, sector wise distribution of FDI. The data being collected from the official websites of China will be analysed below in which other determinants of economic growth are also discussed. In any research the impact of FDI on economic growth cannot be discussed in general as there is great importance of the determinants of economic growth such as Gross Domestic Product (GDP), Per capita Income (PCI), Gross National Product (GNP), Imports and exports, taxes, Foreign Direct Investment, Exchange rates of currency and so on. For convenience of the sample size and research being conducted, the researcher has focused on only two determinants of economic growth as mentioned earlier i.e. Gross Domestic Product (GDP) and Exports and Economic growth in general. Only the relationship of economic growth is studied with FDI whereas the determinants of FDI are studied with GDP and exports independently.

## 4.3. Hypotheses Testing

After conducting the research and analysing the secondary data, the important task is to begin hypotheses testing. The hypotheses which were developed after reviewing the literature and theories and then developing a theoretical framework which has helped in understanding the dependent and independent variable in this research has now reached to the level of giving the results of that hypotheses development. The first hypothesis which states as there is significant relation between FDI in different sectors and economic growth proves to be true and hence we will reject the null hypothesis which states that there is insignificant relationship between FDI in different sectors of China and economic growth of the country. All sectors are boosting and enhancing gradually though manufacturing sector of China is leading all other sectors and shows extra ordinary high FDI. The second hypothesis was that FDI and economic growth has significant relation with the exports of China, the secondary data analysis has also proved it to be right and again null

hypothesis will be rejected stating as FDI and economic growth has significant relation with the exports of China.

There are three main hypotheses that are to be tested empirically by running Ordinary Least Square regression.

1<sup>st</sup> Hypothesis = there is positive relation between FDI and GDP

2<sup>nd</sup> Hypothesis = there is positive association between FDI and exports.

3<sup>rd</sup> Hypothesis= there is significant relationship among exports and economic growth.

The variables named as FDI, GDP and exports are expressed in natural logarithm form.

The regression that is run will be as follows

$\text{Log (dependent variable)} = c + \text{log (independent variable)}$

Here c represents the intercept term, is the slope (which will show the magnitude of change in dependent variable due to independent variable).

#### 4.3.1. Relation between FDI and economic growth (GDP)

By applying ordinary Least Square estimation technique the results of regression are presented in below table

<b>Table 4.3.1: OLS regression results</b>				
<b>Dependent variable: <math>\log(\text{GDP}_i)</math></b>				
Variables	Coefficients	Std. Errors	t-Statistics	Probability
Log (FDL <sub>i</sub> )	0.53399***	0.085623	176.8171	0.0000
C	15.1396***	0.074173	7.199316	0.0000
R-Squared	0.711658	-	-	-
F-statistic	51.83***	-	-	0.0000

**Note:** \*\*\*shows significance at 1%

*C is the value of intercept term*

From above table is clear that there is positive association between FDI and GDP from 1986 to 2008. And also this association is significant as the probability value against FDI is zero which is less than 0.1 showing significant effect that FDI causes on GDP in China. F statistic which usually tells the overall significance of a model is having probability less than 0.1 so it also shows that model is significant overall at 1% significance level. The value of R square which is the coefficient of determination is 0.71 which is depicting that 71 percent fluctuations in GDP are being explained by the changes in FDI in China. The intercept term shows that value of log of real GDP will be 15.14 when foreign direct investment is having zero value. Conversely, the standard impact of all those variables not included in the regression on the real GDP is 15.14. The coefficient of FDI is showing significance at 1 percent as probability value is 0. The coefficient value of FDI is 0.53 explaining that with one percent increase in log of FDI the log of GDP will increase by 0.53.

FDI is the foreign investment coming inside the country within a specific time period. The relationship between FDI and economic growth (depicted by GDP) is clear that is when investment comes in the country new factories will be established and business will be opened in the country and production will increase showing the growth taking place in the economy (Zhang, 1999). From regression analysis it is concluded that FDI is related with GDP so null hypothesis is accepted.

#### 4.3.2. Relation between FDI and Exports

By applying ordinary Least Square estimation technique the results of regression are given in below table

<b>Table 4.3.2: OLS regression results</b>				
<b>Dependent variable: <math>\log(\text{Exports}_i)</math></b>				
Variables	Coefficients	Std. Errors	t-Statistics	Probability
Log (FDL <sub>i</sub> )	0.663182***	0.126106	5.258945	0.0000
C	27.09267***	0.145572	186.1118	0.0000

R-Squared	0.568403	-	-	-
F-statistic	27.6565***	-	-	0.0000

**Note:** \*\*\*shows significance at 1%

*C is the value of intercept term*

From above table it is clear that there is positive association between FDI and exports of china and also this association is significant as the probability value against FDI is zero which is less than 0.1 showing significant effect that FDI produces on exports in China. F statistic which usually tells the overall significance of a model is having probability less than 0.1 so it also shows that model is significant overall at 1% significance level. The value of R square which is the coefficient of determination is 0.56 which is depicting that 56 percent fluctuations in exports are being explained by the variations in FDI in China. The intercept term shows that value of log of exports will be 27.09 when foreign direct investment is having zero value. Conversely, the standard impact of all those variables not included in the regression on the exports in real terms is 27.09. The coefficient of FDI is showing significance at 1 percent as probability value is zero. The coefficient value of FDI is 0.66 explaining that with one percent increase in log of FDI the log of exports will increase by 0.66.

The relationship between FDI and exports is clear that is when investment comes in the country new factories will be established and business will be opened in the country and exports will increase because china is an export oriented country and its exportable sector is growing day by day (Zhang, 2000). From regression analysis it is concluded that FDI is related with exports so null hypothesis is accepted.

#### 4.3.3. Relation between FDI and economic growth (GDP)

Ordinary Least Square estimation technique is employed to get the results of regression which are presented in table 4.4.3.

<b>Table 4.3.3: OLS regression results</b>				
<b>Dependent variable: <math>\log(GDP_i)</math></b>				
Variables	Coefficients	Std. Errors	t-Statistics	Probability



Log (Exports <sub>i</sub> )	0.703703***	0.032838	21.42945	0.0000
C	-3.886822***	0.902658	-4.305974	0.0003
R-Squared	0.956270	-	-	-
F-statistic	459.22***	-	-	0.0000

**Note:** \*\*\*shows significance at 1%

*C is the value of intercept term*

From above results of OLS it is evident that there is positive association between GDP and exports. And also this association is significant as the probability value against FDI is zero which is less than 0.1 showing significant effect of exports on GDP in China. F statistic which usually tells the overall significance of a model is having probability less than 0.1 so it also shows that model is significant overall at 1% significance level. The value of R square which is the coefficient of determination is 0.95 which is depicting that 95 percent fluctuations in GDP are being explained by the changes in FDI in China. The intercept term shows that value of log of real GDP will be 3.88 when exports are not there. Conversely, the standard impact of all those variables not included in the regression on the real GDP is 3.88. The coefficient of exports is showing significance at 1 percent as probability value is 0.

The relationship between exports and economic growth (depicted by GDP) is obvious. When exports increases it means the production in exportable sector increases which shows growth taking place in the economy (Dewan and Hussein, 2001). From regression analysis it is concluded that exports are related with GDP so null hypothesis is accepted.

#### **4.3.4. Results of OLS regression incorporating FDI, Exports, Trade and GFCF**

After checking the stationarity of the variables by using Augmented Dickey Fuller test the Ordinary Least Square technique of estimation is being employed in order to find out the exact and significant relationship among FDI and economic growth in the presence of other significant determinants of economic growth. The results of this regression are given in the following table

<b>Table 4.4.4: OLS Regression</b>				
<b>Dependent variable: <i>RGDP<sub>i</sub></i></b>				
Variables	Coefficients	Std. Errors	t-Statistics	Probability
LRER <sub>i</sub>	1.305779***	0.317820	4.108545	0.0005
LCPI <sub>i</sub>	1.364623***	0.247499	5.513639	0.0000
LTO <sub>i</sub>	0.343076***	0.050214	6.832205	0.0000
LFDI <sub>i</sub>	1.309477***	0.318524	4.111075	0.0005
LEX <sub>i</sub>	0.475809***	0.042178	11.28108	0.0000
C	11.75829***	0.398803	29.48397	0.0000
R-Squared	0.998	-	-	-
F-statistic	2317***	-	-	0.0000

**Note:** \*\*\*shows significance at 1%

*C is representing intercept term*

It is evident from the above table that there is positive association between GDP and all the variables included in the regression. And also this association is significant as the probability value against all the independent variables is less than 0.1 showing significant all explanatory variables on GDP in China. F statistic which usually tells the overall significance of a model is having probability less than 0.1 so it also shows that model is significant overall at 1% significance level. The value of R square which is the coefficient of determination is 0.99 which is depicting that 95 percent fluctuations in GDP are being explained by the changes in explanatory variables. The intercept term shows that value of log of real GDP will be 11.75 when all the explanatory variables are having zero value. Conversely, the standard impact of all those variables not included in the regression on the real GDP is 11.75. The value of Durbin Watson stats was found to be 1.004 owing to the auto correlation problem. In order to get rid of this issue the Newey West test is run.

The magnitude of the impact of FDI on real GDP is found to be 1.31 showing that every one percent increase in log of FDI brings 1.31 percent changes in real GDP of China and this effect is also significant at one percent significance level as the probability value against FDI coefficient is less than 0.1. FDI corresponds to the direct investment made by a foreign company or businessmen in a country. It brings new technology and new methods of production are being introduced in the host country which adds into the capital and human capital accumulation in the host country, production in the country increases so real GDP gets increased. This result is in accordance with the results of Gudaro *et al* (2010), Zhang and Daly (2011) and Khan, (2007) who also reported positive association of FDI with real GDP in their studies. Khan, (2007) reported that FDI affects economic growth positively only in the presence of developed financial market in the host country. Zhang and Daly found that FDI is having increasing impact on economy of China.

As far as the magnitude of effect of trade openness on the economic growth is concerned it was found to be 0.34 and also significant at one percent level of significance because its coefficient is also having the probability less than 0.1. Openness to trade significantly and positively affects real GDP in China. It shows that 0.34 percent increase occur in the log of real GDP with every one percent increase in the log of trade openness. Trade openness means the volume of exports and imports. According to the theorem of Heckscher-Ohlin specialization in the competitive product takes place after a country opens itself to trade. Exports after trade openness increase which lead to more production in the country which lead to growth of the economy. Also by importing modern and new products, countries learn about new production techniques which increase productivity in the country. So it is the import and export led channel that cause economic growth to increase when trade is opened. The findings of present study confirm to finding of Kim and Bang (2005) and Adebisi (2006). They also reported the positive relation between openness to trade and real GDP. Adebisi (2006) in his study states that trade openness puts positive impact on growth by adopting new techniques of production.

Real exchange rate also has positive effect on the growth of Chinese economy as the coefficient of real exchange rate is having the positive value and is also showing significance at one percent level as its probability value is

zero. With every one percent increase in the log of real exchange rate the log of real GDP gets increased by 1.31 percent. Exchange rate has considerable effect on imports and exports of an economy. When currency depreciates means exchange rate increases it leads to the rise in the production of exports as their demand increase so to meet demand supply is increased and real GDP increases. This result is in confirmation with the finding of Rodrick (2008) who found that currency deprecation is growth enhancing by its positive impact on exports.

Exports were also found to affect real GDP positively. The magnitude of this impact was 0.48 which states that every one percent increase in exports raises the real GDP by 0.48 percent. This impact is also significant at 1 percent level. When exports increase more products in the country are produced, output increase which increases real GDP. The result found is in accordance with the result of Shirazi and Manap, (2004). They also reported the same results.

The effect of inflation on GDP is also found to be positive and magnitude of this effect is 1.36 which is again significant. The coefficient of log of CPI is showing significance at 1 percent. Every one percent increase in log of CPI brings 1.36 percent increase in log of real GDP. When inflation increases means product prices raise, producers have incentive to produce more as their profit gets increased so the output increases and real GDP increases.

#### **4.3.5. Granger Causality test result**

In order to find out the two way relationship among FDI and economic growth Granger causality test is also run. This test finds the two way relation among variables and there are two main pre requisites of this test. First is that variables should be integrated of same order and appropriate lag length should be known (Gujrati and Dawn, 2009). By using augmented dickey fuller test both variables log of GDP and log of FDI are found to be integrated of order one and appropriate lag length is selected making use of Akaike and Schwartz information criterion. The results of this test also found two way association between FDI and real GDP in china. FDI granger causes economic growth and economic growth granger causes FDI at 1 percent and 5 percent level of significance.

## 4.4. Imports and Exports of Foreign Invested Enterprises in China

The imports and exports of Foreign Invested Enterprises (FIEs) in China is shown where it can be seen that the data available was from 2005 to 2008. The exports of 2005 were slightly less than the exports of 2006 in China but the percentage calculated from the total trade i.e. import and exports remains almost the same i.e. 58.3 % and 58.2 % respectively. Whereas the exports in 2007 has increased to 57.1 % of the total imports and exports and it has again fallen to 55.3% in 2008. Therefore slight fluctuations between imports and exports can be seen in the graph given below. Similarly the imports of Foreign Invested Enterprises in China were 387.5 of the total 831.7 of both imports and exports making it 58.7% in 2005 which has further increased to 59.7% in 2006 and 58.5% in 2007 and a further decrease can be seen in 2008.

**Figure 4.1**

## 4.5. FDI in China

The data on total FDI in China was collected from National Bureau of Statistics of China which is divided into equity joint venture, contractual joint venture, Wholly-foreign owned enterprise and Share Company with foreign investment. The data is from 2009 to 2012. In 2009, 19.2 % of the total FDI comes under Equity joint venture, 2.3 % comes under contractual joint venture, 76.3 % which is the highest accounts for wholly foreign owned enterprise whereas only 0.6 % is Share Company with foreign investment. In 2010, 21.3 % FDI is taken by equity joint venture, 1.5% by contractual joint venture, 76.6 % again the highest by wholly foreign owned enterprises whereas only 0.6% for Share Company with Foreign investment. If we talk

about 2011, 18.5 % of the total FDI accounts for equity joint venture, 1.5 % for contractual joint venture, and 78.6 % of the total FDI are taken by wholly owned enterprise and it has increased as compare to previous years and at last 1.4% for Share Company with foreign investment. In 2012 the scenario was almost the same as 19.4% of the total FDI accounts for equity joint venture, 2.1 % for contractual joint venture, 77.1% for wholly foreign owned enterprise and 1.4% only for Share Company with foreign investment. The graph below shows the division of FDI which is discussed above.

The statistical data was extracted from Ministry of Commerce in China and it shows a detailed statistics of contracted projects and realised inflow of FDI from 1983 to 2012. The data has shown fluctuations in number of contracted projects and real inflows of FDI but it is quite clear that the inflows of FDI has increased as it was highest in last three years as mentioned in the table i.e. 2010, 2011 and 2012 having realized FDI inflows to be 105735, 117698 and 113294 respectively.

## 4.6. Foreign Trade and Economic Cooperation

The data of foreign trade and economic cooperation was extracted from the China's statistical year book of 2013, the exports of China have shown an increasing trend from 2008 to 2012. The foreign trade and economic cooperation gives us detail statistical data on FDI and economic growth determinants.

Another important data depicts the contracted FDI projects and actually utilised FDI. According to this the statistics of 2008 shows that the FDI project that were contracted were 27514 in number whereas the total amount of FDI which was actually utilised was 952.53 USD (100 billion), it was slightly decreased in 2009 and reached to 918.04 USD (100 million) whereas the number of contracted projects were also decreased to 23435. In 2010, it was again increased and the no of contracted FDI projects reached to 27406 whereas the total amount of FDI actually utilised was 1088.21 USD (100 billion). It has shown an increase with relatively same number of projects as in 2008. Similarly in 2011 the economy was boosting and at that time the number of projects for contracted FDI were 27712 whereas the total amount

of FDI which was actually utilised reached to 1176.98 USD (100 billion) and it was the highest. After that in 2012 the numbers of contracted FDI projects were decreased but somehow the total amount of FDI actually utilised showed a slight change to 1132.94 USD (100 billion).

**Figure 4.2**

## 4.7. Foreign Direct Investment by Sector (2012)

The data was available on foreign direct investment in China sector wise and from this the researcher has seen that in China the manufacturing sectors is the only sector in which FDI is excelling and is showing a good figure while rest of the sectors are also enhancing gradually. But China has adopted mass production strategy from last few years which has shown a tremendous increase in the manufacturing sector of China and foreign direct investment in this sector.

## 4.8. Results of Hypotheses

After conducting the analysis of the results and findings, it is concluded that all three hypotheses were accepted which means that the null hypotheses were rejected. The first hypothesis which was that there is positive relationship between FDI and GDP proves to be true and hence it was accepted and its null hypothesis was rejected. Similarly the second hypothesis which was that there is positive association between Foreign Direct Investment (FDI) and exports of China also proves to be true and it was also accepted whereas its null hypothesis that there is negative association between FDI and exports of China was rejected. The last hypothesis was that there is positive relationship

between Foreign Direct Investment and economic growth was accepted and hence all three hypothesis were true.

## 4.9. Conclusion

In this chapter the findings and discussion was made based on the secondary analysis of the statistical data of China's FDI and determinants of economic growth studied in this research study. The data was analysed using statistical tool i.e. SPSS and the results were shown in the tables whose analysis is discussed in detail in this chapter. Moreover visual aids were also used to show the results which will be easy to understand at first look for. Hypotheses testing was also discussed in this chapter. On the basis of results and findings the hypotheses were rejected or accepted in this chapter. The major test was of SPSS regression which was explained in detail above in this chapter whereas the other analysis portion in this chapter includes the statistics of China which has proved to be very helpful through conducting this research. The findings of regression showed a significant and positive association between FDI and economic growth in china in the presence of other important determinant of economic growth like trade openness, real exchange rate, inflation and exports. All these variables also have significant importance in determining growth of Chinese economy.



# CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

## 5.1. Conclusion

This is a detailed research and complete study of relationship between Foreign Direct Investment and long term Economic Growth in China. The long term Economic Growth has been divided into many components of which it is composed, for the purpose of this study. The only way to relate these variables is to relate FDI with the components and sub-variables that make up the long term economic growth. At this time, it is very important to mention that this research studies a casual relationship between FDI and long term economic growth in China on the basis of just two independent variables (Exports and Sector-Wise Distribution of FDI).

Introduction chapter provides the entire necessary introduction to the topic and its background. All the keywords like Foreign Direct Investment (FDI), long term Economic Growth and its components are all described in detail in the first portion of this study. FDI is basically known to be an investor's large stake in a firm away from that investor's home country. For the purpose of concentrating this study to one specific economy, one country has been chosen. China is the country chosen for the purpose of this research, so all the study is conducted on Chinese economy. The reason behind choosing this economy is that China is not only one of the rising economies of the world, but it is also one of the biggest economies of world. Chinese economy has the potential of becoming the biggest economy of the world. Introduction chapter also provides a basic context of Chinese economy and how it is performing, and its context according to the FDI and long term Economic Growth.

The main aim, question and objective of this research are to find out the economic growth caused in Chinese economy due to the Foreign Direct Investment (FDI). This study also reviews the previous literature on this topic and related components. The main theme of this review is that FDI is responsible for economic growth to some extent in every economy of this world. FDI is such an economic component that it is bound to bring short term

and long term effects to an economy. A detailed review of the previous literature has also revealed that in the past incidents have occurred where through FDI foreign firms have took control of certain industries in a specific country or a specific region of the world. Therefore, many countries put many kinds of legal boundaries so that all the foreign individual and institutional investors have to jump through lots of hoops in order to invest in a certain country. These rules and regulations are made in order to give boost to the local economies. Framework of this study shows that there are three variables involved in this study; FDI and Economic Growth, Exports, sector wise distribution of FDI, the first one of those being the dependent variable, and the latter two being the independent variables.

Methodology used for the purpose of collecting the data is wide in its basic array. All the strategies, techniques and the formulas that are used for the purpose of collecting the data are all described in this chapter. Along with strategies and methods for the purpose of collecting the data, the methods for reviewing the data to infer meaningful results from the data are also discussed and dissected in this chapter. Research philosophy used in this research is Positivism. In this technique, the person conducting the research objectively reviews the topic according to the market in which those results are being applied. For the purpose of this technique to be write and trustworthy, this philosophy is linked with objectivism. So that, when the writer is inferring results based on his view, he has to be objective for those results to be objective and meaningful. When we talk about the qualitative and quantitative analysis, this study has been conducted using the quantitative analysis. This analysis makes this study's results more and more accurate. Furthermore, study uses an explanatory approach to this research when we talk about research design. This means all the efforts put into this study are all focusing on one main point and that is finding and explaining the effect and cause relationship between Foreign Direct Investment (FDI) and long term Economic Growth of Chinese Economy. Sampling and data collection in this study is secondary data through secondary sources like Newspaper, Internet, Books, Articles, and Chinese Economic Data from different secondary sources.

Now, we move towards the most meaningful part of this study that is findings and analysis. Study reveals positive relationship between Foreign Direct Investment (FDI) and long term Economic Growth. Study further reveals that

this is not only a unidirectional cause and effect relationship. This means that FDI and economic growth both effect and complement each other. This two way relationship describes the fact that developed countries usually go for FDI in other countries, whereas under developed countries go for attracting FDI in order for their economic growth. Increase in FDI leads to economic growth of that economy and vis-à-vis This complementing relationship puts the companies of developed countries in a very unique position where they can not only contribute to the economic growth of their home country, but at the same time they can do investments in under developed countries in order to grow more and more and explore new opportunities. The financial analysis of secondary data has led us to the conclusion that both Imports and Exports are affected by the FDI. Imports and Exports are both components of economic growth, and export is an independent variable being used in this research, hence this result complements the result of this study. Further illustrations have shown that if we categorize FDI into different departments in aspect of the industries in which the highest and lowest FDI has been attracted in Chinese market, even then results show that still FDI complements the growth of the industries in which there is highest FDI. This process in turn effects the growth of the overall Chinese economy. Study has shown that FDI has been responsible for the frequent flow of technology, knowledge base and skills from developed countries to underdeveloped and developing countries. Overall results of this study suggest that Foreign Direct Investment (FDI) has a positive influence on the long term Economic Growth of the Chinese Economy.

## 5.2. Recommendations

In aspect of the results stated above, there are some recommendations that need to be made to Chinese economic management and the governments and the economic managements of all the countries generally. These recommendations are being made on solid grounds of review of previous literature and the quantitative analysis conducted in this study. Here are the recommendations:

- Governments and economic players should start focusing more and more on creating effable environment for the outside investors.

- Along with supporting the local industries, Governments should focus on developing good environment for international firms as well, because international firms are a great source of Foreign Direct Investment (FDI).
- Policy makers should try to provide such environment for foreign investors that they are attracted to conduct their businesses in their respective economies.
- Foreign investors should be encouraged to bring new knowledge base and skills into a country.
- Foreign investors should be given incentives in case of them bringing new technology into a country, because when a new technology comes into a country, when some new knowledge, skill or technology is brought in, it not only complements the international business, but it also improves the ways, processes and strategies of local industry as well. This overall results in better industry set-up and better economic growth.
- Incentives like tax cuts, duty cuts on Imports, easy visa access for over-seas employees etc. could be given to those foreign investors who bring new technology, skills and knowledge into a country.
- Governments should start taking responsible steps in order to attract serious and potential investors. These responsible steps could include; attractive fiscal policy, strong monetary policy and all their components.
- Local businesses and industries should be encouraged to attract FDI through new ventures and attractive projects instead of depending on loans. Business loans should try to be replaced by the FDI. Local businesses attracting foreign investors should also be given incentives.

## 5.3. Future Implications

Here are some future implications for the future researches studying this topic or related subjects. Future researchers should try to explore more components of the economic growth and find out their relation with FDI. FDI is not the only economic factor that needs to be studied in this aspect; there are many other micro and macroeconomic variables that need to be studied in relation with economic growth of a single economy or multiple economies of a

single region. Furthermore, future researchers should also try to add many independent variables in a single study so that more accurate and precise measure of economic growth could be found, which will be very useful for the policy makers and economists, and it will have great real life application. The true representation of economic growth could be found only and only when many variables are studied at the same time that will yield results that are more future oriented than other forms of researches.

## 5.4. Limitations of Study

There are many limitations to this study; few of these are as mentioned in this portion. First limitation is the lack of data, or should we say lack of access to the data. Recent and trustworthy key economic data of Chinese economy is very hard to come by. So, the data collection was the first limitation of this study. Second limitation is the conduct of this study only in Chinese economy, so, the results of this study can't be generalized to all the economies of the world, although FDI and economic growth have more or less same relation in all economies, but it highly depends on the state of an economy. Therefore, the results of this study cannot be generalized and applied to all the economies of the world.

Another limitation in this study is the research time, due to which detailed analysis cannot be conducted on many variables. Due to this purpose, only two components of economic growth have been chosen in order to study the effect of FDI on long term economic growth. Therefore, the results of this study are not a 100% true representation of the relationship of exports and categorized FDI on the basis of different industries. There are many other variables that also join up to contribute in the economic growth of a country. Therefore, when all these variables are studied in a combined setting, then the results might be different; the effect will still be the same, but the extent of effect of different variables will be different in each case.

## 5.5. Summary

This chapter covers the conclusion of the whole study. Conclusion and recommendations are made in this chapter of this research. Detailed conclusion includes the closing comments on all the portions of this research

especially the conclusion deduced from the results and findings which suggested that there is positive relationship between Foreign Direct Investment and exports as well as positive association as found between Foreign Direct Investment and GDP and lastly a positive relation was proved its existence in between FDI and economic growth. Recommendations are made on the basis of the results of this study. This chapter also provides some of the implications for the future studies which are conducted in the same subject of the research or on the related topics. Limitations of the study are also provided in this chapter of the research.

## References

1. Abbas, Q., Akbar, S., Nasir, A., Amanullah, H. & Naseem, M. (2011) *Impact of*
2. *Foreign Direct Investment*. Global Journal of Management and Business Research, Volume 11 Issue 8 Version
3. Adebisi, M. A. (2006), "Trade Liberalization Policy and Industrial Growth Performance in Nigeria: An Error Correction Mechanism Technique"
4. Adams, S. (2009) *Foreign Direct Investment, Domestic Investment, and Economic Growth in Sub-Saharan Africa*. Journal of Policy Modelling (forthcoming).
5. Agosin, M. and R. Mayer (2000). *Foreign Direct Investment: Does It Crowd in Domestic Investment?* United Nations Conference on Trade and Development Geneva, Switzerland. (Working Paper No. 146).
6. Akinlo, A. (2004) *Foreign Direct Investment and Growth in Nigeria: An Empirical Investigation*. Journal of Policy Modelling 26, 627–639.
7. Alfaro, L., Chanda, A., Kalemli-Ozcan, S. and S. Sayek. (2004). *FDI and Economic Growth: The Role of Local Financial Markets*, Journal of International Economics 64(1), 89-112.

8. Ayanwale, A. B. (2007). *FDI and Economic Growth: Evidence from Nigeria*. Nairobi. (African Economic Research Consortium Paper No. 165).
9. Amin, S. (1974). *Accumulation on a World Scale: A Critique of the Theory of Underdevelopment*. Monthly Press Review. Now York.
10. Adams, S. (2009). *Foreign Direct Investment, Domestic Investment, and Economic Growth in Sub-Saharan Africa*. Journal of Policy Modelling (forthcoming).
11. Asteriou, D., & Hall, S. G. (2011). *Applied Econometrics* (2nd ed.). New York: Palgrave MacMillan.
12. Blaikie, N. (2010). *Designing Social Research* (2nd Edition ed.).
13. Blomstrom, Magnus, Ari Kokko, and Mario Zejan (2000), *Foreign Direct Investment: Firm and Host Country Strategies*, London: Macmillan Press.
14. Boyd, John H. and Smith, Bruce D. (1992). *Intermediation and the Equilibrium Allocation of Investment Capital: Implications for Economic Development*. Journal of Monetary Economics, pp. 409-32.
15. Calvo, M. B. and B. Sanchez-Robles (2002). *Foreign Direct Investment, Economic Freedom, and Economic Growth: New Evidence from Latin America*. Universidad de Cartabria. (Economics Working Paper No. 4/03).
16. Campos, N. and Y. Kinoshita (2002) *Foreign Direct Investment as Technology Transferred: Some Panel Evidence from the Transition Economies*. The Manchester School 70, pp. 398–419.
17. Carkovic, M. and R. Levine (2005) *Does FDI Accelerate Economic Growth? In Theodore Moran, Edward Graham and Magnus Blomstorn (eds.) Does Foreign Direct Investment Promote Development?* Washington, DC: Institute of International Economics, pp. 195–220.
18. Chakraborty, C. and P. Nunnenkamp (2008) *Economic Reforms, FDI, and Economic Growth in India: A Sector Level Analysis*. World Development 36:7,1192–1212.

19. Collis, J. & Hussey, R. (2003) *Business Research: a practical guide for undergraduate and postgraduate students*, second edition. Basingstoke: Palgrave Macmillan.
20. Cnossen, Christine (1997) *Secondary Research: Learning Paper 7*, School of Public Administration and Law, the Robert Gordon University,
21. Cooper, D.R. and Schindler, P.S. (2006) *Business Research Method*, 9th Edition. Boston: McGraw-Hill Irwin.
22. Cooper, D.R. & Schindler, P.S., (2007). *Business Research Methods*. 9th ed. New York: McGraw Hill.
23. Dewan, J. and Hussein, A. (2001), "Determinants of Economic Growth (Panel Data Approach)" Reserve Bank of Fiji, Working Paper 01/04.
24. De Mello, L. R. and Jr. (1997). *Foreign Direct Investment in Developing Countries and Growth: A Selective Survey*. The Journal of Development Studies 34, 1–34.
25. Durham, B., (2004). *Absorptive capacity and the effects of FDI and equity foreign portfolio investment on economic growth*. European Economic Review, 48, 285-306.
26. Easterby-Smith, M., Thorpe, R., and Lowe, A. (2002) *Management Research: an introduction*. London: Sage.
27. Fielding N (2000). *The shared fate of two innovations in qualitative methodology: The relationship of qualitative software and secondary analysis of archived qualitative data*. Forum Qualitative Sozialforschung/ Forum Qualitative Social Research 1(3).
28. Gudaro, A M, Chhapra, I U and Sheikh, S A. ( 2010), "Impact of Foreign Direct Investment on Economic Growth: A Case Study of Pakistan", Journal of Management and Social Sciences, Vol(6), No.2, pp. 84-92
29. Gujrati, D. N. and Dawn, C. P. (2009), *Basic Econometrics*, (5th Edition), pp. 737-768, McGraw- Hill, New York



30. Heaton J (2004) *Reworking Qualitative Data*. London: Sage Publications.
31. Helpman, E., (2004) *The Mystery of Economic Growth*. Harvard University Press, MA.
32. Hermes, N. and R. Lensink (2003) *Foreign Direct Investment, Financial Development and Economic Growth*. The Journal of Development Studies 40, 142–163.
33. Hewson, C. (2006), *Secondary Analysis*, in Jupp, V. (ed.), The Sage Dictionary of Research Methods, London: Sage.
34. Hinds PS, Vogel RJ and Clarke-Steffen L (1997). *The possibilities and pitfalls of doing a secondary analysis of a qualitative dataset*. Qualitative Health Research 7(3): 408–424.
35. Hryckiewicz, A., Kowalewski, O., (2010). *Economic determinates, financial crisis and Entry modes of foreign banks into emerging markets*. Emerging Markets Rev. 11 (3), 205-228.
36. Huang, YS. (2003). *Selling China-Foreign Direct Investment during the Reform Era*. Cambridge University Press, United Kingdom.
37. Kim, K and Bang, H. (2008)., “The Impact of Foreign Direct Investment on Economic Growth: A case study of Ireland”, *Korea Institute of International Economic Policy*, pp. 08-04
38. Khan, A. (2007), “Foreign Direct Investment and Economic Growth: The role of Domestic Financial sector”, PIDE Working Paper
39. Kumar, N. and P. J. Pradhan (2002) *FDI, Externalities and Economic Growth in Developing Countries: Some Empirical Explorations and Implications for WTO Negotiations on Investment*. New Delhi. (RIS Discussion Paper No. 27/2002)
40. Li, X., and Liu, X. (2005). *Foreign Direct Investment and Economic Growth: An Increasingly Endogenous Relationship*. World Development 33(3), 393-407.

41. Mankiw, G., Romer, D., and N. Weil, (1992). *A Contribution to the Empirics of Economic Growth*, Quarterly Journal of Economics 107, 407-437.
42. Mundell, R. A., 1968. *International Trade and Factor Mobility*, International Economics, New York: Macmillan Press, pp. 85-99.
43. Nair-Reichert, U. and D. Weinhold (2001) *Causality Tests for Cross –Country Panels: A New Look at FDI and Economic Growth in Developing Countries*. Oxford Bulletin of Economics and Statistics 63, 153–171
44. Novak, Thomas P. (1996) *Secondary Data Analysis Lecture Notes*. Marketing Research, Vanderbilt University.
45. Reis, A., (2001). *On the Welfare Effects of Foreign Investment*, Journal of International Economics 54, 411-427
46. Rodrik, D. (2008), “*The Real Exchange Rate and Economic Growth*”, Harvard University, MA 02138
47. Saunders, M., Thornhill, A. and Lewis, P. (2009), ‘Research Methods for Business Students’, FT: Prentice Hall.
48. Shirazi, N. S and Manap, T. A. A. (2004), Export and Economic Growth Nexus: The case of Pakistan, *Pakistan Development Review*, Vol. 43(4), pp. 563-581
49. Tharenou, P., Donohueis, R. & Cooper, B. (2007). *Management Research Methods*. New York: Cambridge University Press.
50. United Nations Conference on Trade and Development (UNCTAD) (2001-2002), *World Investment Report (2001 and 2002)*, New York: United Nations.
51. Wang, Y, (2006). *Cheap labour and China's*. In *Chinas as the World Factory*. Kevin Honglin Zhang, eds. New York: Routledge.
52. Wijeweera, A., R. Villano, and B. Dollery (2010). *Economic Growth and FDI Inflows: A Stochastic Frontier Analysis*, The Journal of Developing Areas. 43: 143-158.

53. Zhang, K H. and Shunfeng S (2000), *Promoting Exports: The Role of Inward FDI in China*,” China Economic Review, 11(4): 385-396.
54. Yardley, L. and Bishop, F. (n.d).“The SAGE handbook of qualitative research in psychology”.
55. Zhang, X., Daly, K., (2011). *The determinants of China's outward foreign direct Investment Emerging Markets Rev.* 12 (4), 309-510.

## Appendix

Dependent Variable: LOG(GDP)

Method: Least Squares

Date: 02/01/14 Time: 01:01

Sample: 1986 2008

Included observations: 23

Variable	Coefficient	Std. Error	t-Statistic	Prob.
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C	15.13966	0.085623	176.8171	0.0000
LOG(FDI)	0.533998	0.074173	7.199316	0.0000

R-squared	0.711658	Mean dependent var	15.44671
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Adjusted R-squared	0.697927	S.D. dependent var	0.647849
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S.E. of regression	0.356065	Akaike info criterion	0.855537
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Sum squared resid	2.662435	Schwarz criterion	0.954276
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Log likelihood	-7.838674	F-statistic	51.83015
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Durbin-Watson stat	0.195025	Prob(F-statistic)	0.000000
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Dependent Variable: LOG(EXPORT)

Method: Least Squares

Date: 09/15/14 Time: 23:22

Sample: 1986 2008

Included observations: 23

Variable	Coefficient	Std. Error	t-Statistic	Prob. t
C	27.09267	0.145572	186.1118	0.0000
LOG(FDI)	0.663182	0.126106	5.258945	0.0000

R-squared	0.568403	Mean dependent	27.4740
		var	0
Adjusted	0.547851	S.D. dependent	0.90027
R-squared		var	5
S.E. of regression	0.605363	Akaike info	1.91696
		criterion	5
Sum squared	7.695755	Schwarz criterion	2.01570
resid			3
Log likelihood	-20.0450	F-statistic	27.6565
	9		1
Durbin-Watson	0.139898	Prob(F-statistic)	0.00003
stat			3

Dependent Variable: LOG(GDP)

Method: Least Squares

Date: 09/16/14 Time: 00:22

Sample: 1986 2008

Included observations: 23

Variable	Coefficient	Std. Error	t-Statistic	Prob.
	t			
C	-3.88682	0.902658	-4.305974	0.0003
	2			
LOG(EXPORT)	0.703703	0.032838	21.42945	0.0000

R-squared	0.956270	Mean dependent	15.4467
	var		1

Adjusted R-squared	0.954188	S.D. dependent var	0.647849
S.E. of regression	0.138664	Akaike info criterion	-1.030580
Sum squared resid	0.403784	Schwarz criterion	-0.931841
Log likelihood	13.85167	F-statistic	459.2212
Durbin-Watson stat	0.279861	Prob(F-statistic)	0.000000

### Unit root test

Null Hypothesis: D(LEX) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic based on AIC, MAXLAG=6)

	t-Statistic	Prob.*
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Augmented Dickey-Fuller test statistic	-5.174899	0.0003
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Test critical 1% level values:	-3.711457
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5% level	-2.981038
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10% level                      -2.629906

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LEX,2)

Method: Least Squares

Date: 09/17/14   Time: 13:41

Sample (adjusted): 1988 2013

Included observations: 26 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
	t			
D(LEX(-1))	-1.06088	0.205005	-5.174899	0.0000
	1			
C	0.142002	0.033521	4.236264	0.0003

R-squared	0.527369	Mean dependent	-0.00237
	var		3



Adjusted R-squared	0.507676	S.D. dependent var	0.135033
S.E. of regression	0.094747	Akaike info criterion	-1.801403
Sum squared resid	0.215449	Schwarz criterion	-1.704626
Log likelihood	25.41824	F-statistic	26.77958
Durbin-Watson stat	1.976120	Prob(F-statistic)	0.000027

Null Hypothesis: D(CPI) has a unit root

Exogenous: None

Lag Length: 0 (Automatic based on AIC, MAXLAG=6)

t-Statistic	Prob.*
-------------	--------

Augmented Dickey-Fuller test statistic	-1.645997	0.0932
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Test values:	critical 1% level	-2.656915
	5% level	-1.954414
	10% level	-1.609329

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(CPI,2)

Method: Least Squares

Date: 09/17/14 Time: 13:43

Sample (adjusted): 1988 2013

Included observations: 26 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
	t			
D(CPI(-1))	-0.19964	0.121293	-1.645997	0.1123
	8			
R-squared	0.097631	Mean dependent	0.03704	
	var		3	
Adjusted	0.097631	S.D. dependent	2.98026	
R-squared	var		4	

S.E. of regression	2.831045	Akaike info	4.95687
		criterion	2
Sum squared resid	200.3705	Schwarz criterion	5.00526
			0
Log likelihood	-63.4393	Durbin-Watson stat	1.55544
	3		6

Null Hypothesis: D(LRER) has a unit root

Exogenous: None

Lag Length: 5 (Automatic based on AIC, MAXLAG=6)

t-Statistic	Prob.*
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Augmented Dickey-Fuller test statistic	-3.357131	0.0019
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Test critical 1% level	-2.679735
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values:

5% level	-1.958088
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10% level	-1.607830
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\*MacKinnon (1996) one-sided p-values.

# Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LRER,2)

Method: Least Squares

Date: 09/17/14 Time: 13:43

Sample (adjusted): 1993 2013

Included observations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
	t			
D(LRER(-1))	-1.09920	0.327425	-3.357131	0.0043
	7			
D(LRER(-1),2)	0.731600	0.310048	2.359635	0.0323
D(LRER(-2),2)	0.049604	0.268845	0.184507	0.8561
D(LRER(-3),2)	0.483981	0.244861	1.976553	0.0668
D(LRER(-4),2)	-0.08201	0.186526	-0.439714	0.6664
	8			
D(LRER(-5),2)	0.379929	0.184319	2.061258	0.0571
R-squared	0.736885	Mean dependent	-0.03634	
	var		7	

Adjusted	0.649180	S.D. dependent	0.311120
R-squared		var	
S.E. of regression	0.184277	Akaike info	-0.30980
		criterion	0
Sum squared	0.509369	Schwarz criterion	-0.01136
resid			5
Log likelihood	9.252896	Durbin-Watson	2.62637
		stat	4

Null Hypothesis: D(LFDI) has a unit root

Exogenous: None

Lag Length: 5 (Automatic based on AIC, MAXLAG=6)

t-Statistic	Prob.*
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Augmented Dickey-Fuller test statistic	-3.089166	0.0037
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Test	critical 1% level	-2.679735
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values:

5% level	-1.958088
----------	-----------

10% level	-1.607830
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\*MacKinnon (1996) one-sided p-values.

### Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LFDI,2)

Method: Least Squares

Date: 09/17/14 Time: 13:19

Sample (adjusted): 1993 2013

Included observations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
	t			
D(LFDI(-1))	-0.829166	0.268411	-3.089166	0.00756
D(LFDI(-1),2)	0.538786	0.268494	2.006699	0.0632
D(LFDI(-2),2)	-0.092008	0.239961	-0.383430	0.70688
D(LFDI(-3),2)	0.426906	0.233430	1.828839	0.0874
D(LFDI(-4),2)	-0.146328	0.184575	-0.792785	0.44038
D(LFDI(-5),2)	0.392873	0.189824	2.069673	0.0562

R-squared	0.695069	Mean dependent	-0.03731
	var		0
Adjusted	0.593426	S.D. dependent	0.29819
R-squared	var		2
S.E. of regression	0.190137	Akaike info-	-0.24718
	criterion		8
Sum squared	0.542281	Schwarz criterion	0.05124
resid			7
Log likelihood	8.595476	Durbin-Watson	2.56761
	stat		5

Null Hypothesis: D(LRGDP) has a unit root

Exogenous: Constant

Lag Length: 6 (Automatic based on AIC, MAXLAG=6)

t-Statistic Prob.\*

Augmented Dickey-Fuller test statistic -3.376616 0.0246

Test critical 1% level -3.808546

values:

5% level -3.020686

10% level -2.650413

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LRGDP,2)

Method: Least Squares

Date: 09/17/14 Time: 13:21

Sample (adjusted): 1994 2013

Included observations: 20 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
	t			
D(LRGDP(-1))	-1.52879	0.452760	-3.376616	0.0055
	7			
D(LRGDP(-1),2)	1.080568	0.342922	3.151062	0.0084
D(LRGDP(-2),2)	0.674581	0.320133	2.107188	0.0568
D(LRGDP(-3),2)	0.699334	0.296625	2.357638	0.0362
D(LRGDP(-4),2)	0.533722	0.240660	2.217745	0.0466
D(LRGDP(-5),2)	0.264507	0.174125	1.519062	0.1546



D(LRGDP(-6),2)	0.290035	0.182540	1.588886	0.1381
C	0.145611	0.043779	3.326037	0.0060

R-squared	0.563570	Mean dependent	-0.00296
	var		1
Adjusted	0.308986	S.D. dependent	0.01315
R-squared	var		1
S.E. of regression	0.010932	Akaike info	-5.90512
		criterion	8
Sum squared	0.001434	Schwarz criterion	-5.50683
resid			5
Log likelihood	67.05128	F-statistic	2.21369
			0
Durbin-Watson	2.184208	Prob(F-statistic)	0.10829
stat			5

### **Regression included other determinants of economic growth**

Dependent Variable: LOG(RGDP)

Method: Least Squares

Date: 02/01/14 Time: 11:04

Sample: 1986 2013

Included observations: 28

Newey-West HAC Standard Errors & Covariance (lag truncation=3)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
	t			
C	11.75829	0.398803	29.48397	0.0000
LOG(FDI)	1.309477	0.318524	4.111075	0.0005
LOG(RER)	1.305779	0.317820	4.108545	0.0005
LOG(EXPORT)	0.475809	0.042178	11.28108	0.0000
LOG(TO)	0.343076	0.050214	6.832205	0.0000
LOG(CPI)	1.364623	0.247499	5.513639	0.0000
R-squared	0.998105	Mean dependent	29.8925	
	var		6	
Adjusted R-squared	0.997674	S.D. dependent	0.78535	
	var		5	
S.E. of regression	0.037876	Akaike info-	-3.52159	
		criterion	4	
Sum squared resid	0.031561	Schwarz criterion	-3.23612	
			2	
Log likelihood	55.30232	F-statistic	2317.26	
			6	

Durbin-Watson stat	1.004001	Prob(F-statistic)	0.00000 0
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### Granger causality test

VAR Granger Causality/Block Exogeneity Wald  
Tests

Date: 09/17/14 Time: 13:04

Sample: 1986 2013

Included observations: 26

Dependent variable: LOG(RGDP)

Excluded	Chi-sq	df	Prob.
LOG(FDI)	10.97140	2	0.0041

All            10.97140   2            0.0041

Dependent variable: LOG(FDI)

Excluded    Chi-sq      df            Prob.

LOG(RGDP 6.039789   2            0.0488  
)

All            6.039789   2            0.0488

Item	2008	2009	2010	2011	2012
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<b>Total value of exports and imports</b>	179921.5	150648.1	201722.1	236402.0	244160.2
<b>RMB 100 million Yuan</b>					
Total Exports	100394.9	82029.7	107022.8	123240.6	129359.3
Total Imports	79526.5	68618.4	94699.3	113161.4	114801.0
Balance	20868.4	13411.3	12323.5	10079.2	14558.3
<b>Total value of imports and exports</b>	25632.6	22075.4	29740.0	36418.6	38671.2
<b>USD 100 million</b>					
<b>Total Exports</b>	14306.9	82029.7	107022.8	123240.6	129359.3
Primary goods	779.6	631.1	816.9	1005.5	1005.6
Manufactured goods	13527.4	11384.8	14960.7	17978.4	19481.6
<b>Total Imports</b>	11325.7	10059.2	13962.4	17434.8	18184.1
Primary goods	3623.9	2898.0	4338.5	6042.7	6349.3
Manufactured goods	7701.7	7161.2	9623.9	11392.1	11834.7
Balance	2981.3	1956.9	1815.1	1549.0	2303.1

<b>No. of projects for contracted foreign direct investment (Unit)</b>	27514	23435	27406	27712	24925
<b>Total amount of foreign investment actually utilized (USD 100 million)</b>	952.53	918.04	1088.21	1176.98	1132.94
Foreign direct investment	923.95	900.33	1057.35	1160.11	1117.16
Other direct investment	28.58	17.71	30.86	16.86	15.78
<b>Registered foreign funded enterprises</b>					
<b>No. of registered enterprises (Household)</b>	434937	434284	445244	446487	440609
<b>Total investment (USD 100 million)</b>	23241	25000	27059	29931	32610

Registered Capital (USD 100 million)	13006	14035	15738	17294	18814
Capital from foreign investors	10384	11369	12590	13810	14903
<b>Economic cooperation with foreign countries and regions (USD 100 million)</b>					
Contracted Value	1130.15	1336.82	1430.92		
Contracted Projects	1045.62	1262.10	1345.67	1423.32	1565.29
Labor Services	75.64	74.73	87.25		
Value of turnover fulfilled	651.16	866.17	1010.50		
Contracted Projects	566.12	777.06	921.70	1034.24	1165.97
Labor Services	80.57	89.11	88.80		

<b>Sector</b>	<b>No. of Projects (Units)</b>	<b>Investment actually utilized (USD 10000)</b>
Total	24925	11171614
Agriculture, Forestry, Animal Husbandry and Fishery	882	206220
Mining	53	77046
<b>Manufacturing</b>	<b>8970</b>	<b>4886649</b>
Production and Supply of electricity, gas and water	187	163897
Construction	209	118176
Transport, Storage and Post	397	347376
Information transmission, Computer services and software	926	335809
Wholesale and Retail traders	7029	946187
Hotels and Catering services	505	70157
Financial Intermediation	282	211945
Real Estate	472	2412487
Leasing and Business services	3229	821105



Scientific Research, Technical Services and Geological Prospecting	1287	309554
Management of Water conservancy, Environment and Public facilities	122	85028
Services to households and other services	192	116451
Education	11	3437
Health, Social Security and Social Welfare	24	6430
Culture, Sports and Entertainment	145	53655
Public management and social organization	3	5

## History of Realised FDI inflows

**Table 4.3**

	<b>Projects Contracted</b>	<b>newly Realised FDI inflows</b>
1979-1982	920	1769
1983	638	916
1984	2166	1419
1985	3073	1956
1986	1498	2244
1987	2233	2314

1988	5945	3194
1989	5779	3393
1990	7173	3487
1991	12978	4366
1992	48764	11008
1993	83437	27515
1994	47549	33767
1995	37011	37521
1996	24556	41726
1997	21001	45257
1998	19799	45463
1999	16918	40319
2000	22347	40715
2001	26140	46878
2002	34171	52743
2003	41081	53505
2004	43664	60630
2005	44019	60325
2006	41485	69468
2007	37888	82658
2008	27514	92395
2009	23435	90033
2010	27406	105735
2011	27712	117698

2012	24925	113294
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Source: MOFCOM website: [www.fdi.gov.cn](http://www.fdi.gov.cn)

	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Equity Joint Venture	17273	22498	21415	21706
% of total FDI	19.2	21.3	18.5	19.4
Contractual Joint Venture	2034	1616	1757	2308
% of total	2.3	1.5	1.5	2.1
Wholly-foreign owned enterprise	68682	80875	91205	86132
% of total FDI	76.3	76.6	78.6	77.1
Share company with foreign investment	2044	646	1634	1570
% of total FDI	2.3	0.6	1.4	1.4
<b>Total FDI</b>	<b>90033</b>	<b>105735</b>	<b>116011</b>	<b>111716</b>

	<b>2005</b>	<b>% of total</b>	<b>2006</b>	<b>% of total</b>	<b>2007</b>	<b>% of total</b>	<b>2008</b>	<b>% of total</b>
Exports	444.2	58.3	563.8	58.2	695.5	57.1	790.6	55.3
Imports	387.5	58.7	472.6	59.7	559.4	58.5	620.0	54.7

<b>Total</b>	<b>831.7</b>	<b>58.5</b>	<b>1036.5</b>	<b>58.2</b>	<b>1254.9</b>	<b>57.7</b>	<b>1410.6</b>	<b>55.1</b>
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