THE RELATIONSHIP BETWEEN NATURAL RESOURCE DEPENDENCE, FINANCIAL SECTOR DEVELOPMENT AND SECTORAL GROWTH: THE CASE OF REPUBLIC OF YEMEN

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LIST OF ABBREVIATIONS

ADF	Augmented Dickey Fuller
AFPPF	Agriculture and Fisheries Production Promotion Fund
AIC	Akaike Information Criterion
ARDL	Autoregressive Distributed Lag
CSO	Central Statistical Organization
CUSUM	Cumulative Sum
CUSUMSQ	Cumulative Sum of Square
ECT	Error Correction Term
EIA	Energy Information Administration
FAO	Food and Agriculture Organization
FD	Financial Development
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GIA	General Investment Authority
IFS	International Financial Statistics
IMF	International Monetary Fund
LNG	Liquefied Natural Gas
MENA	Middle East and North Africa
NR	Natural Resource
NRC	Natural Resource Curse
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary Least Square
OPEC	Organization of the Petroleum Exporting Countries
PDRY	People Democratic Republic of Yemen
PP	Phillips-Perron test
PPP	Purchasing Power Parity
PRSP	Poverty Reduction Strategy Paper

PSAs	Production Sharing Agreements
QBFS	Quarterly Bulletin of Financial Statistics
RD	Resource Dependence
SBC	Schwarz's Bayesian criterion
SNA	System of National Account
TYDL	Toda-Yamamoto-Dolado-Lutkephol Granger Causality Test
UNDP	United Nation Development Programme
WDI	World Development Indicators
YAR	Yemen Arab Republic
YBRD	Yemen Bank for Reconstruction and Development
YR	Yemeni Rial

HUBUNGAN ANTARA KEBERGANTUNGAN KEPADA SUMBER ASLI, PEMBANGUNAN SEKTOR KEWANGAN DAN PERTUMBUHAN SEKTOR: KES REPUBLIK YAMAN

ABSTRAK

Kajian ini mengkaji secara empirikal kesan kebergantugan kepada sumber asli ke atas pembangunan sektor kewangan di Yaman, dan juga kesannya terhadap hubungan antara pembangunan kewangan dan pertumbuhan sektor. Dengan menggunakan data siri masa untuk tempoh tahun 1980-2012 dan kaedah Autoregressive Distributed Lag (ARDL), keputusan kajian ini menunjukkan bahawa kebergantungan kepada sumber asli menghalang tahap pembangunan sektor kewangan di Yaman. Di samping itu, kebergantungan kepada sumber asli juga melemahkan kecekapan sektor kewangan. Keupayaan sektor kewangan untuk menyalurkan tabungan kepada pelaburan menjadi lemah, di mana sumbangan sektor swasta dalam process pembangunan menjadi terhad. Kebergantugan kepada sumber asli di Yaman juga meninggalkan satu kesan yang nyata iaitu sektor kewangan gagal menunjukkan peranannya dalam pertumbuhan sektor benar (i.e., sektor pertanian dan sektor pembuatan). Akhir sekali, kebergantungan kepada sumber asli juga didapati mempengaruhi secara langsung ke atas pertumbuhan sektor pertanian dan pembuatan di mana ia menunjukkan bahawa sumpahan sumber asli berfungsi melalui mekanisma “Dutch disease”. Oleh yang demikian, adalah ditegaskan bahawa Yaman ekonomi dipengaruhi dua kali ganda oleh kebergantugan kepada sumber asli, yang mana ia bukan sahaja mempengaruhi pembangunan ekonomi secara tidak langsung

melalui pembangunan kewangan, malah ia juga mempengaruhi sector ekonomi domestik secara langsung. Oleh itu, negara ini perlu mengimbangkan ekonomi dari sektor sumber asli untuk mengurangkan tahap kebergantungan kepeda sumber asli supaya mempercepatkan kadar dan kecekapan sektor kewangan. Kerajaan perlu menggalakkan kredit secara proaktif supaya membolehkan sektor kewangan memainkan peranan yang lebih berkesan dalam penggemblengan tabungan domestik, dan penyaluran tabungan kepada pelaburan yang lebih produktif di seluruh sektor ekonomi.

THE RELATIONSHIP BETWEEN NATURAL RESOURCE DEPENDENCE, FINANCIAL SECTOR DEVELOPMENT AND SECTORAL GROWTH: THE CASE OF REPUBLIC OF YEMEN

ABSTRACT

This study aims to empirically examine the impact of natural resource dependence on the financial development in Yemen, as well as on the relationship between financial development and sectoral growth. Using time series data over the period 1980-2012, along with the Autoregressive Distributed Lag (ARDL) approach; the study finds that natural resource dependence hampers the level of financial sector development in Yemen. Additionally, the study reveals that the natural resource dependence weakens the relationship between financial development and growth. This effect is transmitted through the quantitative channel rather than the qualitative channel. Moreover, natural resource dependence has a significant negative impact on the growth of the agriculture and manufacturing sectors. These findings are a clear manifestation that the natural resource curse in Yemen works through the Dutch disease mechanism. Therefore, one can assert that the resource curse hypothesis is valid in the context of Yemen because this curse can not only be transmitted directly to the real domestic economic sectors, but can also have an expansionary indirect impact through financial development. Hence, the country needs to rebalance its economy away from the natural resource sector to reduce the level of natural resource dependence. Accelerating the pace and efficiency of the financial sector will

be fruitful in this regard. The government should proactively encourage lending to enable the financial sector to play a more efficient intermediary role in mobilizing domestic savings, and channelling them to productive investments across economic sectors. Finally, any future boom of natural resource revenues in Yemen needs to be harnessed to finance efficient public investment and build a financial system to adequately fund private investment. This will help accumulate permanent productive wealth to compensate for any decline in natural resource production.

CHAPTER ONE

INTRODUCTION

1.1 Background

> "*Financial Market… can be thought of as the 'brain' of the entire economic system, the central locus of decision making: if they fail, not only will the sector's profit be lower than would otherwise have been, but the performance of the entire economic system may be impaired.*"
> Joseph Stiglitz (1994, P.23).

Achieving high and sustained rates of economic growth has long been the principal aim of economic development. It became particularly a clearly urgent issue for many developing countries that have attempted to raise their standard of living and lift their populations out of conditions of poverty. Hence, economists in prior studies paid much attention toward discovering the major determinants of economic growth, considering the fact that the promotion of economic growth requires efficient saving mobilization channels and a sufficient level of capital accumulation. The literature on economic development has come up with numerous plausible factors that influence growth, including the degree of macroeconomic stability, international trade and financial sector development, among others.

Over the past three decades, the role of financial sector development in economic growth has increasingly been suggested as appropriate in this regard, since the financial sector is able to potentially influence economic development through accumulating capital and financing productive investment. Moreover, the financial sector has been considered a crucial building block for a healthy economy, and the

failure of one of its components can spill over to the entire sector, causing great damage to the real economy. The financial crises in some South East Asian countries in 1997, the Russian Federation in 1998, Turkey in 2001, Argentina in 1999 and the recent global financial crisis in 2008, are all marked with the failure of the financial sector.

Given the importance of financial sector, and the large socioeconomic costs of its weak performance, it is not surprising that determining financial sector development inhibitors to economic growth is often at the top of policy agenda. Thus, an interesting dimension also arises in the study of the finance-growth nexus, examining possible sources of weakness in this relationship across countries. Pradhann (2011), and Rousseau and Yalmazkuday (2009) identified the role of inflation in the finance-growth relationship. On the other hand, Law *et al*. (2013) stressed on the role of institutional development. However, there is an increasing interest in another source of weakness, from the degree of dependence to natural resource revenues. The latter factor recently came up in the literature and is considered a crucial cause of financial development fragility, and a weak finance-growth nexus, in many developing countries. The harmful effects of high resource dependence on this relationship may arise from the impairment of the financial sector's ability to allocate funds and/or monitor projects effectively (Nili and Rastad, 2007; Beck, 2011 and Barajas *et al*., 2013). This hypothesis lies under the "natural resource curse", which refers to a phenomenon of encumbering growth caused by a series of negative effects from the excessive dependence on natural resources in a particular country (Shao and Yang, 2014). This hypothesis emerges in the literature because economists are still ambivalent with respect to the role natural resources play in an economy.

The traditional view dates back to Adam Smith and David Ricardo, who asserted that natural resources are a positive determinant of economic growth and other factors that support this growth, while newer alternative views question this role under certain conditions. Indeed, traditional views have empirical support from countries such as the US, Germany, and Canada. However, other resource-based economies in Africa and the Middle East experience slow economic growth compared to resource-poor countries such as Japan, South Korea, Taiwan, and Singapore, which have rapidly growing economies. Herein lies ambiguity in terms of the role of natural resources in certain economies: are they blessing, or are they curse?

This question was the subject of intensive debate over the years, during which a large body of theoretical and empirical literature has been presented. However, delving into the potential effects of natural resources on various economic sectors across countries, in general, and on the financial sector in particular, has not been deeply addressed. In fact, this is the essence of this study; whether or not there exists an effect of natural resource dependence on financial sector development, and to determine how the relationship between financial development and economic growth is affected by the degree of dependence on natural resources. This research focuses on the concept of dependence in particular because economists argue that the negative consequences of natural resources do not come from the mere possession of natural resources, which has favourable effects, but rather come from the high dependence on these resources in certain countries, which tend to make it their primary source of income, and ignore other income sources (Brunnschweiler and Bulte, 2008a). The analysis also focuses on the context of a certain resource based economy, Yemen. The country is blessed with natural resources, namely, crude oil and natural gas. It is among the 11 oil producing and exporting countries in the Arab

region, the 32nd largest oil exporter, and the 16th largest seller of liquefied natural gas (World Bank, 2002). It also falls into the group of Arab oil economies that are endowed with limited amounts of oil reserves. Yemen's economy is highly dependent on this declining resource, which generates more than 70% of Government revenues and 80-90% of its exports, and accounts for roughly 25% of the country's GDP. Consequently, the Yemeni fiscal position and economic output are highly vulnerable to shift with international commodity prices and domestic oil outputs. In spite of economic reform programs initiated by the Yemeni Government in 1995 and 2006, Yemen's economic situation remains to be difficult and is associated with long-term challenges, including declining water resources, high unemployment, and a high population growth rate.

In order to pave the way for the research problem, questions and objectives in the upcoming sections, it is of benefit to illustrate this study's two primary concepts: financial sector development and natural resource dependence. Therefore, the following three subsections (1) adopt a definition of financial development, followed by a brief discussion on its importance in fostering economic growth; (2) present a discussion on natural resources dependence and the natural resource curse phenomenon; and (3) introduce a brief discussion on how the linkage between natural resource dependence and financial sector development has come up in the recent literature.

1.1.1 Financial Sector Development

The financial sector is the set of banking institutions, financial markets, and other financial intermediaries (e.g., pension funds and insurance companies), in addition to

the central bank as a large regulatory body. The central bank monitors and supervises the operations of these intermediaries. Fundamentally, the financial sector emerges mainly due to information and transaction costs (Ang, 2009). In an economy, some agents have may have extra funds while some others may experience shortage of funds to finance investment projects. To raise the necessary funds in the absence of a sound financial system, investors have to approach individual agents who have surplus fund to lend. Since the agents have very little knowledge about the investment project involved and investors have to find out which agents have surplus funds and how much each is willing to lend, this process turn out to be time consuming and costly, and if it is sufficiently costly, it may not occur at all.

The financial system makes this transaction affordable, and thus offsetting the underlying market imperfection. Consequently, financial sector development is about overcoming "costs" incurred in the financial system, such as costs of acquiring information, enforcing contracts, and marketing transactions. Therefore, financial sector development occurs when financial instruments, markets, and intermediaries ease the effects of information, enforcement, and transactions costs. This helps to provide the key functions of the financial sector in the economy. There are a number of specific functions that the financial sector performs, including (i) producing information and allocating capital; (ii) monitoring investments and exerting corporate governance after providing finance; (iii) facilitating the trading and pooling of risk; (iv) mobilizing and pooling savings; and (v) facilitating the exchange of goods and services (see Levine 1997, 2005).

There are two important basic characteristics of financial systems that are now regarded as capturing the impact of these five functions on economic growth; the

level of the financial sector, or depth, and its efficiency, where a large financial system should also be more effective in allocating capital and monitoring the use of funds (FitzGerald, 2006). The level of the financial sector, which is its size relative to an economy, on one hand, is important for each of the functions listed above. Financial depth is often referred to as the improvement of the extent of the financial system. Therefore, the financial sector deepens when: (1) the range of financial products and services broadens; (2) the accessibility to financial products improves; (3) the types of financial institutions operating in the financial sector expand; (4) the extent to which financial resources are intermediated through the financial sector increases; and (5) the quality of regulation and stability of the financial sector enhances (see Ang, 2009). On the other hand, the efficiency of the financial sector is the channel effectively linking the size of the financial system and growth. The effective financial sector has the ability to translate savings into investments through allocating savings among competing firms for funds. The efficiency not only benefits savers but also allows the capital to flow, providing the maximum value for whole economy (FitzGerald, 2006).

In sum, financial sector development is a process that marks improvement in the level and the efficiency of financial sector functions (Abu-Bader and Abu-Qarn, 2008a). Therefore, the financial sector is commonly regarded as well-developed if (i) the bulk of the flow of funds between savers and users passes through institutions and markets in the formal financial sector; and (ii) such financial institutions and markets operate with a high degree of efficiency and soundness (Rajan and Zingales, 2003). Therefore, it can be understood from the above lines that, although financial development is the core of a modern economy, its role is to serve the modern economy, and not the other way round. Financial development should not take place

for its own sake; its importance comes only by its benefit in enhancing the capacity for economic growth. Beck (2012) points out:

> *"[Financial sector development] is not a goal in itself; rather it is a tool for economic growth"* (P. 4).

Furthermore, King and Levine (1993b) suggest that predictions can be drawn about the rate of economic growth over ten to thirty years, based on the extent of financial development.

There are two different channels responsible for the role of financial development in economic growth. The first is concerned with the role of the financial sector to provide liquidity services, and mobilize savings that affect the rate of capital accumulation, or scale of investment (quantitative channel). Transferring the mobilized savings into investments is more important than the mobilization process itself because it enables the investors (the deficit units) to accumulate capital and then use this capital in productive projects, which would lead to a higher growth rate. Therefore, channeling the mobilized savings into investments is a vital function of the financial sector. The less efficient the financial sector, the fewer resources are made available for investment out of a given amount of savings (Demetriades, 1998; Ndikumana, 2005).

The second is concerned with the role of the financial sector to allocate resources efficiently with the subsequent effect of the efficiency or of the quality of investment, which induces economic growth (qualitative channel) (see Pagano, 1993; Levine 1997, 2005; Beck *et al*., 2000; Nili and Rastad 2007). The ability of intermediaries to collect accurate and reliable information about investment projects and evaluate these projects contributes substantially to the efficient allocation of

resources to more efficient investors. Hence, it increases the productivity of capital, and the growth rate (Beck *et al.*, 2000).

These two channels are discussed in Chapter Three.

1.1.2 Natural Resource Dependence and Natural Resource Curse Hypothesis

> *"The economic performance of oil economies has fallen far short of potential, and sometimes disastrously so. One reason for this is that large earnings from oil and other natural resources can have adverse effects on other sectors of economies, particularly those sectors that can be motors for sustained economic growth"* Jeffery Sachs (2007, P.175)

To begin, it is useful to clarify with the Oxford Dictionary that the term "natural resources" refers broadly to natural assets such as materials, minerals, forests, water, and fertile land that occur in nature and can be used for economic gain. Some natural assets such as oil, gas and minerals can be depleted or exhausted. These non-renewable assets have no alternative use that can yield a similar marginal revenue product. In contrast, fertile land can be used to cultivate alternate crops. This study focuses on non-renewable, natural resources, following the lead of case studies used to illustrate the resource curse[1]. In the particular case of Yemen, this study focuses on oil and natural gas resources called hydrocarbon resources (IMF, 2013).

[1]Manzano and Rigobon (2001) empirically proved that the resource curse effect is entirely through only non renewable resources (see Leite and Weidmann, 2002; Isham *et al.*, 2005; Bulte *et al*., 2005).

To understand the proposed curse, we first need to distinguish how resource wealth differs from other types of wealth. Humphreys *et al*. (2007) identify two key differences. The first is that, unlike other resources, natural resources do not need to be produced. They only need to be extracted. Since the generation of natural resource wealth is not the result of production, it can occur relatively independently of other economic processes, and does little to create employment. The extraction of oil and gas are among the world's most capital-intensive industries. Thus, this sector creates few jobs per unit of capital invested, and the skills required for these jobs do not usually fit the profile of the unemployed (Karl, 2007). The second key difference of natural resource wealth identified by Humphreys *et al* (2007), stems from the fact that many natural resources (oil and gas in particular) are non-renewable. Therefore, they point out (2007, p.4):

> "*From an economic aspect, they are [natural resources] thus less like a source of income and more like an asset*".

In principle, such assets should offer three large benefits for poor economies. First, the income stream from resource extraction can boost real living standards by financing higher levels of public and private consumption. Second, resource extraction can finance higher levels of investment, both directly out of natural resource income, and indirectly from borrowing made possible by that income. Third, since resource income typically accrues largely to the public sector, and to public budget, it can obviate a huge barrier to development: the lack of fiscal resources needed to finance core public goods, including infrastructure (Sachs, 2007).

However, it has been observed during the past few decades that the possession of natural resources is neither necessary nor sufficient to confer economic success. Many countries in Africa and the Middle East are rich in oil and other natural

resources, yet, their people continue to experience low per capita income and a low quality of life. This puzzling phenomenon was labelled the "natural resource curse" by Auty (1993). The term refers to the paradox that countries endowed with natural resources such as oil, natural gas and minerals tend to have lower economic growth and worse development outcomes than countries with fewer natural resources. Angola, Congo, Nigeria, Venezuela and some Middle Eastern countries are good instances of natural resource-based economies that suffer low or negative GDP growth and widespread poverty. In contrast, East Asian economies such as Japan, Korea, Taiwan, Singapore and Hong Kong have achieved high standards of living, despite having few exportable natural resources. In fact, it is not necessarily true that countries with natural resource wealth will necessarily achieve worse performance than those without them. Resource-rich countries are able to succeed. The key question is: why do natural resources lead to success in some cases, but failure in others?

At this point, it is worth to note that the resource curse does not refer to the mere possession of natural resources, but rather to countries that are highly dependent on natural resources (Karl, 2005). The term 'resource dependence' refers to the degree to which the economy relies on resource revenues. More dependence means less diversification in the production structure. Natural resource dependence is generally measured by the ratio of natural resource exports to gross domestic product; in countries that live from natural resources rent, this figure ranges from a low of 4.9% (in Cameroon, a dependent country running out of natural resources), to a high of 86% (in Equatorial Guinea, one of the newest oil producers) (Karl, 2007). Dependence is also reflected in export profiles, with natural resources in resource-rich countries generally making up 60 to 95% of a country's total exports. The

International Monetary Fund (IMF) defines a country as resource-dependent if the average share of resource revenues in total revenues over the most recent three-year period is greater than 25%. This situation usually leads to one of two types of reversals: economic or political. The most common economic reversal is the "Dutch disease" phenomena (Corden and Neary, 1982; Corden, 1984). Natural resource booms increase domestic income and in turn the demand for goods, which generate inflation and appreciation of the real exchange rate, making much of the manufacturing industry uncompetitive in the world market. The body of literature on natural resources also focuses on other economic reversals of natural resource dependence. The volatility of natural resource prices in the international market also leads to fluctuations in government revenues and increases macroeconomic instability. In addition to these economic reversals, the political literature points out other political reversals, such as rent seeking[2] and corruption, which are discussed in subsequent chapters. All or some of these reversals are expected to negatively impact the main economic growth determinants (i.e., human capital, physical capital, foreign capital (inward foreign direct investment), social capital and financial development, which in turn weaken their contribution in fostering economic growth (see Figure1.1) (Gylfason, 2004).

[2]People are said to seek rent when they attempt to obtain benefits for themselves through the political arena. They typically do so by obtaining a subsidy for a good they produce, or for being in a particular class of people, by obtaining a tariff on a good they produce, or by obtaining a special regulation that hampers their competitors (Library of Economics Liberty)

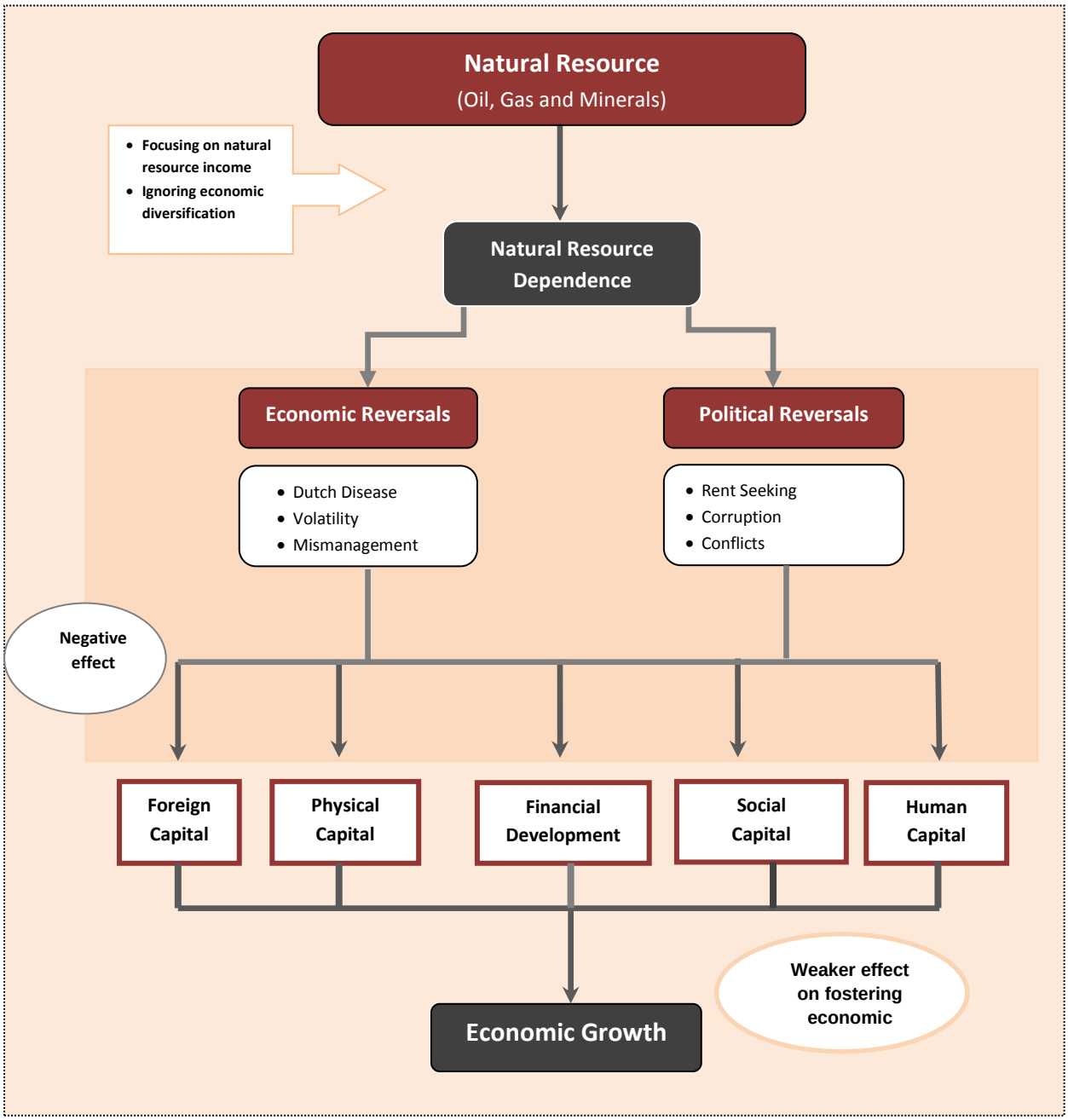

Figure 1.1 Explaining the Natural Resource Curse Hypothesis

The curse can be exemplified by empirical findings that have been presented by many economists like Sachs and Warner, (1995, 1997, 2001), Gylfason (2001, 2006), Mehlum *et al*. (2006), Nili and Rastad (2007), Torvik (2009), Arezki and Nabli (2012) and recently Kim and Lin (2015). Those authors have argued empirically that since 1970's the countries base their economies on natural resources tend to be an example of development failure. Figure 1.2 shows that those countries

whose economies depend heavily on natural resource exports had lower real growth rates during this period, and vice versa.

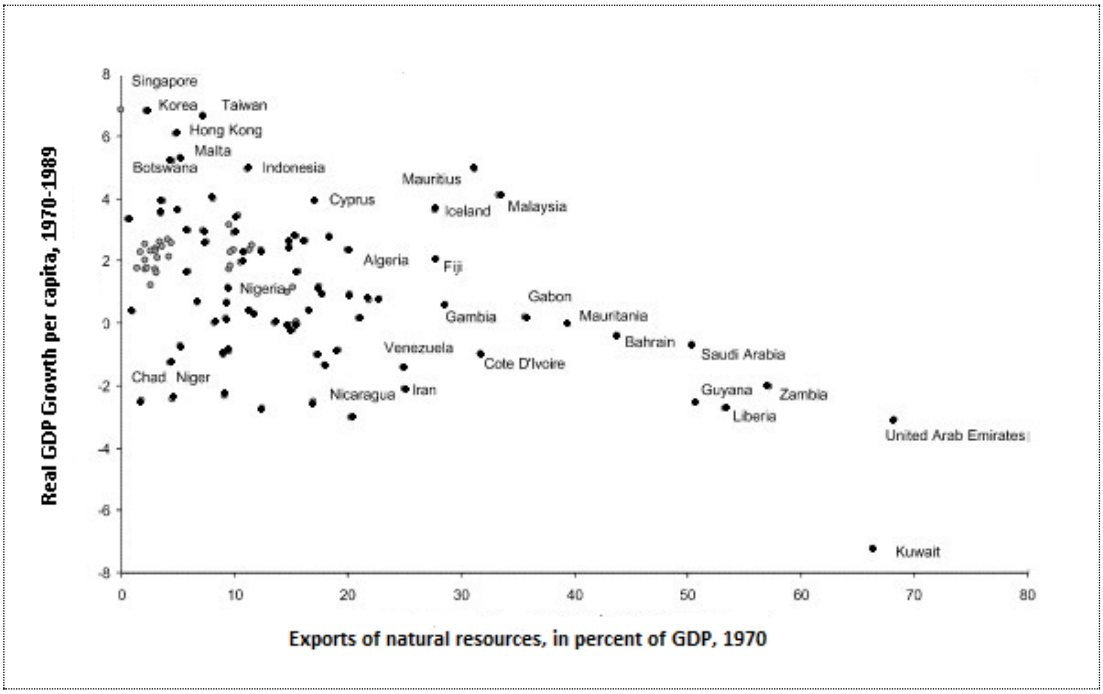

Figure 1.2 Natural Resources Dependence and Economic Growth (1970-1989)
Source: Sachs & Warner (2001)

1.1.3 Natural Resource Dependence and Financial Sector Development

In the recent literature on the natural resource curse, some economists found that economies that are more dependent on natural resources have lower levels of financial development. This negative relationship has been considered as evidence of a relatively new potential channel of the natural resource curse in resource-based economies represented by financial development (Hattendorff, 2013). Indeed, the main reason behind this proposition comes from the fact that financial development has a crucial role in economic growth. Therefore, in order to evaluate the existence of the natural resource curse, it is thus crucial to explore this potential financial channel.

Several explanations have been presented for this relationship. These explanations range from the supply and demand hypotheses introduced by Beck (2011) to the theses introduced by Gylfason and Zoega (2006), and Nili and Rastad (2007). The former focuses on the role of the "mismanagement and poor policy" channel and the Dutch disease scenario in shifting factors of production away from non-resource traded goods sectors, which affects on the size of financial sectors, whereas the latter focuses on the effect of natural resource dependence on financial sector efficiency, or its ability to translate savings into investments, and then translate these investments into economic growth.

Based on the above points, the literature on natural resource dependence and financial development delivers the following empirically testable implications pertaining to the consequences of the dependence of natural resources on financial development and growth:

1. Natural resource dependence has a weakening effect on the level of financial development.
2. The high dependence on natural resources might weaken the ability of the financial sector to play its role in fostering the level of investment (investment quantity).
3. A higher degree of natural resource dependence may potentially weaken the effectiveness of financial institutions in translating investments into growth. In other words, this weakens the role of the financial sector in enhancing the efficiency of investments (investment quality).
4. In addition to these effects that weaken the relationship between financial development and sectoral growth, natural resource dependence is also

expected to hamper sectoral growth directly.

This research evaluates these theoretical predictions in Yemen based on the framework presented in Figure (1.3) [3].

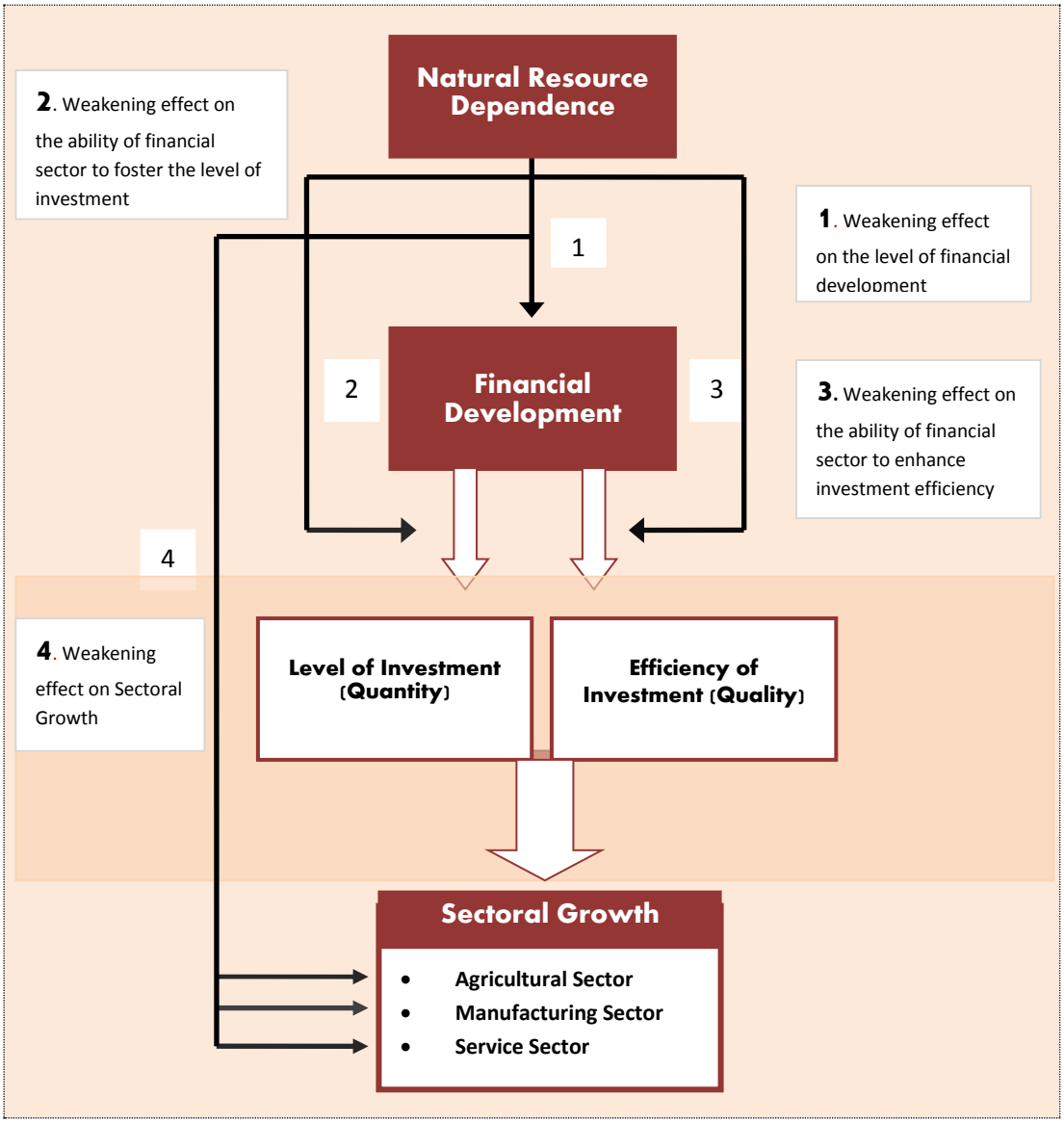

Figure 1.3 Resources Dependence Effects Transmission into Financial Development and Sectoral Growth

After this background, this introductory chapter provides also a background of the case study in section 1.2 which paves the way for state the research problem in

[3] The theoretical preposition of this study is drawn from the work of Levine (1997); Pagano (1993; Beck *et al*. (2000); Gylfason and Zoega (2006), Nili and Rastad (2007); and Apergis *et al*. (2014).

section 1.3. The research questions and related objectives which include the main goals of the study are presented in section 1.4 and section 1.5 respectively. The significance of the study is highlighted in this chapter in section 1.6. A scope of the study and brief organization of the remaining chapters will be presented in section 1.7 and section 1.8 respectively.

1.2 The Rationale for Selecting Republic of Yemen as a Case Study

Yemen appears to be an excellent case study for this subject, due to a number of reasons, in addition to being the researcher's home country. Firstly, Yemen is a country with a wide spectrum of economic potential for a number of industries[4] and shows a bright and promising future for its agriculture and fishery sectors. It has one of the best natural harbors in the world that has a unique strategic geographical location linking the East and the West (Burrowes, 2010). Despite these potentials, it has been widely observed that the economic performance of Yemen is accompanied by a surge in dependence on oil, where the economy is dominated by the production and export of oil, which generates around 70 percent (as an average in the 10 years) of government's revenues, contributes about 80–90 percent of its exports (Figure 1.4)[5], and is responsible for building up most of the country's foreign exchange reserves. Before the discovery of oil in 1985, the agriculture and manufacturing sectors were the dominant sectors with a share of 24 percent and 14 percent of the country's GDP respectively (World Bank, 1989). However after 1987, the structure of the economy underwent fundamental changes, with the share of these key sectors changing substantially. GDP shares have increased for the industrial (including oil

[4] Saudi Arabia, Qatar, UAE etc. do not have other important real sectors in their economy besides oil.

[5] The share of oil export to total export in Yemen is second highest share after Iraq among 230 countries in the world (World Bank,2002)

and gas) and services sectors. Manufacturing and the agricultural sectors have declined significantly[6]. In addition to its increasing importance in relation to other sectors, the nature of the services sector has changed from being previously supporting the agriculture and manufacturing sectors to its current role of supporting the oil industry in response to the increasing demand fueled by oil revenues (Al-batuly *et al*., 2011).

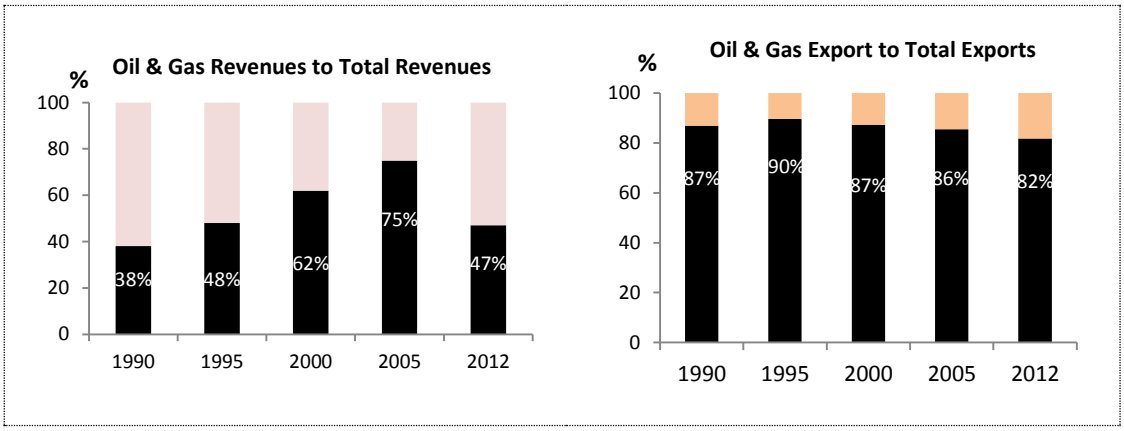

Figure 1.4 Oil and Gas dependence in Yemen
Source: IMF Data

Secondly, Yemen is a suitable example of a country that has experienced early financial sector activities relative to other developing countries[7]. The indicators of financial development witnessed an increased trend until the mid-1980's, after gradually deteriorating during the oil era[8] (see Figure 1.5). Moreover, Yemeni government elaborated a reform program that focuses on the financial sector in 1995. This program comprised of several fields, starting with monetary policy level by freeing all lending interest rates. The second level of the reform program was focusing on the financial intermediation process by reforming the institutional, legal,

[6] The contribution of agriculture sector to GDP declined in recent years to 10 percent. Likewise, manufacturing sector also declined to 7 percent (WDI, 2013).
[7]The first bank was established in the north of Yemen in the 1962.
[8] The oil era in Yemen starts from 1986 when the first oil shipment has been exported until today. Many studies estimated that this era will be lasting only until 2020, unless new discoveries are made (IMF,2013).

and regulatory framework. Despite these changes, the sector indicators remain at low levels and are considered to be the lowest among Middle Eastern countries (UNDP, 2006). Therefore, Yemen is an interesting case study, especially since no prior study has conducted an investigation on the reasons behind this fragility, and the factors that disrupt this sector.

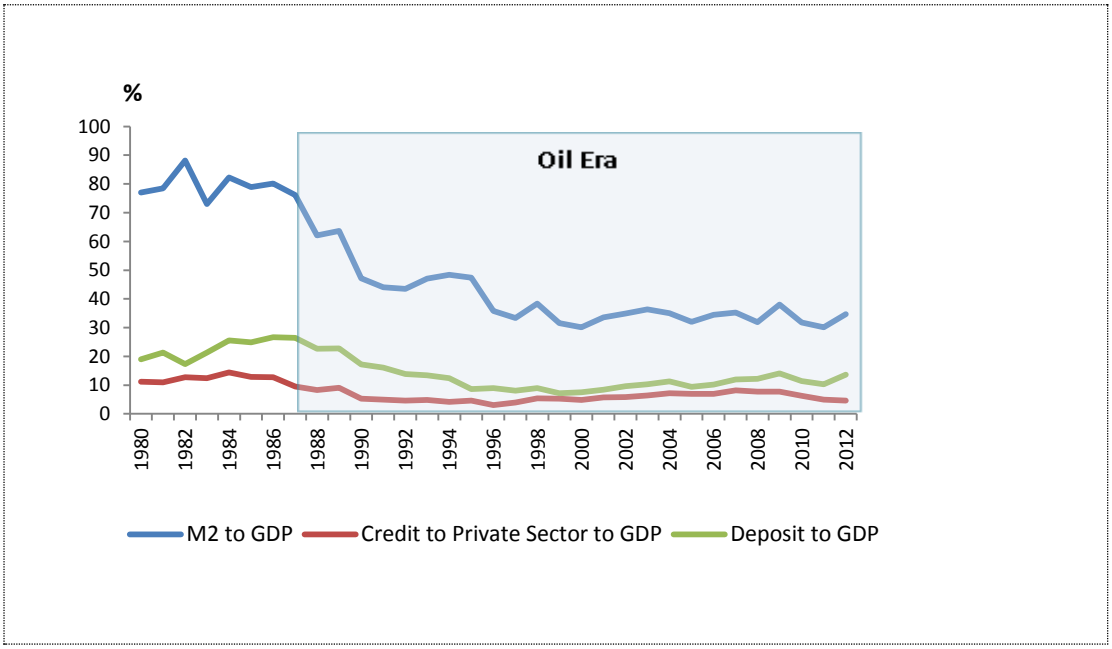

Figure 1.5 Selected Financial Development Indicators
Sources: WDI and World Bank

Thirdly, most natural resource curse symptoms can be observed clearly in the case of Yemen; imperfect performance of its economic sectors, mismanagement, conflicts and corruption. Therefore, the financial sector might be a suitable subject for the resource curse [9]. Finally, there remains a lack of effort by economists and policymakers in Yemen to study the economic and financial consequences of high dependence on oil and gas revenues. Given that, perhaps delving into this subject in

[9]Stevens and Dietsche (2008) classified Yemen as one of 54 countries around the world that is at risk of contracting the resource curse due to its high dependence on natural resources.

detail would help to clarify great ambiguity surrounding some economic dilemmas that afflict the country.

1.3 Problem Statement

In view of the important role of financial development in economic growth, and of the large socioeconomic costs of its weak performance, it is not surprising that investigating the financial sector development inhibitors to economic growth is becoming an increasingly important priority, particularly for countries that aim to achieve high and sustained economic growth. Accordingly, this study aims to investigate one of the important factors that was recently pointed out in the literature as a potential cause of financial development fragility and weakness in many natural resource-based countries: the degree of dependence on natural resource revenues.

Yemen is among the countries that are highly dependent on natural resources and experiences a low level of financial development and economic growth. Therefore, it is crucial to determine whether natural resource dependence would be a reason behind the weak performance of the financial sector and whether it is a weakening factor of the relationship between financial development and sectoral growth. It is also necessary to understand the manner in which these effects may occur.

In order to solve this puzzling issue, an in-depth analysis is required to explore the potential effects of natural resource dependence on financial development, as well as on the role of financial development in fostering investment as quantity and quality, and in turn sectoral growth, in the context of Yemen. An investigation of these effects must be taken seriously for two main reasons. First, this would serve to

reveal one possible cause of the weakness of the economic performance in Yemen in general, and of the financial sector in particular. Second, it would also open the door for further discussion among researchers to uncover other potential effects of natural resources dependence on the other determinants of economic growth in Yemen, including human capital, social capital and foreign capital.

1.4 Research Questions

The core question of this study is whether or not natural resource dependence affects the level of financial development, and weakens the relationship between financial development and sectoral growth in Yemen. Since there remains no clear evidence pertaining to this issue on a single-country case, an investigation of this matter is crucial. This study is particularly designed to address the following research questions:

1. What are the factors that influence financial development in Yemen?
2. How does natural resource dependence affect the relationship between financial development and sectoral growth?
3. To what extent do financial development and natural resource dependence affect sectoral growth (i.e., agriculture, manufacturing and service sectors) in Yemen?
4. Why might the natural resource curse hypothesis be valid in the context of Yemen?

1.5 Research Objectives

The general objective of this study is to explore the impact of natural resource dependence on financial sector development, and on the role of the financial sector in fostering the quantity and the efficiency of investment, and thereby sectoral growth, in Yemen. More specifically, the objectives of this study are as follows:

1. To determine the factors that influence the level of financial development in Yemen.
2. To investigate the impact of natural resource dependence on the relationship between financial development and investment quantity (Quantitative Channe).
3. To investigate the impact of natural resource dependence on the relationship between financial development and investment quality (Qualitative Channel).
4. To determine the extent to which financial development and natural resource dependence affect sectoral growth.

The above objectives and research questions are summarized in the following Table 1.1:

Table1.1 Research Questions and Objectives

Research Questions	Research Objectives
RQ1. What are the factors that influence financial development in Yemen?	RO1. To determine the factors that influence the level of financial development in Yemen.
RQ2. How does natural resource dependence affect the relationship between financial development and economic growth?	RO2. To investigate the impact of natural resource dependence on the relationship between financial development and investment quantity (Quantitative channel). RO3. To investigate the impact of natural resource dependence on the relationship between financial development and investment quality (Qualitative channel).
RQ3. To what extent financial development and natural resource dependence affect sectoral growth i.e. agriculture, manufacturing and service sectors in Yemen?	RO4. To determine the extent to which financial development and natural resource dependence affects sectoral growth.
RQ4. Why might the natural resource curse hypothesis be valid in the context of Yemen?	RQ 2, 3 and 4

1.6 Significance of the Study

The numerous economic problems in Yemen cannot be reduced to the issue of high dependence on natural resources, and its impact on financial development and sectoral growth. However, to the best of the researcher's knowledge, this question is an interesting one in terms of the development in any resource-based country such as Yemen. This is due to the fact that most of these countries are endowed with natural

resources (i.e., oil and natural gas), and are characterised by the high dependence of these resources, and yet, they have been unable to harness this advantage to create strong and efficient financial sectors to support the development process. Besides, although the effect of natural resource dependence on economic growth has been confirmed by a number of economists, the limited studies of empirical evidence in the case of natural resources effects on financial development and economic growth are inconclusive. Therefore, since countries have significant differences in financial development, natural resource and economic structures conditions, further single country analyses are called for to verify this mechanism, and to examine the factors in determining its presence.

Based on the results of this study, policy makers in Yemen would have a better understanding of one problem that may alter sustainable development plans in different sectors in the country. Additionally, this also provides a new explanation on how the financial system in Yemen can be improved in an attempt to achieve a higher level of economic growth. Finally, it would also open the door for further discussion among researchers to uncover other potential effects of natural resources dependence on other factors related to economic growth in the country.

1.7 Scope of the Study

This study aims to explore the impact of natural resource dependence on financial sector development, and on its role in fostering quantity and quality of investment, and thereby sectoral growth, in Yemen. To this end, the study involves a deep analysis on the impact of natural resource dependence on the financial development level in Yemen, and another analysis on the impact on the channels responsible for

the finance-growth nexus, which are the quantity and quality of investment. This study also explores the effect of financial development and natural resource dependence on economic growth on a sectoral basis, namely, agriculture, manufacturing and services sectors.

The scope of the study has been also defined both in terms of sector coverage (financial, oil and gas sectors), and time scope (1980-2012). In terms of sector coverage, high emphasis is placed on Yemen's banking sector, mainly because of its predominance in financial sector development with no existence of a stock market on the one hand; and marginal roles for non-bank financial institutions such as insurance companies, money-changers and pension funds, on the other hand. The study also emphasises the oil and natural gas sector, which dominates the natural resource sector in Yemen[10]. The Yemeni government considers oil as the basic element for building its national economy (the Yemeni Ministry of Oil and Minerals). Oil and natural gas revenues are used in financing the construction of socio-economic and development projects, which constitute the infrastructure of the national economy. It is also the source of extracting useful derivatives and products exploited in different basic industries. For the sectoral growth, this study follows the conventional classification by Fisher (1939). This classification divides an economy into three sectors, that is, agricultural (or primary), manufacturing (or secondary) and service (or tertiary) sectors.

This study focuses on the period of 1980-2012, since this accounts for the most important period within the Yemeni economy the financial sector, and the oil and gas sector, have gone through. This period has witnessed a number of economic changes,

[10] In addition to oil and natural gas, Yemen's natural resources sector includes: rock salt, marble, small deposits of coal, gold, lead, nickel and copper.