NEAR EAST UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
INTERNATIONAL BUSINESS
MASTER'S PROGRAMME

MASTER'S THESIS

THE IMPACT OF FORIGHN DIRECT INVETMENT ON ECONOMIC GROWTH: A CASE STUDY OF YEMEN

Enas Nadher Al Baghdadi

NICOSIA
2016

NEAR EAST UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
INTERNATIONAL BUSINESS
MASTER'S PROGRAMME

MASTER'S THESIS

THE IMPACT OF FORIGHN DIRECT INVETMENT ON ECONOMIC GROWTH: A CASE STUDY OF YEMEN

PREPARED BY
Enas Nadher Al Baghdadi
20157035

SUPERVISOR
Assoc. Prof. Dr. Mustafa MENEKAY

NICOSIA
2016

NEAR EAST UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES

International Business Master Program
Thesis Defence

THE IMPACT OF FORIGHN DIRECT INVETMENT ON ECONOMIC GROWTH: A CASE STUDY OF YEMEN

We certify the thesis is satisfactory for the award of degree of Master of International Business

Prepared by: Enas Nadher Al Baghdadi

Examining Committee in charge

Assoc.Prof.Dr *Mustafa MENEKAY*	**Near East University Department Of International Business**
Assist.Prof.Dr *Ahmet ERTUGAN*	**Near East University Department Of Marketing**
Dr. *Karen HOWELLS*	**Near East University Department Of Marketing**

Approval of the Graduate School of Social Sciences

Assoc. Prof. Dr. Mustafa SAĞSAN

Acting Director

DECLARATIONS

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results to this work.

Name, Surname:
Signature:
Date:

DEDICATION

I would like to dedicate my thesis to my beloved parents to my sweet sister Dakra... and to my best friend Sarah.. With my love

ACKNOWLEDGMENTS

I would like to express my deep gratitude to my supervisor Assoc. Prof. Dr. Mustafa Menekay for his time and encouragement through my master study. I could not have accomplished without his guidance. It is with his supervision that this work came into existence. For any faults I take full responsibility.

Furthermore, I also deeply thank my fellow students at NEU, for their generous help and precious friendship.

Finally, I owe great to my family for their support and love. My parents have encouraged me throughout the whole journey of my Master study. My friends have accompanied me through the hardest times and made me always feel optimistic about life and future. Without their unreserved support and love, completion of this work would not have been possible.

ABSTRACT

Due to the serious needs to develop the Yemen economy and boost its growth as lots of its resources are either neglected or unutilized. This study investigates mainly the impacts of the foreign direct investments (FDI), along with the Exports volume (EX), the Domestic credit to private sector (DCPS), and the Debt interest payment (DI) on the economic growth in Yemen**.** Secondary time series data spanning from the 1990 to 2014 have been used to estimate the VECM. The data was retrieved from the World Bank, Index Mundi and Statista database.

Results have shown that there is no long run association between GDP and FDI, EX, DCPS and DI. In addition, conclusions can be made that poorly crafted export promotion and financial development strategies and policies have negative implications on economic growth. Debt repayment facilities that have been offered to Yemen by the international community have positive implications on Yemen's economic growth. Of paramount importance is the idea that foreign direct investment inflows into Yemen are stirring up economic growth and development. However, what is posing obstacles to economic growth and development and the attainment of other macroeconomic objectives is the current situation of political instability.

Key words: Economic Growth, Foreign Direct Investment, Exports, Financial Sector Development, Debt Interest

ÖZET

Yemen ekonomisi, süregelmekte olan ekonomik kriz ve politik çelişkiler nedeniyle gelişimini tamamlamakta zorlanmakta ve bu bağlamda ülke olarak barındırmakta olduğu potansiyel ekonomik kaynaklarını göz ardı edilmekte veya eksik kullanılmıştır.

Bu araştırma, Yemen'deki dış ticaret yatırımlarını (FDI), Ticaret hacimlerini (EX), faiz borcu ödemelerini (DI), iç kredilerin dış krediler (DCPS) ve ülkenin ekonomik gelişim süreci üzerindeki etkisini incelemektedir.

VECM verileri 1990-2014 yılları üzerinde ikinci derece zaman serileri analizi kullanılarak elde edilmiştir. Dünya Bankası, Mundi Indeksi ve Statista verileri kullanılmıştır.

Elde edilen sonuçlar GDP, FDI, EX, DCPS ve DI arasında uzun vadeli işbirliği yapılamayacağını göstermektedir. Ayrıca, ihracat desteklerinin kıtlığı ve promosyon eksikliği, finansal gelişim stratejilerinin geliştirilememesi, Yemen'deki ekonomik gelişme ve büyüme üzerine olumsuz olarak etki bırakmaktadır. Ayrıca ülkenin borç geri ödeme stratejilerinin ekonomik gelişimin uluslararası ve ulusal düzeyde pozitif etki bıraktığı görülmektedir. Buna ek olarak ülkenin almış olduğu dış ticaret yatırımları da gelişimi etkileyen önemli faktörler arasında yer almaktadır. Buna rağmen, ülkenin makroekonomik hedeflerini inceleme altına aldığımızda politik ve ekonomik düzensizliklerin sebep olduğu ve bizi şu anki sonuca ulaştıran etkenleri elde etmekteyiz.

Anahtar kelimeler: ekonomik gelişim, dış ticaret yatırımları, ihracat, finans sektörü gelişim verileri, faiz borcu verileri.

Table of Contents

List of Tables

List of Figures

LIST OF ABBREVIATIONS

ADF	Augmented Dickey Fuller
PP	Phillips Perron
ECM	Error Correction Model
FDI	Foreign Direct Investment
EG	Economic Growth
EX	Export
DCPS	Domestic Credit to Private Sector
TD	Total Debt
GIA	General Investment Authority

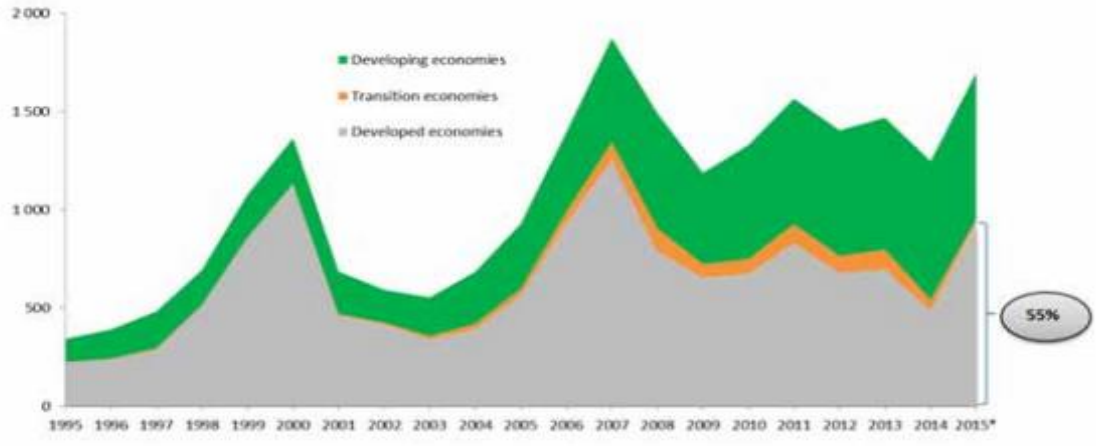
CHAPTER ONE
INTRODUCTION

1.1 Introduction

There is so much strong emphasis that is being put on the importance of foreign direct investment not only by nations but also by scholars. Among such reasons argument are that FDI provides a powerful economic engine that is able to stir around economic fortunes toward the desired path (Waser, 2012; Kurbanov, 2014; Borenzstein et al., 1988). This dwells on numerable benefits that are tied to the attraction of foreign direct investment by nations. Among such benefits, one can point to the idea of an influx of advanced technology (Carkovic & Levine, 2002).

Irrespective of the benefits that can be reaped, the idea of FDI attraction still continues to gain considerable headlines in news reports, articles, press statements, researches etc. Ideas are that FDI inflow patterns have changed and are likely to gravitate towards certain regions which include Africa and the Middle East which possess sound and vast economic resources (UNCTAD, 2016).

Figure 1. Global FDI patterns 1995-2015, Source, UNCTAD (2016)



Source, UNCTAD (2016)

Implications from figure 1 reveal that global FDI patterns will continue to gravitate and soar towards developing countries. What is of concern is about nations such as Yemen which are the low developed economies and how they can lure FDI inflows. This study will base its analysis on the impact of FDI on economic growth and policies that can be undertaken to maximize the benefits thereof.

1.1.1 Foreign direct investment in Yemen

With gas and oil resources looming high in Yemen, foreign investors have a high potency to invest their financial resources towards their production. Contentions are high that once Yemen's political situation stabilizes, more investments are likely to be witnessed in gas and oil production (USAID, 2015). Estimations have shown that gas and oil revenues have remained very low and the ability to sustain economic activities have been choked. This is posing severe repercussions as Yemen significantly relies on oil revenue to fund its economic activities. This implies that more efforts are required to initiate ventures and investment in other sectors of the economy that can boost revenue inflows. Among such economic sectors are agriculture which has remained to be one of the best sources of economic strength of Yemen. According to Mei (n.d) agriculture still dominates 10% of Yemen's economic activities and about 30% of its labor force are employed ion the agriculture sector. Such elements are also backbones of major economic powerhouses around the world and if Yemen can stimulate their production, it can achieve similar results. However, it is of high concern that FDI inflows are the major source that is capable of achieving the desired results. This can be evidenced by results achieved by Waser (2012) which showed that FDI inflows have high to stimulate any economic sector.

1.1.2 Economic growth in Yemen

Yemen's economic growth trends have significantly remained in doldrums and this is being exacerbated by the political crisis that has severely swept out expectations of hope to revive the least developed Arabian economy. Though the Arabian nation possesses huge amounts of gas and oil reserves, it remains a mystery on how best they can tap into the available and abundant resources. If Yemen is going to rise as an economic powerhouse and major gas and oil exporter, much is required to boost the production aspect of it.

With a GDP per capita soaring to $1060 mark in 2010 from the $400 in 1992, Yemen has surpassed the performance of other nations despite the decline in its productive capacity (World Bank, n.d; as cited in Mei, n.d). That of India, Pakistan, and Vietnam has been fluctuating around $1220, $1000 and $930 benchmarks respectively (Mei, n.d). This provides an unestimated hint about its potency to rise back to its roots and even pass those that are currently dominating economic spheres.

The most probable force that can provide the much-needed kick start and boost to economic growth is FDI though it has been proving difficult to attain as the political crisis was deeper in effects. With the fact that Yemen's productive capacity has remained shattered and constricted to low levels, effort are greatly needed to spur economic activities. This study, therefore, seeks to examine how FDI policies can be used to provide an economic boost that can stimulate Yemen's productive capacity.

1.2 Problem statement

The emphasis on FDI promotion is centered on improvement in economic growth (Barrell & pain, 1997) citing that the introduction of new technological capacity and increases in employment levels will force an increase in output. Cases have risen under which efforts to improve FDI inflows have led to a decline in economic growth (Lyroudi et al., 2004). What has not been addressed in the process that nations can go through in the midst of trying to attract FDI inflows. This stems from the idea that nations may be forced to relax certain economic

principles in the light to attract more FDI inflows. Such policies are usually at the expense of the attainment of other macroeconomic objectives.

1.3 Research objectives

The study is an endeavor to probe the consequences posed by foreign direct investment on Yemen's economic growth. Afterward, this study will also seek to accomplish the following targets:

- To provide a critical analysis of factors hampering foreign direct investments in Yemen.
- To identify how FDI policies can hamstring the attainment of other macroeconomic objectives.
- To identify factors that are strategies that can be adopted by Yemen's monetary authorities so as to boost FDI inflows.

1.4 Research questions

In accordance with the above set up points, inquiries will, subsequently, be attracted to give answers to the accompanying inquiries;

- What are the consequences posed by foreign direct investment on economic growth?
- To provide a critical analysis of factors hampering foreign direct investments in Yemen?
- How do FDI policies impede the attainment of other macroeconomic objectives?
- What strategies that can be adopted by Yemen's monetary authorities so as to boost FDI inflows.

1.5 Significance of the study

In a time when the world economy is going through a severe series of economic

turmoil that includes ravaging events such as financial and economic crisis, the attraction of FDI can be a significant solution that can assist in absorbing inflicted economic shocks. This will simultaneously lead to improvement in economic growth as proposed solutions are put into practice. This study will, therefore, provide solutions and strategies that can be used to eradicate economic woes that are currently befalling Yemen. What is more, this study is one of only a handful few that looks and FDI and economic growth regarding Yemen, as such gives new and pertinent writing that can be connected to Yemen.

1.6 Organization of the study

A six chapter framework will be used to structure the study in a manner that will aid in addressing the issue at hand. Initial introductory insights are laid out in the first chapter while literature review in addressed in the second chapter. Chapter three is an outline of economic aspects that relate the linkage behind FDI and economic growth in Yemen. Chapter four provides a detailed outline of methodological steps that were taken to execute this study. Data analysis is undertaken in the fifth chapter while the last chapter deals with conclusions and recommendations

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter covers the theoretical revisions that have been addressed the economic growth issues and the Determinants of foreign direct investment inflows

2.2 Theoretical frameworks

2.2.1 The Harold Domar growth model

Efforts to establish foundations upon which explanations and economic policy formulations can be undertaken have been daunting tasks for many researchers that encompass the likes of Adam Smith (1776), Alfred Marshall (1890) and Robert Lucas (1988). However, two major events triggered feasible developments to examine factors driving economic growth and development. Robert Lucas (1988) outlines that the Soviet Union era which forced investment and savings among the people and the Great Depression which the major instruments that agitated studies towards economic growth and development.

The Harold Domar, however, has been criticized by many scholars who argued that the application of the model can only yield sound results on the condition that its inherent limitations have been attended to. For instance, Hagemann (2009) posits that the potency of savings to stimulate an upward change in economic growth is relatively high in developed economies as opposed to lower-income countries. Such an argument is based on the assertion that the marginal tendency for individuals to save is very low in these types of economies. The savings gap is thus considered to be high and this implying that consumption levels are surpassing savings which in the latter makes it difficult to improve future productivity of the economy. Savings provide the means by which investments can be made and lack of savings, therefore, means that savings are constricted. The effects of foreign direct investment might be inconsiderable under this circumstance until individuals commence saving and those savings are

diverted to other productive activities. This can be evidenced by the economic growth equation which superimposes that economic growth is a function of the ratio between savings and capital output (Domar, 1964).

It is also imperative that the capacity to institute changes in economic growth through an injection of investments and steering up of savings hinges on the nature of financial systems that is prevalent in that economy. It is not very economy that has a sound system and this problem is more prevalent in developing countries. Furthermore, Odhiambo (2008) contends that high savings do not necessarily imply an increase in funds available for investment for firms.

The Harold Domar also postulates that there is some level of economic efficiency that is prevalent and incidences of inefficient use of resources are limited. In reality, human capital is prone to a lot of limitations and hence the capital-output ratio is always high since efficiency gains are very low (Odhiambo, 2008).

Another important issue to reckon with when assessing the Harold Domar model is that methods through which savings are financed are of huge controversy especially borrowing. Checherita et al. (2012) outlined that financing savings through borrowing have an effect of compounding national debt which has to be paid in the future. Future interest payments and repayments installments can actually put a significant pressure on produced output which may reverse economic progress made. In most cases, there are little funds that are diverted towards improving the capital-output ratio which is one of the major reasons causing market failures. High levels of economic growth are synonymous to high research and development expenditure. This can be pointed out to countries such as United States of America, China, Japan and Russia which have attained high GDP rates with an equivalent increase in research and development expenditure.

What therefore be deduced from the Harold Domar model is that an increase in capital accumulation through foreign direct investment will not necessarily imply that it will result in high economic growth rates. In addition, high growth rates are accompanied by a surge in demand as income growth begins to set in. this normally issues such as inflation and exchange rate instabilities taking effect in the economy. But it is vital for economies to divert a huge chunk of funds

towards capital improvements. Thus, FDI can provide such form of support or reinforcement. Also, FDI has a huge effect on GDP when it can cause a huge upward shift in capital stock which offer the innovative means by which more products can be produced. This can be backed by ideas given by Razafimahefa and Hamori (2007) which established that FDI can propel economic growth when high capital improvements are prevalent. Such a notion is reinforced by Alfaro et al. (2004) who posits that most FDI policies are not consistent with other macroeconomic targets of the economic which usually leads to policy inconsistency. Such cases are considered to be dominant in low developed economies in which FDI policies are made out of desperation attempts by governments which then compromises the value of output or positive effects obtained in the future (Chen, 2013). Hence, under such circumstances, a high GDP by stimulating FDI inflows can be attained when there is policies regularity. Expectations are therefore that FDI can fail to stimulate GDP when FDI policies are ineffectively designed and implemented. We can thus expect either a bilateral or unilateral relationship between GDP and FDI in Yemen.

2.2.2 The electric paradigm of Dunning

This theory is composed of three theories of foreign direct investment, that is, ownership advantages (O), location (L) and internalization (I). According to this theory, ownerships advantages are as a result of owning intangible assets. The production cycle asserts that the notion behind FDI is to transfer assets transnationally from one company to the other at lower costs. Thus, FDI is seen as a cost-effective way of transferring assets from one nation to the other at lower costs.

Dunning (1973) posits that monopoly advantages and property competencies are the driving force towards FDI. The basic idea is the need by firms to attain profitability margins will propel firms to use these advantages and competencies abroad where they can earn abnormal or relatively high profits. Monopoly advantages are as a result of technology and economies of scale. Successful entrance into foreign markets by transnational corporations (TNCs) requires that

TNC possesses certain advantages that will lower costs of production (Denisia, 2010). Such advantages are inherent to TNC's specific advantages and property competencies.

This theory entails that if TNCs able to utilize their specific advantages and property competencies in another location then there is a strong incentive to undertake foreign direct investments. Thus, locations advantages are as a result of economic, political and social advantages such as telecommunications, market size, policies affecting FDI, cultural diversity etc.

On the other hand, internalization to the way the TNCs will utilize their advantages to distribute and sell their products in the new market. Internalization must, therefore, offer TNCs significant benefits for them to undertake production in foreign markets (Dunning, 1973). The greater the benefits of internalization the more TNCs will undertake foreign production.

It can be established from this theory that production, location and internalization factors vary from one company to the other. Of great importance is that this theory assumes that foreign direct investment is determined by social, political and economic factors of the host country. These factors are the ones that contribute to both challenges and opportunities from investing abroad that are, engaging in foreign direct investments.

2.2.3 The production cycle Venom

This theory contends that there are different types of foreign direct investments and are determined by the stage of production that country is in. This theory attempted to explain the different types of foreign direct investments made to Western Europe by United States' companies after the Second World War. Thus according to Vernon, production is composed of four stages which are innovation, growth, maturity and decline (Denisia, 2010). Foreign direct investments from the United States were seen to be a result of an increase in demand for United States' manufactured products. The war Europe stirred an increase in demand for manufactured products which by then were available from the USA at a lower price. United States' companies dominated on the international market because of technological advantages. Innovation is thus

seen as a contributing factor to international dominance. As a result, United States' companies begin to investment in Western Europe where demand was high and costs were low because of technological advantages.

The implications of this theory are that if international companies can achieve technological advantages, they will be in a position to invest abroad. This also entails that technological advantages are the main determining factor of foreign direct investment. It can also be noted that this theory suffers from scope problems since it is a study based on United States companies' investments in Western Europe.

2.3 Determinants of foreign direct investment inflows

2.3.1 Infrastructure

Infrastructure such as railways, telecommunications and roads pose challenges to FDI inflows. This is because when these factors are absent, investing firms might view it as having a lot of sunk costs and might not be willing to invest such amounts in projects that are not profit related. Infrastructure thus is said to be positively related to productive potential and hence, it helps in attracting FDI inflow. This can, however, serves as an opportunity as more foreign firms have indicated willingness to participate in infrastructure projects (Trade Chakra, 2008).

2.3.2 Exchange rate evaluation

Exchange rate valuation plays a significant role in determining the strength of the type of FDI. For example, when the real exchange rate is weak, expectations are high that vertical FDI will increase. This is because prices will be relatively low and firms will be willing to exploit such opportunities and, as a result, FDI inflows will increase (Food and Stain, 1991). However, there is a hypothesis that a stronger real exchange rate can result in horizontal FDI taking place as a result of barriers to entry.

2.3.3 Labour costs and productivity

Cheap labor is one of the essential elements which determine FDI levels. This is supported by the modernization hypothesis and the dependency hypothesis which suggest that FDI inflows will be relatively high in nations with cheap labor. Thus expensive labor costs can be to discourage FDI inflows especially when the type of production is labor intensive. However, there is little empirical evidence to support this idea and most studies argue that the relationship between labor costs and FDI inflows is not significant (Saunders, 1992). Some argue that labor costs vary from country to country and that labor costs are an indication of the quality labor skills available Food and Stain, 1991).

2.3.4 Clustering effects

Clustering effects can cause more FDI inflows as linkages in projects can cause foreign firms to be located closely to one another. Clustering effects are also associated with external economies of scale and positive spillover effects (Barrel and Pain, 199).

2.3.5 Quality of institutions

The quality of the institution is important in FDI-related issues because of their relationship quality of the institution and economic growth. Studies have it that nations with governance practices are in a better position to significantly attract FDI. In addition, poor institutional quality tends to promote corruption which has a negative impact on profitability as it heightens investment costs. Moreover, poor institutional quality is associated with high uncertainties as FDI inflows have high inherent sunk costs. Empirical literature results about the effects of institutional quality and FDI inflows are inconclusive and vague. Factors such as bureaucratic hurdles, regulatory framework, red tape, corruption and judicial transparent are contended to be insignificantly affecting FDI inflows (Wheeler and Moody, 1992) though factors such corruption and judicial transparent are contended to be significantly affecting FDI inflows (Wei, 2000).

2.3.6 Openness and trade regimes

Openness and trade determine the type of FDI inflows and investors attempt to avoid hindrances in trade. Horizontal FDI has been highly associated with better trade openness and trade regimes potential and this, however, varies with location. For instance, Resmini (2000) established that vertical FDI can be significantly high in areas where trade in capital goods is high. However, FDI inflows can be high when augmented by high export orientation strategies.

2.3.7 Macroeconomic and political stability

Macroeconomic and political stability are an essential element in any investor's decision-making process. Macroeconomic and political stability are associated with risk and thus the higher the level of macroeconomic and political instability the riskier it become into invest in that nation. A significant number of studies established that political instability poses serious negative effects on FDI inflows (Schneider and Fray 1985; and Root and Ahmed 1979). This, however, contradicts with findings by Braunerhjelm and Svensson (1996) who outlined that administrative efficiency and political risk do not significantly influence US firm's decisions to set up production facilities.

2.3.8 Market size and growth potential

Market size and growth potential offer a lot of opportunities for investment. This is because a bigger market size is synonymous to high potential demand. Alternatively, technological advantages allow transnational corporations to engage in mass production which results in economies of scale and hence lowering costs. This is supported by Resmini (2000) who undertook a study based on Eastern and Central Europe. The results showed evidence that there is a strong positive relationship between market size and growth potential.

2.3.9 Rate of return

The rate of return is considered to be the main motive behind FDIs with the main thrust being to make profits. According to Markowitz, a rate of return encompasses a risk-free rate and a risk premium. The higher the rate of return the more the investor will make assuming all things remain constant. The rate of return is also an indication of risk. When the level of risk is high investors will demand a high rate of return to commensurate with the level of risk (Lim, 1993). As result, FDI inflows tend to be high when the rate of return is high.

2.3.10 Taxes

The impacts of taxes on FDI have not been clearly established by empirical studies as most do not agree to a common effect. Studies by Hartman (1994) and Grubbert and Mutti (1991) have found corporate taxes to be negatively related to FDI. On the other hand, Studies by Lim (1993) and Braunerhjelm and Svensson (1996), established that corporate taxes do not significantly affect FDI inflows.

2.4 Empirical literature review on the effects of FDI on GDP

Omankhanlen, (2011) analyzed FDI effects in relation to the Nigerian economy using time series data from 1980-2009. The study dwelt on the effects that are posed by the exchange rate, inflation, BOP and FDI on economic growth. The study results showed that there exist a positive association between FDI and GDP while positive exchange rate movements were further observed to compel upwards movements in GDP growth. Thus, expectations are therefore aligned with the notion that increases in FDI inflows will steer up Yemen's economic growth. The same expectations can be made for exchange rate effects but a BOP deficit as established by the same study was observed to pose negative effects on GDP. Major adverse effects on GDP were established to be emanating from increases in inflation. Hence, suggestions made pointed out that curbing inflation and exchange rate depreciation can also help improve economic growth.

Olokoyo, (2012) employed ordinary least regression analysis to examine factors affecting FDI inflows in and how they impact the economic performance of

Nigerian using data from the period 1970-2007. The study was centered on the formulation of the hypothesis that there is no robust linkage between FDI and GDP in Nigeria. The findings found strong evidence to accept the null hypothesis which has been in contrary to other studies which established that high GDP growth rates are linked to high FDI inflows. These results are however in support of the result by Chowdhury and Mavrotas (2006) which revealed that the association between FDI and GDP can also be negative.

Ayashagba and Abachi (2002) studied the effects of FDI on economic growth in Nigeria from 1980-1997. The study highlights the importance of FDI in stimulating economic growth but outlines that FDI inflows are not that beneficial to slowly developed economies with low-income projections. This implies that low developed economies lack certain aspects which are prevalent in highly developed economies and makes it easy for them to reap from FDI inflows. This, therefore, means that low-income economies such as Yemen where economic progress is now very slow, FDI inflows will not offer much assistance needed to steer economic progress. This is based on the idea that low developed economies often lack the skills and technological capacity that is required to boost economic growth. In most cases, FDI inflow policies are often made out of desperation by these economies. Hence, increases in FDI inflows can only bring changes in GDP when there is a simultaneous increase in employment and technological progress (Dunning & Narula, 2003).

Eravwoke and Imide (2013) assessed the impacts of corruption and FDI on the exchange rate. The study employed cointegration test to determine the existence of a long-run association between corruption and FDI on the exchange rate. Stationarity tests were conducted to determine if the model variables were stationary at first difference using the Augmented Dickey-Fuller Test. The results showed that FDI inflows do drive up the value of a currency as investors demand more of the domestic currency to make investments. The increased demand for the currency is the reason which causes the exchange rate to appreciate. However, the impacts of corruption on the exchange rate were established to be diverse. The results pointed to policy conflicts, speculative

activities and increased informal market operations which are mainly for profiting purposes and not for growth purposes are the channels through which corruption impairs economic progress.

Adewumi (2006) investigated FDI effects on GDP in Africa utilizing regression analysis. The study was a panel study based on Southern Africa. The results provided support for the existence of a positive association between FDI and GDP and highlights that the relationship is significant in nations were proper economic structures are made available. In those countries were economic management and progress are very low, FDI inflows are contended to have insignificant effects on economic growth.

Makki and Somwaru (2004) used to an endogenous growth model to examine the impact of trade and FDI on economic growth in developing countries. Study results were based on cross-sectional studies of 66 developed countries using times series data for a 30 year period. The findings exhibit that trade is a powerful engine that can be used to steer economic progress in the desired path. Notable findings pointed out that FDI is a crucial element or channel that can be utilized to transfer advanced technology from one economy to the other. This follows establishments made from the results which showed that FDI has a strong effect on GDP when there is a significant technological transfer. Technological transfers are also presumed to yield formidable changes in economic performance when investments are made in strategic sectors of the economy. Implications made from this study are that, when foreign investments are made in sectors that are not strategic to economic growth, increases in GDP are unlikely to be significant, that is, there will not meaningful changes in economic growth as a result of the marginal in investment inflows. Thus, for Yemen to enjoy economically from FDI inflows, measures can be undertaken to ensure that much investments are made towards directing funds to productive and strategic sectors of the economy such as mining, manufacturing, and agriculture.

Lumbila (2005) did an analysis of 47 Africa countries using data from 1980-2000 to explain the impacts of FDI on economic growth. The obtained results

were based n seemingly unrelated regression analysis. The results provided an overall explanation that FDI does boost Africa's economic progress. Such progress was contended to be as a result of an increase in output, employment and exports made. A similar study was conducted by Bailliu and Jeannine (2000) using panel data from 1975-1995 for 40 developing countries. The study, however, accounted for the endogeneity of the independent variables. The findings provided strong support for the notion that capital inflows made as a result of FDI inflows can offer a major drive to an economy's economic advancement. Such was however considered to be conditional on the level of financial development prevalent in that economy. This implies that lack of financial development hampers FDI inflows and their effectiveness. Hence for economies such as Yemen to enjoy the full benefits of FDI inflows, a sound, and the well financial developed financial institution is therefore required.

De Mello (1997) established that FDI effects on economic growth are always positive in both developed and developing countries. Such a notion refutes the idea that a negative association between FDI and GDP can be attained implying that an only positive linkage is feasible. Thus in the case of Yemen, a positive explicatory effect of FDI on GDP is foreseen. The study further contends that technology and knowledge spillovers from the investing nation will have positive effects on long-term growth effects on the host country. This has been a center of research in which most scholars are outlining that positive effects posed by FDI can be hugely tapped when there are technology and knowledge spillovers. This was evidenced by study results by Balasubramanyam et al. (1996) which showed that FDI effects are negative to an importing country as opposed to an exporting country.

Vu and Noy (2009) analyzed the effects of FDI on growth among different economic sectors in developed economies. The study revealed that FDI does have positive impacts on GDP but the magnitude of the effect is not significant. The impact of FDI on GDP is strongly presumed to be through labor interaction. Such effects are further contended to be diverse among sectors and economies.

2.4.1 Empirical literature on causality between FDI and GDP

Studies have also been conducted to establish the causality between GDP and FDI. Such has been as a result of different contentions about which variable causes a change in which variable. Chowdhury and Mavrotas (2006) made use of the Toda and Yamamoto causality test to examine the nature of causality that exists between GDP and FDI utilizing data from the year 1969-2000. The findings demonstrated that GDP does initiate changes in FDI in Chile but a negative association was discovered to exist in Thailand and Malaysia. Thus, deductions can be made that the nature of causality between FDI and GDP is determined by the context in which it is applied. In some countries, the relationship between FDI and GDP can be positive while in others it can be negative. Hence, the nature of the relationship that can exist between GDP and FDI in Yemen can thus either be positive or negative.

Cuadros, Orts and Alguacil (2001) also made an attempt to examine the linkage between FDI and GDP using a vector autoregressive model in relation to Mexico, Brazil, and Argentina using time series data from 1975-2007. The results showed contrary evidence to what Chowdhury and Mavrotas (2006) found. The results showed that FDI inflows do cause GDP growth in these three economies. Positive effects of FDI on GDP were also reinforced by the unilateral relationship between trade and GDP.

Saibu and Keke (2014) determined the existence of a long-run association between FDI inflows made into the private sector and economic growth. The study also employed error correction techniques to determine short run and long association between the variables. The results showed that there is a causality that exists between FDI inflows and GDP that run from FDI to GDP. The speed at which the variables return back to equilibrium was discovered to be 78% and that the magnitude of effect posed by FDI on GDP is mainly determined by the

ability to make such investments in productive sectors as opposed to unproductive sectors of the economy. Productive investments were presumed to have huge impacts on GDP as opposed to unproductive investments made in sectors that add little or no contribution to economic performance. What is, therefore, implies that for nations such as Yemen, meaningful changes in GDP can only be observed in economic officials promote productive sector investments. Failure to do so is thus regarded as to offer insignificant effects on economic performance irrespective of the magnitude of the investments made. Such efforts can be attained by designing investment policies that match economic targets, creating a conducive investment climate and offering incentives to lure more investments ion productive sectors of the economy.

Li and Liu (2005) also outlined that the effects of FDI on GDP are either directly or indirectly on human capital. Direct effects are often in the form of increased wages and salaries while indirect effects can be in the form of training in order to operate certain technology or to run certain operations. The most important thing is that this study points to the notion that FDI does pose effects on GDP. Therefore recommendations made to improve economic growth are strongly focused on improving the effectiveness of FDI inflows and ensuring that both channels through which human capital is affected are well open for positive changes. This was augmented by findings by Borenzstein et al. (1998) which established that the relationship that exists between FDI and GDP is positive and that more effects on GDP from FDI are through human capital.

Ruxanda and Muraru (2010) examined the relationship between FDI and GDP using an endogenous approach analysis. The results showed that the linkage between FDI and GDP is bidirectional and the nature of causality does run from FDI to GDP. Thus in most cases, it FDI which causes changes in GDP. Implying that if economies such as Yemen are to attract more FDI inflows, they have to institute economic measures that can boost economic growth. In this case well formulated economic policies which are consistent with other macroeconomic targets will form a strong foundation upon which sound economic growth can be

attained.

Analysis of this literature does provide a strong consensus that FDI does cause an increase in growth. In addition, increases in growth following an increase in FDI are often through efficiency gains, improved productivity, human capital development and technology infiltration.

Most studies have pointed out that FDI can pose effects on growth through knowledge and technology spillovers from the investing economy towards the host nations. Implying that the host economy does actually gain when these two areas are positively affected.

2.4.2 Empirical literature of determinants of FDI

Alfaro et al. (2004) examined the impact of financial development on FDI inflows on the host economy. The results showed that strong and well developed financial system are more capable of harnessing huge FDI inflows. This stems from the argument that well developed and strong financial system offer more efficient and less risky ways of transferring funds, conducting financial transactions at a relatively low cost. Such is a common feature between less developed and more developed economies in which FDI inflows are relatively more inclined to more developed economies as opposed to less developed economies.

Durham (2004) also conducted a similar study and further outlined that financial system plays an important role in channeling FDI funds to the host country. This shows that irregularities in the financial system can pose a threat to the transfer of funds. Such might be a common feature in Yemen in which political instabilities have undermined financial development aspects. Thus in order to facilitate a smooth flow of FDI inflows into Yemen, there is greater need to improve the strength and growth of its financial system. The legal, investor and institutional environment in Yemen was must be conducive for both domestic and international firms to conduct their operations.

Blonigen and Wang (2005) however argues that conditions under which FDI affects GDP growth tend to vary between economies and hence a combined

analysis of the determinants of FDI will not offer an adequate explanation of variable effects. Such suggestions imply that FDI determinants will pose different effects of different magnitude on GDP in Yemen. Thus in most cases, negative results can be obtained where positive results are expected. This was supported by the results obtained by Vu and Noy (2009) which showed that FDI effects on GDP are diverse among sectors and economies.

There are studies which argue that the differences in obtained results are due to estimation errors. This entails that FDI determinants have one-way effects on GDP irrespective of the country under which they are being examined. For instance, Carkovic and Levine (2005) postulates that positive effects outlined in most literature sources are attributed to poor estimation procedures. In their analysis of their obtained findings, their results showed that the relationship between FDI and growth is not robust. Ruxanda and Muraru (2010) conducted a study to verify if the relationship between FDI and growth is endogenous. The results showed contrasting results and thus validating this idea.

CHAPTER THREE
THE CASE OF YEMEN ECONOMY

3.1 Introduction

This chapter provides an economic overview of the situation in Yemen and thrives to outline the current and changes in foreign direct foreign direct policies being instituted by the government of Yemen. As such seeks to identify policy gaps that may affect FDI inflows as well as measures that can be utilized to harness more FDI inflows. This chapter will also look at economic growth trends in Yemen.

3.2 General macroeconomic insight

The economy of Yemen is petroleum based and a significant portion of its economic activities are centered on oil production. Oil productions continue to drive Yemen's economy occupying 85% of its exports and financing 75% of the Yemen's governments' budget (Sanaa, 2006). Between the year 1999 and 2000 oil driven GDP revenue went up from 2.8% to 6% and such trends as still expected to continue on an upward trend. Oil reserves in Yemen are concentrated in Southern and Northern parts of Yemen with Manila which accounts for most economic activities and Ma'rib fields being the largest oil fields. Agriculture does also play an important role in Yemen's economy raking in 20% of the Arabian economy's GDP and harbors 50% of its labor force (Sanaa, 2006).

It is imperative that the economic system that prevail in Yemen is a free market economy with limited role played by the government. Such an atmosphere has created a conducive environment for businesses to operate in. This has resulted in the growth of industrial sectors which catapulted exports to another dimension. Exports from Yemen are dominated by oil, fish, coffee and cotton.

However, there are numerous factors that are undermining economic progress in Yemen. A huge drawback is that the level of industrial capacity is currently very low. Despite its vast economic resource potential, its potency to grow hinges on

engaging in production. This has had negative effects on other economic indicators and sectors such as growth, employment, trade etc. as a result, unemployment levels have remained relatively high and imports have been soaring at an unprecedented level. Major initiatives have been instituted to stir economic progress in the desired path such efforts include foreign debt relief to resuscitate economic activities. Yemen's economy has of late been struggling to rebound to self-sustaining levels that can stir up economic and financial growth, and development.

Yemen's industrial base is very low and such industries are the ones that drive the economy to its desired path. Such problems are being compounded by the growing population levels and it has failed to match the increase in demand for jobs. UN Fact book (2016) reports that unemployment level stood at 35% in 1998 and will continue to undermine economic activities. Thus economic development has failed to match the increase in both population and demand.

Table 3.1: Economic indicators

INDICATOR	2013	2014	2015
GDP Growth rate	4.8%	-0.2%	-28.1%
Exports (US$ million)	9684.8	9512.33	3290.04
Inflation	11%	8.2%	8.1%
Debt (% of GDP)	22.02%	51.7%	49.95%

Source: Computed by Author using collected data

It can be evidenced by the table 3.1 that Yemen has been struggling economically. GDP growth rate plummeted from 4.8% in 2013 to -0.2% in 2014. GDP growth continued on a downward path and slipped further to -28.1% in 2015 from -0.2% in 2014. Such has also been characterized by a decline in exports revenue from US$ 9684.8 million in 2013 to US$ 9512.33 and US$ 3290.04 in 2014 and 2015 respectively. The inflationary environment though still high, has been slowly easing. In 2013 the inflation rate was recorded to stand at 11% and went on to decline to 8.2% in 2014 with a lowest of 8.1% being

register in 2015. There has, however, a continued injection of funds by the international community to boost economic activities through debt financing programs. External debt went up from 22.02% of GDP in 2013 to 51.7% in 2014 but later declined to 49.95%. Such a level of debt can be considered to be relatively high for an economy such as Yemen in which domestic production is currently very low. Efforts to repay the debt in the future will be stressful and strain especially considering the fact that the level of economic growth and development required will be so high so as to generate the required returns. Economic support also comes from Saudi Arabia and through remittances made by Yemen workers in the diaspora.

Foreign debt has evidently hamstrung economic activities and the government of Yemen has itself failed to reimburse debt payments and had its debt rescheduled by the Paris Club (World Bank, 2015). Efforts have been hugely played by the international community to ease pressure accumulated by the compounding debt. Europe and the United States have been providing extended loans and grants to ease debt problems.

What is also hampering economic initiatives in Yemen is the level of corruption that is taking place. Corrupt activities by government official have placed a limit of the level of confidence and trust the public and private players have on economic progress. Economic resources especially oil proceeds have not been diverted to meaningful activities and reconstruction activities have not remained on a low note.

3.3 FDI activities and policies

Currently, there are several initiatives that have been put in the limelight to stimulate investment in Yemen. Despite the huge availability of economic resources such as oil and gas and a high potency to grow on a substantial level, major drawbacks to lure investment in Yemen have been thwarted by political instabilities being experienced in the economy. The General Investment Authority (GIA) has been responsible for formulating investment activities in Yemen. Since its inception, the GIA has managed to source $10 billion worth of

domestic and foreign investment and support more than 7000 projects(World Bank, 2015).

There is a range of activities which have been availed to stimulate investment in Yemen especially to those that are willing to commence business operations. Yemen still remains a profitable investment destination as it boasts a geographic advantage that neighboring countries are using to access international markets. Furthermore, the trading environment in Yemen is considered to be a free zone and this has provided a conducive atmosphere for international players to engage in business activities with Yemen.

The investment atmosphere is currently conducive to foreign direct investment and the government of Yemen has pledged to offer support to those willing to invest in Yemen. Conclusions can be made that the huge amount of resources possessed by Yemen such as fisheries, oil, gas, minerals and agriculture will continue to draw investments but the political atmosphere remains a major barrier to investment. This is being compounded by corruption activities.

3.4 Issues hampering FDI growth in Yemen

3.4.1. Political instability

The severe political instabilities currently taking place in Yemen have been deterring possible future investments. This is because the safety of investments is not guaranteed despite actions by the government of Yemen to provide assurance and support to investors. As outlined by Braunerhjelm and Svensson (1996) there is a bilateral association between FDI inflow growth and political instabilities. Such stability if attained will go a long way in successfully luring investments.

3.4.2 Economic instabilities

Due to its heavy reliance on petroleum exports, Yemen 'suffered a huge knock' when oil prices tumbled in 2015. OPEC (2016) reports that in 2015 the international price of oil dropped below US$50 a barrel from a high of US$107 price of 1999. This placed a huge barrier to efforts to continually lure more investments in the petroleum sector whose earnings have been declining. Furthermore, an increase in production costs which have been stimulating an inflationary pressure has also placed a huge doubt on investors' capacity to recoup their gains from investments made.

3.4.3 Corruption

The level of FDI made in an economy is predetermined by corruption levels in that economy. Foreign investors normally put emphasis on analyzing the corruptness of the government before making an investment. Further analysis made by Braunerhjelm and Svensson (1996) also showed that high corrupt activities are an indication or risk. This implies that a high corrupt atmosphere does not warranty a successful compensation of investments funds made. Such a scenario has been the case in Yemen and if more FDI inflows are to be lured, then there is greater need to address corruption issues. Corruption tends to affect the allocation of resources as resources are allocated on the basis of political or family patronage.

3.5 Measures to boost economic growth and stability

Efforts to promote economic growth and development by the government of Yemen rested in its budget. Yemen's budget has deteriorated over the past years following a decline in economic activities add capacity. A huge knock was necessitated by a fall in oil prices which have a pillar of Yemen's economic activities. Economic growth problems are being made worse by the level of its debt and current account deficit. The spiraling inflation level has also been a major force tom reckon with as far as the issue of growth and development are concerned. The Central Bank of Yemen (CBY, 2014) has been coming up with policies to combat such problems and these policies are herein discussed as

follows;

3.5.1 Monetary policy

The implementation of monetary policy initiatives by the CBY was driven by the need to curb deficits and ease inflationary pressure. Monetary policy activities are also centered on promoting financial development in which the financial sector is a big player that can harness not only funds for economic growth and development but also FDI funds (CBY, 2014).

The reasons that have been hindering development include poor domestic work by the relevant government departments which are responsible for collecting revenue for the state taxes and customs duties, etc., and which constitute whole important sources of financial flows and thus widening its deficit.

Table 3.2 shows that there has been a significant improvement in the government financial index since the period 1990 in which it stood at 26012 to 42857 in 1994. During the period 1990-1994, there has been an increase in revenue inflows following an increase in production output and revenue inflows. Revenue inflow increased from US$ 35 967 million in 1990 to US$ 87 128 million in 1994 against an increase in expenses from US$9 955 million to US$ 44 271 million respectively.

Table 3.2: Financial ratios for the period (1990-1994)

	1990	1991	1992	1993	1994
The index	26012	37999	34170	38124	42857
Total revenues	35967	44070	57043	68984	87128
Total expenses	9955	6071	22873	30860	44271

Source: Statistical Yearbook, the Central Bureau of Statistics, Sanaa (2006)

Monetary policy aims to achieve certain goals, such as controlling inflation or improve the situation of the balance of payments or achieve a certain level of employment or achieve a certain growth of the GNP rate (Sea, 1998) and a review of the monetary policy in Yemen can be contended that its objectives

have been targeted at controlling inflation and reducing unemployment and achieving economic growth and the stability of the exchange rate, but obtained data has shown that this has not been attainable with high rates of unemployment and inflation and the deterioration of the value of the currency, and the low rate of economic growth.

3.5.2 Fiscal policy initiative

Intended fiscal policy of government policy in determining the different sources of public revenue to the state and to determine the relative importance of each of these sources on the one hand, and on the other hand, determine how they are used by these revenues to finance government expenditure so as to achieve economic and social objectives of the States.

Reflects the concept of fiscal policy, the aspirations and objectives of the society in which they operate, the old community aimed at satisfying public needs and funding from the general budget resources, and then economists have focused their attention on the general principles of the budget and ensure the balance, but because the choice of the public needs to be followed requires officials to make decisions, and that the latter sometimes conflicting effects may occur, it raises the problem of how to reconcile these conflicting goals and achieve their activities in a manner desirable, in light of the combinations and balances and the concept of fiscal policy consists basis (CBY, 2014).

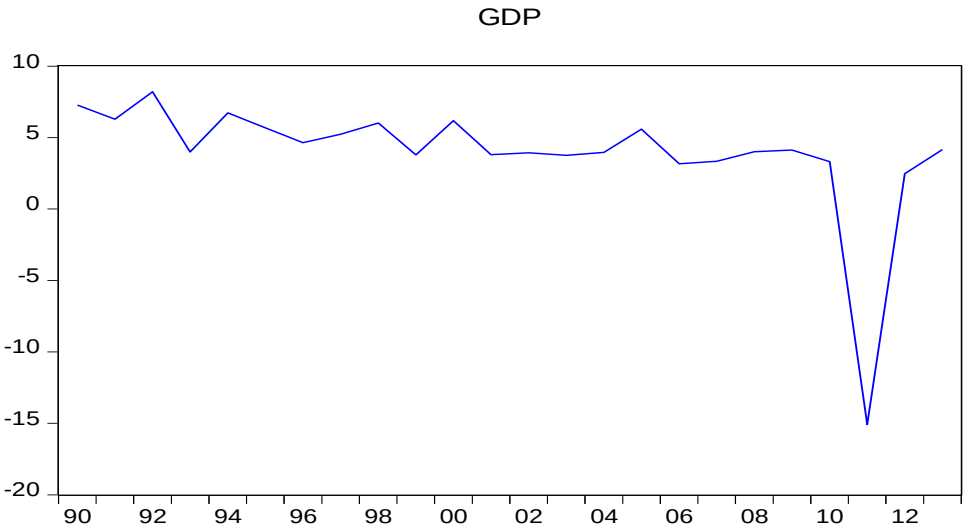
Fiscal policy aims to achieve policy objectives through the use of public revenues and expenditures by the government, politics financial significantly contribute to economic development, and greatly assist in achieving social justice by adopting tools and, finally, can fiscal policy to contribute to the stabilization economic.

3.6 Study hypothesis

3.6.1 Economic growth (GDP)

Economic growth is defined as a change in national income over a period of one year. Thus economic growth usually entails percentages changes in the level of national income. In a study conducted by Ndikumana and Verick (2008), it was observed that there is a positive linkage between economic growth and foreign direct investment. This study will, therefore, expect a positive relationship between economic growth and foreign direct investment.

Figure 4.1: Yemen's GDP growth from 1990-2015



Source: Produced by Researcher using time obtained series data)

Figure 4.1 shows that there has been a downward swing in economic growth since the period 1992 in which economic growth tumbled from 8.21% in 1992 to 4% in 1993. The lowest economic growth level observed during the period under study is -15.09% and was recorded in 2011.

3.6.2 Exports (EX)

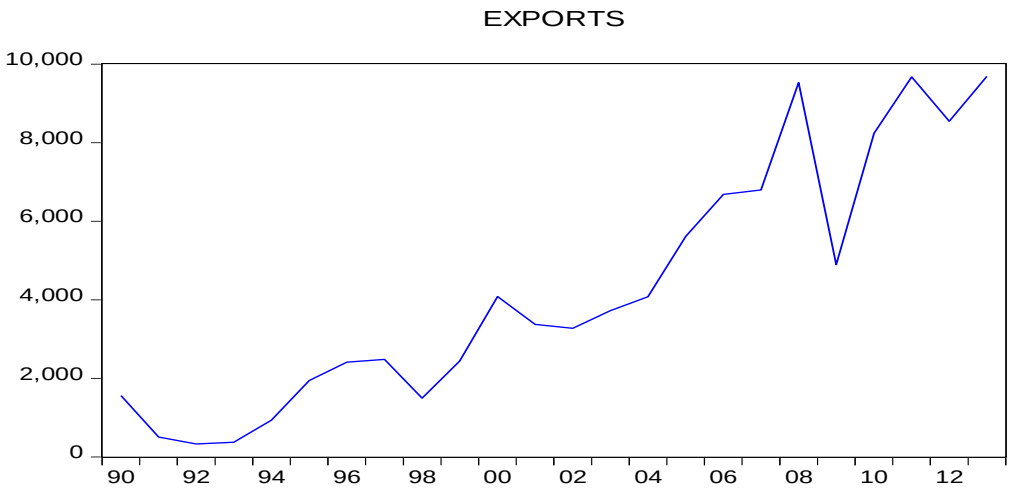
Exports in Yemen have slowly increased following efforts by the CBY to promote economic growth through export promotion. During this period, economic growth has also been on the increase. This study sought to establish the linkage between export growth and GDP. Isham et al. (2005) contend that there is a unilateral association between export growth and economic growth. Thus, a positive association between exports and growth is therefore foreseen.

Hypothesis one:

H_0: The Exports is positively associated with the economic growth.

Export trends that have been prevalent in Yemen during the period under study are shown in figure 4.2. Yemen's exports were recorded in millions of United States dollars and figure 4.2 shows that there has been a steady increase in exports since the end of the year 1993 were an export figure of US$374.252 million was recorded. The highest level of exports was recorded at US$9685.10 million in 2013 with the lowest figure of US$329.67 million being registered in 1992.

Figure 4.2: Yemen's Export growth from 1990-2013



Source: Produced by Researcher using time obtained series data

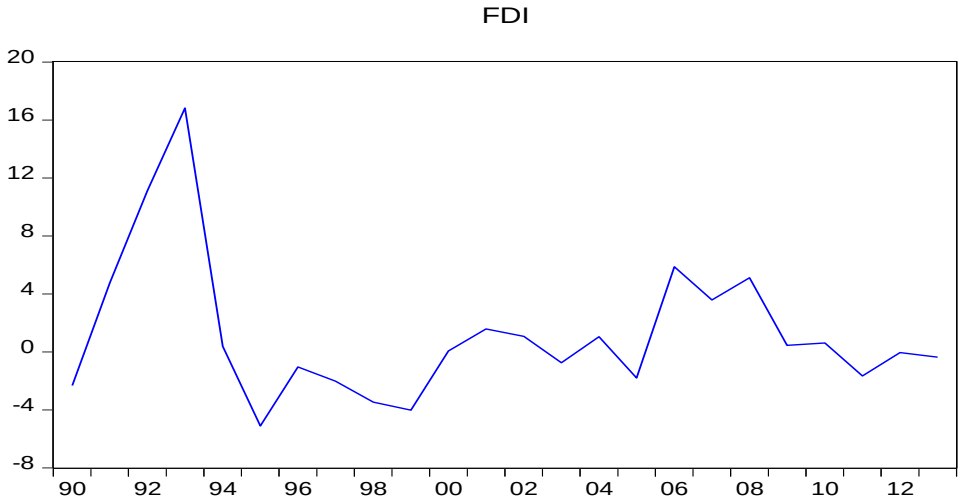
3.6.3 Foreign direct investment (FDI)

Foreign direct investment inflows in this study meant investments that are made either by foreign nationals or corporations into Yemen. This study is centered on the linkage between FDI and GDP in Yemen. Such a study has been driven by the need expressed by the Yemen government to boost domestic activities through stimulating foreign investments in strategic sectors such as oil, gas, mining and agriculture. Such efforts can be backed by results established by Ayanwale (2007) which shows that there is a positive linkage between FDI and GDP and such a relationship is expected in this study.

Hypothesis two:

H_0: The Foreign direct investment is positively associated with the economic growth**.**

Figure 4.3: Yemen's FDI growth from 1990-2013



Source: Produced by Researcher using time obtained series data

Yemen's FDI inflows have not been on a steady path with the highest rate of inflow being observed in the year 16.82% in 1993. Ever since FDI inflows have been revolving below the margin rate of 6%. The lowest FDI inflow rate was witnessed in 5.11% in 1995.

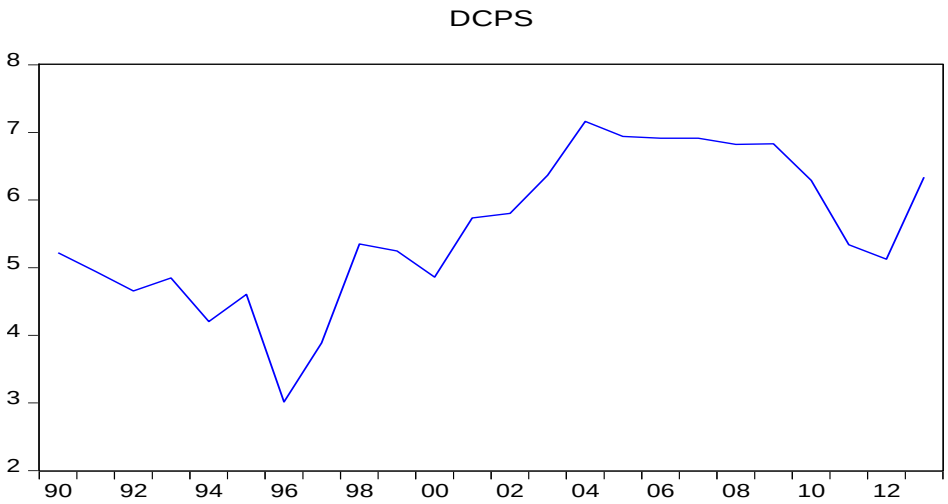
3.6.4 Domestic credit to private sector (DCPS)

This is a measure of financial development and it refers to the financial support that is offered to the private sector in the form of trade credits, debts, and loans (ARIÇ, 2014). ARIÇ (2014) established that poorly crafted financial development policies can actually hamper economic development. The ability for financial development lies in its ability to offer the required funds at relatively lower costs and when needed without encountering any hindrances. When this is not the case, efforts to promote financial development can actually undermine efforts to promote economic growth. A negative relationship is expected between DCPS and economic growth in Yemen which has not been able to craft effective financial development policies because of political instabilities. It can be noted in figure 4.4 that DCPS has been on a steady rise since late 2000 with declines being observed in the year 2009.

Hypothesis three:

H_0: The domestic credit to the private sector is negatively associated with the economic growth.

Figure 4.4: Yemen's DCPS growth from 1990-2013



Source: Produced by Researcher using time obtained series data

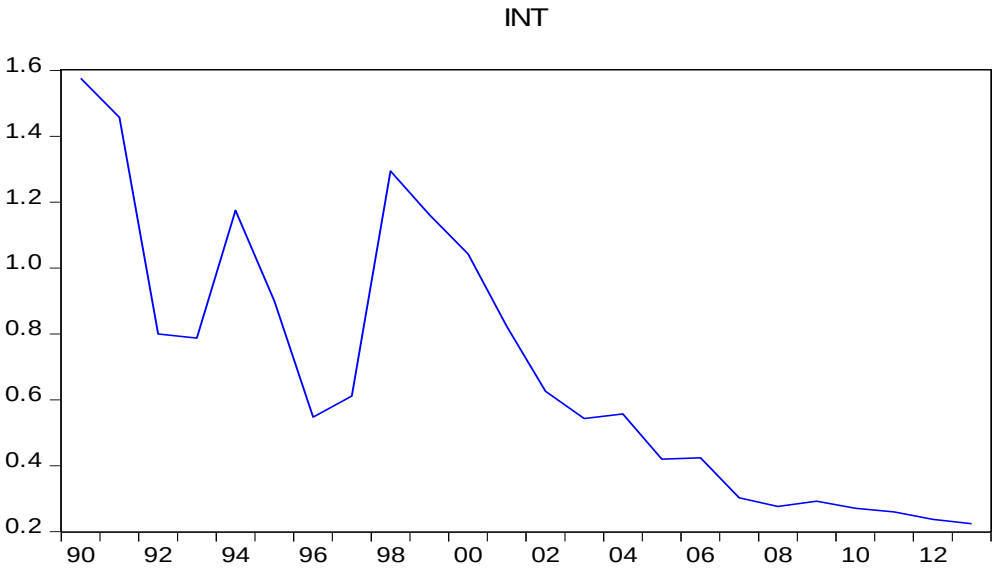
3.6.5 Debt interest (DI)

Debt interest payments have never been an opportunity to a repaying nation. This is because they put pressure on current and future consumption levels. Checherita & Rother (2012) outlined that in most cases economies often struggle to pay debt interests and this has been the case with Yemen which has had debt reschedules and received grants to ease debt repayment problems. Debt interest payments can only be swift when domestic production surges relatively high during and after the debt was received. Figure 4.5, however, shows that debt interest payments made by Yemen have been on a decline and this follows debt bailouts and forgiveness given to Yemen by the international community such as the IMF.

Hypothesis four:

H_0: The debt interest payments is negatively associated with the economic growth.

Figure 4.5: Yemen's Debt interest payments from 1990-2013



Source: Produced by Researcher using time obtained series data

3.7 Hypotheses summarization

Hypothesis one: The Exports is positively associated with the economic growth.

Hypothesis two: The Foreign direct investment is positively associated with the economic growth.

Hypothesis three: The domestic credit to the private sector is negatively associated with the economic growth.

Hypothesis four: The debt interest payments is negatively associated with the economic growth.

Table (4.1) shows the expected and actual results.

Table 4.1: Expected and actual results

Variable	Expected results	Actual results
EX	(+)	(+)
FDI	(+)	(+)
DCPS	(-)	(-)
DI	(-)	(-)

CHAPTER FOUR
RESEARCH METHODOLOGY

4.1 Introduction

The study will investigate the impact of foreign direct investment on economy of Yemen, along with other variables that would also affect the economy growth, the researcher will exert a statistical analysis on time series data of the period between (1990 – 2013), by the mean of E- views in order to obtain the econometric model that reflects the actual relationships between the proposed factors and the Yemen economy growth which represent the gross domestic products (GDP).

4.2 Research design

This study mainly aims to investigate the impact of FDI on economic growth in Yemen so the purpose of this research is descriptive and the time series data have been collected from the statistical database and analyzed to obtain the study model so it can be determined the quantitative approach as the followed in this study.

A VECM is a systematic method with the features that the variation of the contemporary state from its long-run association will be incorporated into its short-run dynamics. The chief element in error correction model estimation is that there must be cointegration between the variables. If there is no cointegration then VAR models are the next best alternative. The VECM is based on the following set of equations;

$$\Delta Y_t = \breve{\alpha}_1 + P_1 e_1 + \sum_{i=0}^{n} \beta \Delta Yt - 1 + \sum_{i=0}^{n} \delta \Delta X\, t - 1 + \sum_{i=0}^{n} \beta\gamma Z\, t - 1 \ldots\ldots\ldots\ldots (1)$$

$$\Delta X_t = \breve{\alpha}_2 + P_2 e_{t-1} + \sum_{i=0}^{n} \beta \Delta Yt - 1 + \sum_{i=0}^{n} \delta \Delta X\, t - 1 + \sum_{i=0}^{n} \beta\gamma Z\, t - 1 \ldots\ldots\ldots (2)$$

The above VECM can be used to determine the number of cointergrating vectors which are linearly independent of each other. Moreover, it can also be used to obtain

what is termed the speed of correction which measures the rate at which the variables adjust to a long run equilibrium. The speed of adjustment is known as the error correction term and it is shown by $EC_{t-1.}$ The proposed study model can be expressed as a functional form of the following nature;

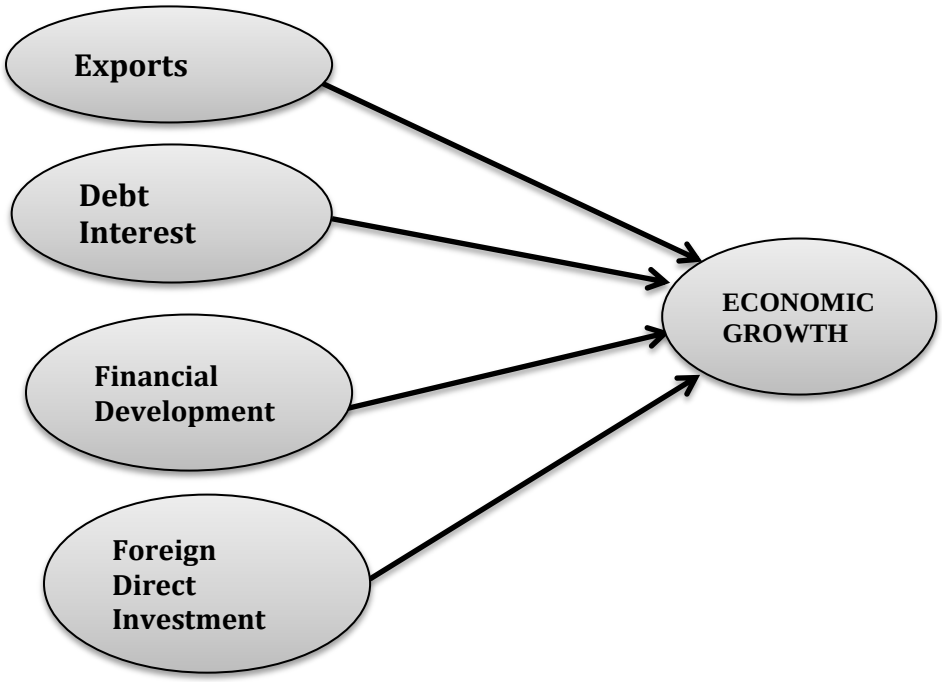
GDP = *F*(EX, FDI, ID, DCPS)..…..…… (1)

where GDP is a gross domestic product, EX exports, FDI foreign direct investment, , DI dept. interest ,DCPS financial development . The variables were converted to natural logs so as to deal with heteroscedasticity. The above function can change into a VECM expression as shown in the equation in 2.

$\ln GDPt = \beta_0 + \beta_1 \ln EX/GDP + \beta_2 \ln FDI/GDP + \beta_3 \ln GD/GDP + \beta_4 \ln INFL/GDP + \beta_5 \ln INT/GDP + \mu t$…… (2)

This can be expressed diagrammatically as follows;

Figure 4.1: Conceptual framework



4.3 Research data

Secondary time series data spanning from 1990 to 2014 will be used to estimate the VECM. The data was retrieved from the World Bank, Index Mundi, and Statista database.

The selection of model variables was based on those variables that can adequately explain the impact of FDI on economic growth and these variables have been addressed in details in chapter three and discussed the case of Yemen economy.

4.4 Required tests

4.4.1 Stationarity

Standard regression techniques, such as ordinary least squares (OLS), require that the variables be covariance stationary. A variable is covariance stationary if its mean and all its autocovariance are finite and do not change over time. Cointegration analysis provides a framework for estimation, inference, and interpretation when the variables are not covariance stationary. Instead of being covariance stationary, much economic time series appear to be "first-difference stationary". This means that the level of a time series is not stationary but its first difference is. First difference stationary processes are also known as integrated processes of order 1, or I(1) processes. Covariance-stationary processes are I(0). In general, a process whose dth difference is stationary is an integrated process of order d, or I(d). The canonical example of a first-difference stationary process is the random walk. This is a variable xt that can be written as

Xt at level xt…… (1)

X at 1st difference $xt - x\,t-1$…….. (2)

X at 2nd difference $xt - xt - 2$…….. (3)

This study adopted the Augmented Dickey-Fuller and the Phillips-Perron tests to determine if the data has a unit root. The presence of a unit root is synonymously referred to as non-stationary. Non-stationary data leads to spurious regression results.

4.4.2 Johansen Cointegration tests

The Johansen co-integration test is a combination of the Maximum Eigenvalue test and the Trace test. The most distinguishing feature between the Maximum Eigenvalue test is that it subjects the null hypothesis of r co-integrating equations against the alternative of r+1 Cointegrating equations. Computation of the Maximum Eigenvalue statistics under Johansen co-integration is derived from the following expression;

$$LRMAX\ (^{r}/_{n}+ 1) = - T^{*} \text{ Log } (1-\lambda) \quad \ldots\ldots (1)$$

In which the sample size is denoted by T and the Maximum Eigenvalue by λ. This expression implies that trace statistics subjects to testing the hypothesis of cointegrating equations (r) together with the alternative hypothesis of n cointegrating equations. Thus the number of variable sis denoted by n. The Trace statistic can be derived using the following expression.

$$LRTRACE\ (^{r}/_{n}+ 1) = - T^{*} \sum_{I=r+1}^{N} \text{Log } (1-\lambda) \quad \ldots\ldots (2)$$

It must be noted that computation of the Johansen Co-integration test may yield different results and if such a case manifests then Trace statistic results are more preferable than Maximum Eigenvalue statistics.

4.4.3 Granger causality

The Granger causality test is an analytical foundation test for determining either one-time series is useful in projecting another. Ordinarily, regressions exhibit "mere" associations, but Clive Granger argued that causality in economics could be measured by estimating the capacity to forecast the likely values of a time series using prior values of another time series. Since the subject of "true causality" is deeply profound, and because of the post hoc ergo propter hoc fallacy of concluding that one thing preceding another can be used as a proof of causation, econometricians warrant that the Granger analysis detects only "predictive causality".

A time series X is said to Granger-cause Y if it can be explained, customarily by a group of F-tests and t-tests on lagged values of X (and with lagged values of Y also included), that those X values offer statistically vital knowledge about expected values of Y.

$$\Delta X_t = \sum_{i=1}^{n} \alpha_i \Delta Y_{t-i} + \sum_{j=1}^{n} \beta_j \Delta X_{t-j} + u_{1t} \quad \ldots\ldots (1)$$

$$\Delta Y_t = \Sigma_{i=1}^{n} \lambda_t \Delta Y_{t-1} + \Sigma_{j=1}^{n} \delta_j \Delta X_{t-j} + u_{2t} \quad \ldots\ldots (2)$$

Granger causality requires that there be no autocorrelation between u1t and u2t.it is in this regard that this study will examine the bilateral causality that exists between economic growth and foreign direct investment. Causality from economic growth to foreign direct investment can be observed using the estimated lagged Y in equation (1). At this point, it is said to be statistically different from zero ($\sum \alpha_i \neq 0$). Estimated coefficients on foreign direct investment denoted by equation (2) are are said not to be statistically different from zero ($\sum \delta j = 0$).

Bilateral causality implies that regression coefficients of X and Y be statistically different from zero. That is, ($\sum \alpha_i \neq 0$) and ($\sum \delta j \neq 0$) and thus the null hypothesis that X does not granger cause Y and that Y does not granger cause X is accepted. Unilateral causality, therefore, exists when either one of the regression coefficient sets is not statistically different from zero.

4.4.4 Diagnostic tests

The VECM will be subjected to Serial autocorrelation and validity tests. Serial autocorrelation is a condition which occurs when there is a relationship between the error terms. A positive relationship between the error terms is known as positive serial autocorrelation whilst a negative relationship is known as negative serial autocorrelation. Autocorrelation is associated with high standard errors and t-statistics. The results of the study can be affected by serial autocorrelation and it therefore of paramount importance to detect the presence of heteroscedasticity. A Busch Godfrey Serial Autocorrelation will be used to test for serial autocorrelation. The validity of the VECM will be analyzed using the significance of the error correction term and the F-statistic.

CHAPTER FIVE

DATA ANALYSIS AND INTERPRETATIONS

5.1 Introduction

This study employs a VECM model to examine the effects of the foreign direct investment along with the Exports volume (EX), the Domestic credit to private sector (DCPS), and the Debt interest payment (DI) on the economic growth in Yemen. Secondary time series data spanning from 1990 to 2014.

After conducting the required test such as the stationarity tests that are conducted to ascertain if the data had a unit root, the Johansen cointegration tests that are carried out to determine if there is a long run cointegration among the model variables, and then the VECM model have been estimated after that the interpretations for the result have been made to explain the findings that obtained from the model.

5.2 Stationarity test

Stationarity tests are mainly conducted so as to determine if the model variables are stationary or not. The estimation of the VECM requires that the model variables be non-stationary at level but stationary at first difference. Stationarity tests were conducted using ADF and PP stationarity tests.

Table 5.1: ADF test at level

	ADF at level (intercept)			ADF at level (trend and intercept)		
VARIABLE	T-statistic	Critical value at 5%	Prop*	T-statistic	Critical value at 5%	Prop*
GDP	-1.438460	-2.998064	0.5458	-2.136130	-3.622033	0.5001
FDI	-2.825067	-3.012363	0.9753	-2.927929	-3.622033	0.1725
EXP	0.350423	-3.012363	0.9753	-4.964753	-3.622033	0.0031
DCPS	-1.438460	-2.998064	0.5458	-2.136130	-3.622033	0.5001
DI	-2.220064	-2.998064	0.2049	-4.542772	-3.632896	0.0081

All the variables are non-stationary at 5% when subjected to ADF at level with an intercept but however, the variables EXP and DI are stationary at 5% when trend and intercept are incorporated into the analysis. Irrespective of this observation, the variables are still prone to use for VECM estimation and ADF tests were conducted at first difference. The results exhibit strong evidence of the absence of a unit root at 5% as all the null hypothesis are rejected at 5%. The results are shown in table 5.2 below.

Table 5.2: ADF test at first difference

	ADF at first difference (intercept)			ADF at first difference (trend and intercept)		
VARIABLE	T-statistic	Critical value at 5%	Prop*	T-statistic	Critical value at 5%	Prop*
GDP	-3.760175	-3.012363	0.0106	-3.365432	-3.644963	0.0491
FDI	-4.733151	-3.004861	0.0012	-4.590702	-3.632896	0.0073
EXP	-5.818772	-3.012363	0.0001	-5.822348	-3.644963	0.0006
DCPS	-3.760175	-3.012363	0.0106	-3.654321	-3.644963	0.0491
DI	-6.643403	-3.012363	0.0000	-4.336196	-3.632896	0.0124

Table 5.3: PP test at level

	PP at level (intercept)			PP at level (trend and intercept)		
VARIABLE	T-statistic	Critical value at 5%	Prop*	T-statistic	Critical value at 5%	Prop*
GDP	-1.438460	-2.998064	0.5458	-2.136130	-3.622033	0.5001
FDI	-2.825067	-2.998064	0.0703	-2.927929	-3.622033	0.1725
EXP	-0.127272	-2.998064	0.9350	-5.038394	-3.622033	0.0027
DCPS	-1.388498	-2.998064	0.5699	-2.136130	-3.622033	0.5001
DI	-2.196145	-2.998064	0.2128	-3.144813	-3.622033	0.1200

All the variables are non-stationary at 5% when subjected to the PP test at level with an intercept but however, the variable EXP is stationary at 5% when trend and intercept are incorporated into the analysis. This PP was therefore conducted at first difference at both intercept and trend and intercept. The PP also reinforce

ADF test results which showed that all the variables are stationary at first difference. Having fulfilled the requirements of the VECM, Johansen cointegration test was conducted.

Table 5.4: PP test at first difference

	PP at first difference (intercept)			PP at first difference (trend and intercept)		
VARIABLE	T-statistic	Critical value at 5%	Prop*	T-statistic	Critical value at 5%	Prop*
GDP	-3.760175	-3.012363	0.0106	-3.365432	-3.644963	0.0491
FDI	-7.260089	-3.004861	0.0000	-4.590702	-3.632896	0.0073
EXP	-5.818772	-3.012363	0.0001	-5.822348	-3.644963	0.0006
DCPS	-3.760175	-3.012363	0.0019	-4.504246	-3.00481	0.0019
DI	-6.543287	-3.004861	0.0000	-7.110289	-3.632896	0.0000

5.3 Diagnostic tests

Breusch Godfrey and Arch tests were employed to determine if the model suffers from heteroscedasticity problems. The table provides results of the undertaken diagnostics tests.

Table 5.5. Diagnostic Tests

Diagnostic Test	χ^2_{BR}	χ^2_{AR}	Model stability
	0.9127 (0.2843)	34.13 (0.3167)	Stable

χ^2_{BR} and χ^2_{AR} denote chi-square values for Busch Godfrey and Arch tests which according to table 5. Show that the formulated VECM does not suffer from heteroscedasticity problems as the null hypothesis of the absence of heteroscedasticity is accepted at 5% under both conditions. Model stability tests were conducted using recursive and the model can be said to be stable under recursive cusum estimate test.

5.4 Lag section

Based on the estimated results, table 5.6 shows that all the criterions have shown a strong favor for the use of 1 Lag. Hence, both Johansen and VECM tests will be estimated using 1 lag.

Table 5.6: Lag selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-73.45635	NA	0.000632	6.822291	7.069138	6.884372
1	-21.58488*	76.67956*	6.49E-05*	4.485642*	5.966721*	4.858129*

* *Represents the optimal lag order chosen by the lag criterion under the unrestricted VAR Lag selection Criteria. LR: Represents sequential modified LR test statistics (each test at 5% level)*
FPE: Final prediction error
AIC: Akaike information criteria
SC: Schwartz information criteria
HQ: Hannan- Quinn criteria

5.5 Johansen cointegration test

Table 5.7: Johansen Cointegration test

Unrestricted Co-integration Rank Test (Trace test)			
Hypothesized No of CE(s)	Trace statistics	Sig level 0.05 Critical value	Prob**
None*	0.899272	69.81889	0.0000
At most 1*	0.648887	47.85613	0.0190
At most 2	0.525014	29.79707	0.0605
At most 3	0.413014	15.49471	0.1298
At most 4	0.042994	3.841466	0.3255
Trace test indicate 2 Co-integration at the 0.05 level *Denotes rejection of the hypothesis at the 0.05 ** Mackinnon-Haug-Michelis (1999) p-values			

Unrestricted Cointegration Rank Test (Max –Eigen value)			
Hypothesized No of CE(s)	Max-Eigen Value Statistics	Sig level 0.05 Critical Value	Prob**
None*	0.899272	33.87687	0.0002
At most 1	0.648887	27.58434	0.1724
At most 2	0.525014	21.13162	0.2035
At most 3	0.413014	14.26460	0.1216
At most 4	0.042994	3.841466	0.3255
Max-Eigen value indicates 1co-intergration at 0.05 level *denotes rejection of the hypothesis at the 0.05 ** Mackinnon-Haug-Michelis (1999) p-values			

Cointegration estimations exhibited by the Trace and Max-eigenvalue results indicate that there are 2 Cointegrating equations at 0.05 while Max-eigenvalue results showed that there is one cointegration equation as shown in table 5.7. Under such circumstances, Trace test results are usually given a higher preference. However, it is also very feasible to estimate the VECM using 1 cointegration equation. There the VECM will be estimated using 1 cointegration equation and 1 lag. The established long run normalized cointegrating equation is therefore expressed as follows;

LGDP = 1.504615 + 2.334056LFDI + 0.137206LEX - 6.363606LDCPS – 1.938586LDI

The normalized equations do show that there is a unilateral relationship between GDP, and FDI and exports and an inversely related to DCPS and DI. Such results will be interpreted in line with the VECM estimations.

5.6 VECM estimation

5.6.1 Short run VECM estimation

Short run VECM estimations indicate that FDI is inversely related to GDP at first lag with a coefficient of -0.426972. Such represents an inelastic decline in economic growth following an increase in FDI by 1 unit. This can be as a result that there are no meaningful contribution that are being made from FDI inflows. Alternatively, FDI policies must be contrasting economic growth initiatives. Similar deductions can be made about exports which are posing negative implications on economic growth of 0.513 following a 1 unit increase in exports. Possible reasons suggest that export revenues generated by the Yemen government is insignificant to initiate a sound increase in economic growth. This can be pointed to oil revenues which have significantly declined following an oil price crush witnessed since 2005. In addition, most products that are being exports from Yemen have little positive effect on economic growth. This can also be used to offer description about the effects of financial sector development denoted by the negative effect of DCPS of -1.22. This is because the political instability has made it risky to invest in Yemen and efforts to further develop it are not being followed by financial injections into the system. Thus, there is a lack of funds which are needed to steer economic growth and development. Debt interest paid by Yemen has a positive effect on economic growth in the sense that Yemen has been defaulting its debt interest payments and` even received bailouts from the international community to ease debt problems. Hence, this tends to stir up growth when such bailouts are used to finance domestic production.

Table 5.8: Short run VECM estimations

Independent Variables (Lagged Variables)	Coefficient	Standard Error	T-Statistics
Constant	0.039751	0.21744	0.18281
D (LGDP (-1))	-0.426972	0.23988	4.1919
D (LFDI (-1))	-0.105738	0.34961	-0.30244
D (LEX (-1))	-0.513358	0.051776	-0.99150
D (LDCPS (-1))	-1.216725	1.87351	-0.64944
D (LDI (-1))	0.090993	0.84470	0.10772
ECM_{t-1}	-0.058445	0.13505	-0.43278

The obtained error correction term is negative but not significant and this implies that there is no long-run association between GDP and FDI, EX, DCPS, and DI. Furthermore, it also implies that 5.84% of the disequilibrium between GDP and FDI, EX, DCPS, and DI are corrected in 1 year.

5.6.2 Long run

The obtained results showed that the relationship between FDI and GDP is elastically positive with a coefficient of 2.33. This suggests that a 1 unit increase in FDI will result in an increase in GDP by 2.33 units. Such efforts can be backed by results established by Ayanwale (2007) which shows that there is a positive linkage between FDI and GDP.

This can be as a result of the idea that there is an inherent technological inflow that is being accompanied by the increase in FDI inflows. On the other hand, exports are positively related to economic growth with a positive coefficient of 0.137 suggesting that efforts to improve exports by 1 unit will result in an increase in GDP by 0.137 units. This is supported by a study established by Isham et al. (2005) contend that there is a unilateral association between export

growth and economic growth. This suggests that export revenue is huge enough to finance domestic activities and is being diverted towards productive sectors of the economy.

DCPS is inversely related to growth as evidenced by short-run results as confirmed by a coefficient of 6.364. This is reinforced by established results by Ariç (2014) which have shown that ineffective financial development policies can serve as an obstacle to economic growth. Such is true to Yemen which has been incapable of crafting sound financial development policies.

Table 5.9 VECM estimation results (Long run results)

Independent Variables	Coefficient	Standard Error	T-Statistics
Constant	1.504615	0.135046	-0.432783
LFDI	2.334056	0.41333	5.64695
LEX	0.137206	0.41139	0.33352
LDCPS	- 6.363606	1.08504	-5.86484
DI	-1.938586	0.58697	-3.30270

Debt interest is however negatively related to GDP by 1.939 units as evidenced by the results posted by Checherita & Rother (2012) outlined that in most cases economies often struggle to pay debt interests and this has been the case with Yemen which has had debt reschedules and received grants to ease debt repayment problems. Such interest payments are made out of output and revenue that could have been used to provide further inputs into future productive activities. This tends to 'starve' future productive activities and hence GDP tends to decline following an increase in debt payments made by Yemen.

5.7 Exogeneity Block Granger causality test

Exogeneity block granger causality tests were conducted so as to determine the nature of causality between the variables. It can be accepted that FDI granger

causes economic growth as the obtained p-value recorded stood at 0.7623. Economic growth also granger causes foreign direct investment with a p-value of 0.1293 and thus the direction of causality can be said to be bidirectional. Granger causality tests also show that the nature of causality between the variables is also bidirectional except for the variables DI and FDI in which the direction of causality is unidirectional and runs from DI to FDI and DI and DCPS running from DCPS to DI with respective p-values of 0.000 and 0.0419. The established causality tests are shown in table 5.10.

Table 5.10: Exogeneity Block Granger causality test

	LGDP	LFDI	LEX	LDCPS	LDI
LGDP		0.091473 (0.7623)	0.983078 (0.3214)	0.421768 (0.5161)	0.011604 (0.9142)
LFDI	2.300923 (0.1293)		3.561349 (0.0591)**	0.286987 (0.5922)	33.2711 (0.0000)*
LEX	0.410070 (0.5219)	1.916846 (0.1662)		0.694740 (0.4046)	1.021389 (0.3122)
LDCPS	0.404094 (0.5250)	2.016513 (0.1556)	0.218175 (0.6404)		0.683831 (0.4083)
LDI	1.60100 (0.2058)	0.168074 (0.6818)	1.464743 (0.2262)	4.139763 (0,0419)**	

CHAPTER SIX

SUMMARY OF THE OBTAINED FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary of the obtained findings

The study results revealed that the model variables are cointegrated but there is no long run association between GDP and FDI, EX, DCPS, and DI. In the short run, the relationship between GDP and FDI, EX, and DCPS has been established to be negative while that between GDP and DI was observed to be positive. Such was attributed to ideas that foreign direct investment, export promotion, and financial development policies are ineffectively contributing to economic growth and development. The capacity that is needed for these activities to stir up economic growth is what is missing.

The obtained results showed that in the long run, the relationship between FDI and GDP is elastically positive meaning that FDI inflows are greatly benefiting Yemen as technological inflows, employment, and output levels continue to rise. Debt interest payments made by Yemen are severely hampering economic growth and development though efforts have been made to bail out Yemen and even had some of its debts canceled and rescheduled. Further long results also showed that the failure by financial development to stir up an increase in economic growth lied in the ability of Yemen's financial sector to provide the needed funds at a relatively low cost and without encountering any obstacles.

Granger causality tests have also shown that there is a bidirectional causality between most variables except between the variables DI and FDI in which the direction of causality is unidirectional and runs from DI to FDI and DI and DCPS running from DCPS to DI.

6.2 Conclusions

Conclusions can, therefore, be made that there is no long-run association between GDP and FDI, EX, DCPS, and DI. In addition, conclusions can be made that poorly crafted export promotion and financial development strategies and policies have negative implications on economic growth. Debt repayment facilities that have been offered to Yemen by the international community have positive implications on Yemen's economic growth. Of paramount importance is the idea that foreign direct investment inflows into Yemen are stirring up economic growth and development. However, what is posing obstacles to economic growth and development and the attainment of other macroeconomic objectives is the current situation of political instability.

6.3 Recommendations

There must be a productive use of foreign debts borrowed by the Yemen government to finance domestic activities. This ensures that such funds are diverted towards productive activities that can result in the production of more output and generation of more revenue inflows. The ability to generate more revenues can help ease future debt interest payment problems.

The Yemen government can also seek to ensure that it reduces debt to bail out facilities in the form of new debts. This is because they place a huge demand on the future output produced or on scarce oil revenue inflows which are dominantly being used to finance Yemen's budget.

Recommendations can also be made that export promotion strategies must target those industries and sectors that can hugely contribute to economic growth. Such sectors include oil, agriculture, and mining which have a high potential to boost economic growth within a short period of time. The same can be said to FDI policies, efforts must be made to ensure that FDI inflows are towards these strategic industries and that FDI inflows are associated with an inflow of technology into Yemen. Such technology is essential for boosting domestic productive capacity.

Lastly, the ability and effort to use financial development as a mechanism that

stirs up economic growth lies in the efficiency of the financial system. Therefore measures especially regulations must be enacted by Yemen's monetary authorities to promote financial development. This must be targeted at ensuring that there is an efficient and swift access to funds by both individuals and corporations willing to engage in economic or business development projects.

6.4 Suggestions for future studies

Suggestions can, however, be made that there is a new to study factors affecting foreign direct investment especially in the oil industry which has been a pillar of Yemen's economic success. Thus, there is greater need to ascertain measures that can be undertaken to boost FDI inflows into the petroleum industry.

REFERENCES

Adewumi, S. (2006). The Impact of FDI on Growth in Developing Countries: An African Experience. Jonkoping International Business School, Sweden.

Ayashagba, G.I, & Abachi, P.I. (2002). The Impact of Foreign Direct Investment (FDI) On Economic Growth of the Less Developed.

Bailliu & Jeannine, (2000). Private Capital Flows, Financial Development, and Economic Growth in Developing Countries," Bank of Canada Working Paper No. 2000-15.

Barrell, R., & Pain, N. (1997). Foreign direct investment, technological change, and economic growth within Europe. The Economic Journal, 107(445), 1770-1786.

Borensztein, E., De Gregorio, J., & Lee, J. W. (1998). How does foreign direct investment affect economic growth? Journal of international Economics, 45(1), 115-135.

Checherita-Westphal, C., & Rother, P. (2012). The impact of high government debt on economic growth and its channels: An empirical investigation for the euro area. European Economic Review, 56(7), 1392-1405.

Chen, C. (2013). FDI and economic growth. Regional Development and Economic Growth in China, Series on Economic Development and Growth, (7), 117-40.

Chowdhury, A. & Mavrotas, G. (2005). FDI and Growth: A Causal Relationship., UNUWIDER Research Paper No. 2005/25, UNU-WIDER.

Cuadros, V. Orts, & Alguaci,l M.T. (2001). Openness and Growth: Re-Examining Foreign Direct Investment, Trade and Output Linkages in Latin America: Centre for Research in Economic Development and International Trade, Research Paper 01/04. Countries (LDCs): A Case of Nigeria (1980-1997). Journal of Economic and Social Research, 1: 108-125.

Dunning, J., & Narula, R. (2003). Foreign direct investment and governments: catalysts for economic restructuring. Routledge.

Eravwoke K.E. & Eshanake S. J.,(2012). Foreign Direct Investment Granger and Nigerian Growth. Journal of Innovative Research in Management and Humanities 3(2), September, 2012. ISSN : 2141 8217.http://www.grpjournal.org/Journal/Category/JOIRMAH.aspx Printed in Nigeria. All rights reserved.

Eravwoke K.E. & Imide I. O., (2013). Corruption, Foreign Direct Investment and its Impact on Exchange Rate of the Nigerian Economy. Mediterranean Journal of Social Sciences, 4 (3) September 2013.

Hagemann, H. (2009). Solow's 1956 contribution in the context of the Harrod-Domar model. History of Political Economy, 41(Suppl 1), 67-87.

Kurbanov, A. (2014). The Impact Of Foreign Direct Investment On Economic Growth.

Lumbila, N. K. (2005). What Makes FDI work? A Panel Analysis of Growth effect of FDI in Africa. African regional working paper series No: 8.

Lyroudi, K., Papanastasiou, J., & Vamvakidis, A. (2004). Foreign direct investment and economic growth in transition economies. South-Eastern Europe Journal of Economics, 2(1), 97-110.

Makki, S. & Somwaru, A. (2004). Impact of Foreign Direct Investment and Trade on Economic Growth American Journal of Agricultural Economics, Vol. 86, pp. 795- 801.

Odhiambo, N. M. (2008). Financial depth, savings and economic growth in Kenya: A dynamic causal linkage. Economic Modelling, 25(4), 704-713.

Olokoyo, F.O. (2012). Foreign direct investment and economic growth: a case of Nigeria. Bvimsr's Journal of Management Research, 4(1), April 2012.

Omankhanlen, A. E. (2011). Foreign Direct Investment and Its Effect On The Nigerian Economy.

Saibu, O. & Keke, N.. A. (2014). Real Output Effects of Foreign Direct Investment in Nigeria. Journal of Behavioural Economics, Finance, Entrepreneurship, Accounting and Transport, 2014 2 (1), pp 1-7. DOI: 10.12691/jbe-2-1-1.

Sato, R. (1964). The Harrod-Domar Model vs the Neo-Classical Growth Model. The Economic Journal, 74(294), 380-387.

Waser, C. (2012). The impact of foreign direct investment on economic growth (Doctoral dissertation, uniwien).

Reinhart, C. M., & Rogoff, K. S. (2010). Growth in a time of debt (digest summary). American Economic Review, 100(2), 573-578. Ayanwale, A. B. (2007). FDI and economic Growth: Evidence from Nigeria.

Isham, J., Woolcock, M., Pritchett, L., & Busby, G. (2005). The varieties of resource experience: natural resource export structures and the political economy of economic growth. The World Bank Economic Review, 19(2), 141-174.

ARIÇ, K. H. (2014). The Effects of Financial Development on Economic Growth in the European Union: A Panel Data Analysis. International Journal of Economic Practices and Theories, 4(4), 466-471.

http://www.mei.edu/content/crisis-yemeni-economy-troubled-transition-post-hydrocarbon-growth.

https://www.usaid.gov/yemen/economic-growth-and-trade.

http://unctad.org/en/PublicationsLibrary/webdiaeia2016d1_en.pdf.

LIST OF APPENDICES

Appendix I: Model data

Year	GDP	FDI	EXPORTS	DEBT INT	DCPS
1990	7.28	-2.3179	1561.320	1.5753	5.2198
1991	6.29	4.7636	506.496	1.4566	4.9437
1992	8.21	11.1083	329.670	0.7994	4.6548
1993	4	16.8211	374.252	0.7875	4.8468
1994	6.72	0.3791	933.909	1.1749	4.2028
1995	5.67	-5.1118	1945.100	0.8987	4.6048
1996	4.64	-1.0388	2412.940	0.5475	3.0145
1997	5.23	-2.0251	2479.880	0.6113	3.8883
1998	6.01	-3.4687	1497.530	1.2939	5.3494
1999	3.78	-4.0256	2440.450	1.1622	5.2465
2000	6.18	0.0664	4078.880	1.0424	4.8606
2001	3.8	1.5744	3373.310	0.8225	5.73478
2002	3.94	1.0689	3274.700	0.6262	5.8013
2003	3.75	-0.7566	3723.610	0.5430	6.3664
2004	3.97	1.0349	4078.460	0.5566	7.1625
2005	5.59	-1.8029	5611.080	0.4200	6.9393
2006	3.17	5.8745	6683.470	0.4237	6.9132
2007	3.34	3.5785	6797.170	0.3027	6.9143
2008	4.01	5.1144	9529.910	0.2759	6.8212
2009	4.13	0.4540	4894.130	0.2919	6.8306
2010	3.32	0.6104	8240,000	0.2707	6.2893
2011	-15.09	-1.6662	9671.610	0.2597	5.3374
2012	2.47	-0.0444	8545.690	0.2370	5.1260
2013	4.16	-0.3715	9685.100	0.2241	6.3360

Appendix II: Lag selection

VAR Lag Order Selection Criteria
Endogenous variables: LSGDP LFDI LEX LDCPS LINT
Exogenous variables: C
Date: 12/20/16 Time: 14:51
Sample: 1990 2013
Included observations: 23

Lag	LogL	LR	FPE	AIC	SC
0	-73.45635	NA	0.000632	6.822291	7.069138
1	-21.58488	76.67956*	6.49e-05*	4.485642*	5.966721*

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

Appendix III: Johansen cointegration test

Date: 12/20/16 Time: 15:06
Sample (adjusted): 1992 2013
Included observations: 22 after adjustments
Trend assumption: Linear deterministic trend
Series: LSGDP LFDI LEX LDCPS LINT
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.899272	102.5894	69.81889	0.0000
At most 1 *	0.648887	52.09199	47.85613	0.0190
At most 2	0.525014	29.06574	29.79707	0.0605
At most 3	0.413014	12.68740	15.49471	0.1268
At most 4	0.042994	0.966796	3.841466	0.3255

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.899272	50.49739	33.87687	0.0002
At most 1	0.648887	23.02626	27.58434	0.1724
At most 2	0.525014	16.37833	21.13162	0.2035
At most 3	0.413014	11.72061	14.26460	0.1216
At most 4	0.042994	0.966796	3.841466	0.3255

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegrating Coefficients (normalized by b'*S11*b=I):

LSGDP	LFDI	LEX	LDCPS	LINT
0.674050	1.573271	0.092484	-4.289390	-1.306704
0.772471	-2.737138	-2.849422	4.393149	-4.317368
-0.362750	-0.483994	0.434470	-4.523214	-0.958281
-2.715427	-0.455629	-1.531185	3.543019	-0.353820
-0.156639	-0.035359	0.169433	2.871582	-0.696343

Unrestricted Adjustment Coefficients (alpha):

D(LSGDP)	-0.086708	-0.283106	0.251313	0.379584	-0.019206
D(LFDI)	-0.518705	0.125563	0.135804	-0.000440	0.016776
D(LEX)	0.013045	0.102580	-0.143891	0.073410	-0.041307
D(LDCPS)	0.033274	-0.052489	0.055450	-0.015259	-0.013391
D(LINT)	0.168097	0.071885	0.108341	-0.003523	-0.018885

1 Cointegrating Equation(s): Log likelihood -4.418088

Normalized cointegrating coefficients (standard error in parentheses)

LSGDP	LFDI	LEX	LDCPS	LINT
1.000000	2.334056	0.137206	-6.363606	-1.938586
	(0.41333)	(0.41139)	(1.08504)	(0.58697)

Appendix IV: VECM estimation

Vector Error Correction Estimates
Date: 12/20/16 Time: 16:16
Sample (adjusted): 1992 2013
Included observations: 22 after adjustments
Standard errors in ( ) & t-statistics in [ ]

Cointegrating Eq:	CointEq1
LSGDP(-1)	1.000000
LFDI(-1)	2.334056 (0.41333) [5.64695]
LEX(-1)	0.137206 (0.41139) [0.33352]
LDCPS(-1)	-6.363606 (1.08504) [-5.86484]
LINT(-1)	-1.938586 (0.58697) [-3.30270]
C	1.504615

Error Correction:	D(LSGDP)	D(LFDI)	D(LEX)	D(LDCPS)	D(LINT)
CointEq1	-0.058445 (0.13505) [-0.43278]	-0.349633 (0.05395) [-6.48014]	0.008793 (0.05730) [0.15344]	0.022428 (0.02129) [1.05360]	0.113306 (0.03559) [3.18389]
D(LSGDP(-1))	-0.426972 (0.23988) [-1.77995]	0.145375 (0.09584) [1.51688]	0.065180 (0.10179) [0.64037]	0.024037 (0.03781) [0.63568]	-0.079984 (0.06321) [-1.26531]
D(LFDI(-1))	-0.105738 (0.34961) [-0.30244]	0.051944 (0.13968) [0.37188]	-0.205388 (0.14835) [-1.38450]	0.078258 (0.05511) [1.42004]	-0.037770 (0.09213) [-0.40997]
D(LEX(-1))	-0.513358 (0.51776) [-0.99150]	-0.390374 (0.20686) [-1.88715]	-0.010373 (0.21970) [-0.04721]	0.038121 (0.08161) [0.46709]	0.165128 (0.13644) [1.21027]
D(LDCPS(-1))	-1.216725 (1.87351) [-0.64944]	-0.400991 (0.74852) [-0.53571]	-0.662615 (0.79497) [-0.83351]	0.040835 (0.29532) [0.13827]	1.004517 (0.49371) [2.03464]
D(LINT(-1))	0.090993 (0.84470) [0.10772]	-1.946643 (0.33748) [-5.76811]	0.362239 (0.35843) [1.01064]	0.110107 (0.13315) [0.82693]	0.012403 (0.22260) [0.05572]
C	0.039751 (0.21744) [0.18281]	-0.166827 (0.08688) [-1.92031]	0.170744 (0.09227) [1.85055]	0.016388 (0.03428) [0.47813]	-0.095961 (0.05730) [-1.67468]
R-squared	0.285267	0.831508	0.221594	0.360769	0.442717
Adj. R-squared	-0.000627	0.764111	-0.089768	0.105077	0.219803
Sum sq. resids	13.24615	2.114390	2.384947	0.329132	0.919850
S.E. equation	0.939722	0.375445	0.398744	0.148129	0.247636
F-statistic	0.997808	12.33750	0.711693	1.410952	1.986049
Log likelihood	-25.63596	-5.451610	-6.776126	15.00910	3.703806
Akaike AIC	2.966905	1.131965	1.252375	-0.728100	0.299654
Schwarz SC	3.314055	1.479114	1.599525	-0.380950	0.646804
Mean dependent	-0.004565	-0.029469	0.134129	0.011279	-0.085082
S.D. dependent	0.939427	0.773024	0.381968	0.156584	0.280357

Appendix V: Breusch Godfrey Heteroscedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.412972	Prob. F(10,11)	0.9127
Obs*R-squared	6.004988	Prob. Chi-Square(10)	0.8148
Scaled explained SS	12.01080	Prob. Chi-Square(10)	0.2843

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 12/20/16 Time: 18:07
Sample: 1992 2013
Included observations: 22

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.447663	10.40088	0.619915	0.5479
LSGDP(-1)	-0.064445	0.850394	-0.075783	0.9410
LFDI(-1)	-0.194064	0.943648	-0.205653	0.8408
LEX(-1)	0.003304	1.369607	0.002412	0.9981
LDCPS(-1)	0.695305	5.568267	0.124869	0.9029
LINT(-1)	-0.852876	2.372120	-0.359542	0.7260
LSGDP(-2)	-0.027125	0.832951	-0.032565	0.9746
LFDI(-2)	-0.788034	1.210532	-0.650981	0.5284
LEX(-2)	-1.048168	1.498713	-0.699379	0.4988
LDCPS(-2)	1.147180	4.708120	0.243660	0.8120
LINT(-2)	-1.803790	2.088501	-0.863677	0.4062

R-squared	0.272954	Mean dependent var	0.602098
Adjusted R-squared	-0.387997	S.D. dependent var	1.807777
S.E. of regression	2.129801	Akaike info criterion	4.656787
Sum squared resid	49.89660	Schwarz criterion	5.202309
Log likelihood	-40.22466	Hannan-Quinn criter.	4.785296
F-statistic	0.412972	Durbin-Watson stat	1.908617
Prob(F-statistic)	0.912661		

Appendix VI: Heteroscedasticity Test: Arch

Heteroskedasticity Test: ARCH

F-statistic	0.952623	Prob. F(1,19)	0.3413
Obs*R-squared	1.002629	Prob. Chi-Square(1)	0.3167

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 12/20/16 Time: 17:54
Sample (adjusted): 1993 2013
Included observations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.500027	0.422349	1.183919	0.2510
RESID^2(-1)	0.221323	0.226760	0.976024	0.3413

R-squared	0.047744	Mean dependent var	0.619209
Adjusted R-squared	-0.002374	S.D. dependent var	1.850594
S.E. of regression	1.852790	Akaike info criterion	4.161654
Sum squared resid	65.22375	Schwarz criterion	4.261133
Log likelihood	-41.69737	Hannan-Quinn criter.	4.183244
F-statistic	0.952623	Durbin-Watson stat	2.041775
Prob(F-statistic)	0.341317		

Appendix VII: Model stability test