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**QATAR: THE RESOURCE CURSE FACTOR AND
PROSPECTS FOR ECONOMIC DIVERSIFICATION**

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Hussein Mohsin Al-Dobashi
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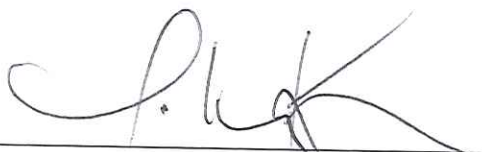
HUSSEIN MOHSIN AL-DOBASHI

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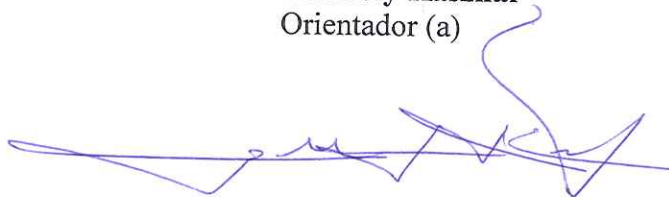
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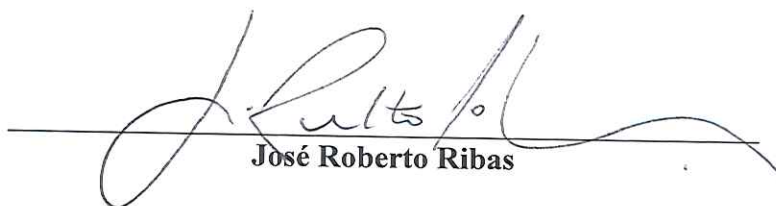
ASSINATURA DOS MEMBROS DA BANCA EXAMINADORA



Istvan Karoly Kasznar
Orientador (a)



Edson Kenji Kondo



José Roberto Ribas

Abstract

Qatar's rapid development and modernization offer great rewards as well as risks. The rapid development in Qatar has been fueled almost exclusively through wealth created from trade in petrochemicals. This source of wealth places Qatar at risk from what has been identified as the natural resource curse. The risk lays in dependency on one commodity for economic growth and its concomitant degradation of broader development of non-petrochemical sectors and human capital. This thesis explores the degree to which Qatar is subject to the resource curse and how the most commonly prescribed solution to the resource curse – economic diversification – will be successful in Qatar's continued development.

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1 Introduction

1.1 Background of the Study

Since the end of 2014, oil prices have dropped dramatically. In June 2014, the price of oil stood at approximately 105 USD (United States Dollars) per barrel. However, by the beginning of 2016, the price for oil had dropped below 27 USD per barrel – its lowest price since 2003 (Riley 2015). This drop, a fall of approximately 70% in the price of oil, was nothing a dramatic change that hit countries which rely on oil for a significant part of their GDP (Gross Domestic Product) particularly hard. The countries that constitute the GCC (Gulf Cooperation Council), which includes Saudi Arabia, Kuwait, Bahrain, Qatar, the UAE (United Arab Emirates), and Oman, were particularly hard hit by this change in the price of oil. It's been speculated that extended lower oil prices will slow growth and increase budget deficits in oil-exporting GCC countries, eroding their fiscal reserve buffers and increasing debt (TradeArabia 2016).

By June 2016, the price of oil has rebounded somewhat from the lows of 2015 and currently stands at just under 50 USD per barrel. Although this modest rebound has staved off many nightmarish scenarios of an extended crash in oil prices, there are few signs that a return to prices above 100 USD per barrel or anywhere near it will return any time soon (Krauss 2016). This presents a challenge for states that rely on hydrocarbons (including oil and natural gas) for the majority of their GDP.

The State of Qatar is in an enviable position. Qatar is a small country, a peninsula off the east coast of Saudi Arabia, with a small population of nationals but holding massive reserves in hydrocarbons. Qatar the nation has a relatively short history, existing only since 1971 as an independent state. Although it lacked many modern institutions, Qatar (and the predominant Al-

Thani tribe) had a long history of administering the land that became Qatar. In short order, Qatar began to modernize and join the global community of nations (Mallakh 2015). The exploitation of its hydrocarbon natural resources helped spur Qatar's modern development. Qatar has relatively small but significant reserves in oil. Qatar's natural gas reserves, however, are massive and constitute about 13% of the world's total according to the World Factbook (2016).

More specifically, Qatar has 15.21 billion barrels of proven crude oil reserves, representing 3.2% of the GCC oil reserves – almost 1.1% of the total world oil reserves. At its current level of production of about 776 thousand barrels per day, crude oil reserves will last for 54 years. Qatar is the richest among the GCC countries in terms of natural gas reserves, which stood at 25.26 trillion cubic meters at the end of 2008, representing 61% of the GCC total natural gas reserves (Gulfbase.com 2016). Qatar's natural gas reserves will last for a very long time before they are depleted.

The presence of such significant hydrocarbon reserves has a huge impact on Qatar's economy. As of 2016, Qatar's hydrocarbons account for 92% of export earnings and 56% of government revenues (World Factbook 2016). Any dramatic change in the global price of hydrocarbons has an immediate impact on Qatar since it relies so much on this single sector of its economy for its GDP and government revenue.

Despite this fact, Qatar's current situation is very positive. According to Business Monitor International (BMI), Qatar faces no short term threat to its standing as one of the wealthiest countries in the world. Even with the drop in oil prices Qatar remains secure fiscally and holds a sovereign wealth fund of \$256 billion (2016). Additionally, Qatar is ranked high on the World Bank's ranking of ease of doing business at 68th place out of 189 countries listed in the rankings.

Highlighted in the report is Qatar's number 1 world ranking in tax burden for conducting a business inside Qatar (World Bank Group 2016).

With its incredible wealth, Qatar is currently pursuing an ambitious and aggressive modernization program which includes massive construction projects throughout the country, development of modern financial, educational, and technological frameworks as well as preparing to host the 2022 World Cup and support of the tourism and transportation infrastructure needs associated with the event.

A microcosm of the Qatari nation and its developmental trajectory can be seen reflected in its people. Within just a few generations, Qatar has changed dramatically. From the perspective of prominent Qatari citizens, such as Sheikh Faisal Bin Qassim Al Thani - Chairman and Founder of Aamal and Al Faisal Holding – the full spectrum of Qatar's development can be traced. Sheikh Faisal was born in a period of Qatar's history before hydrocarbons and even before full independence. He's witnessed Qatar's transformation from a society with little development in terms of its economy, infrastructure, and global presence to a country that boasts the highest per capita income in the world and is a major economic and increasingly political power on the world stage. Sheikh Faisal himself has mirrored the development of Qatar in his own life, beginning from a small company in 1964 trading in auto parts to presiding as CEO and chairman over companies worth billions and integral parts to the growth and development of the Qatari nation. Sheikh Faisal, who was interviewed for this paper, exemplifies the story of modern Qatar in his personal growth and his contributions to the development of Qatar.

Given everything known about Qatar today, there would seem to be concern about Qatar's near and even long-term prospects for continued development and success as a country. Both in terms of Qatar's natural resource wealth and the leadership provided by the Emir and prominent

businessmen and entrepreneurs like Sheikh Faisal, Qatar's position in the world today is very strong and there would seem to be little reason for pessimism about the future. There are, however, some questions about Qatar's ability to continue its development along its current trajectory. These questions revolve around the issues of what's become known as the resource curse of natural resource abundance and Qatar's problem of how to respond to the threats posed by the resource curse as it develops.

1.2 Statement of the Problem

States often take different routes along the path of development. Qatar's path of development has been blessed in many ways by the presence of abundant hydrocarbon reserves within its territory. However, economists have identified that some states that have an abundance of resources at their disposal fail to develop successfully. This has come to be known as the resource curse of natural resource abundance. Economists who study this problem have also come up with solutions to it that largely support the idea of diversification of the economy.

The Resource Curse

In order to proceed with this study, it's essential to understand exactly what the resource curse of natural resource abundance is. With this knowledge, it can be surmised whether or not Qatar is subject to the resource curse and, more specifically, in what ways.

The resource curse refers to the phenomenon identified in the second-half 20th century whereby a state that has an abundance of a natural resource and therefore a means to generate huge amounts of revenue develops more slowly than other states of comparable size but which lack an abundance of natural resources. Economists compiled evidence of this phenomenon and were able to claim that the evidence suggests that not only may resource-rich countries fail to

benefit from a favorable endowment [of natural resources], they may actually perform worse than less well-endowed countries (Auty 1993).

Figure 1 illustrates that phenomenon where the natural resource provides an immediate boost for the country, but over time leads to underperformance when compared to other countries that do not have natural resource wealth.

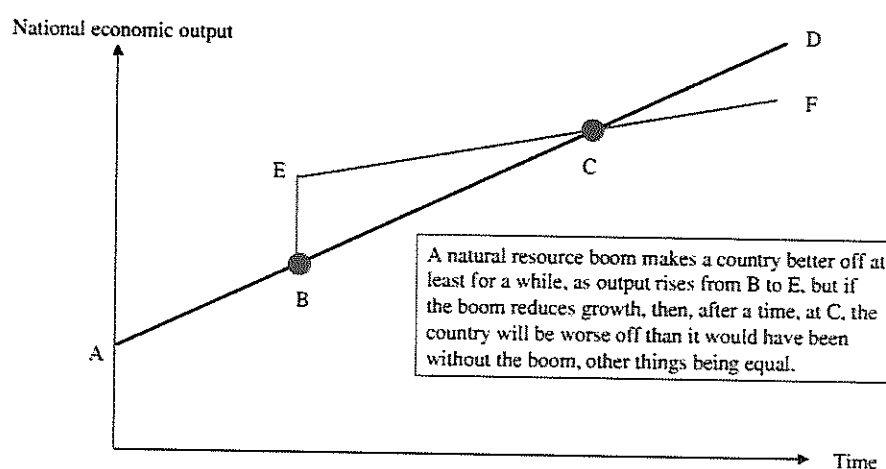


Fig. 2 – Comparison of growth between a resource curse and non-resource curse country

A state is said to be subject to the resource curse if it is a developing country that generates at least 8 percent of their GDP and 40 percent of their export earnings from the mineral [which includes hydrocarbons] sector (Auty 1993). And among those states that have abundant mineral resources, the concept of point-source minerals, i.e. hydrocarbons, are particularly strong candidates for the resource curse. This is important because point-source resources as opposed to diffuse resources allow the state a greater ability to control the resource and obtain rents (Ali 2016).

Another common trait of states subject to the resource curse, especially states with hydrocarbon resources, is development of rents and the tendency to become a rentier state. A rentier state is one where the rents are paid by foreign actors, where they accrue directly to the state, and where only a few are engaged in the generation of this rent (wealth), the majority being only involved in the distribution or utilization of it (Ross 2001). Thus, with help, a state can more easily exploit its resources and generate revenue from it.

It is agreed among many scholars that the countries of the MENA (Middle East and North Africa) region, particularly the biggest hydrocarbon producing countries of the GCC, are in fact subject to the resource curse. Focusing on Qatar, it does indeed generate most of its GDP from hydrocarbons, regularly at more than 50% until just recently, and its exports are heavily weighted to hydrocarbons, at more than 85% in 2014 (United Nations Statistics Division 2014). Likewise, Qatar's oil and natural gas resources do represent point-source resources and are extracted in localized parts of the country. Finally, Qatar does derive a significant income from rents for exploitation of its hydrocarbons.

Since it's possible to establish that Qatar is subject to the resource curse, it's important to understand what threats the resource curse poses to Qatar's development. Before investigating this topic further, however, it's important to note that although Qatar is subject to the resource curse, it does not necessitate that it suffers from the resource curse, particularly some of its more debilitating features. The fact that Qatar does fit the profile of a country that can suffer from the resource curse makes it important to understand what that could mean and what can be done to avoid the worst aspects of the curse.

With that in mind, there are several general problems that are associated with the resource curse that could impact Qatar. They include: 1) shocks caused by commodity volatility, 2)

crowding out home-grown manufacturing, 3) fostering autocratic and/or oligarchic institutions, and 4) cyclical structural damage caused by commodity boom and busts. Each of these listed problems causes specific outcomes that impact development negatively. Once their impacts are understood, it will be possible to understand potential solutions.

Shocks Caused by Commodity Volatility

First, the resource curse can create problems when prices change, sometimes in massive drops in price. This issue, known as commodity volatility, is a well-known phenomenon. The changes in prices of oil and natural gas in particular are subject to a high degree of volatility, meaning that the price for oil and natural gas change regularly and sometimes dramatically. A good example is by just looking at the price of oil over the past few years (Fig. 1). Only between the years 2006 and 2016, the price of oil has moved from a high of nearly 140 USD to a low of under 30 USD. The price of oil has also moved regularly up and down between those high and low prices.

These changes in price are known as cyclical shifts and can greatly impact economies that depend heavily upon oil and/or natural gas to make up their GDP, such as Qatar. Cyclical shifts in revenue is only one part of the problem, however. Cyclical shifts of the factors of production (labor, land and capital) back and forth across sectors – mineral, agricultural, manufacturing, services – may incur needless transaction costs. Frictional unemployment of labor, incomplete utilization of the capital stock, and incomplete occupancy of housing are true deadweight costs, even if they are temporary (Frankel 2012).

Overall, states that rely on revenue from oil and natural gas for the largest share of their GDP can plan budgets based on a high commodity price, but forced to make drastic changes if the

volatility of the commodity drops the price. The impact is often felt throughout the entire economy since oil and natural gas comprise such a large percent of GDP and very often fund other parts of the economy.

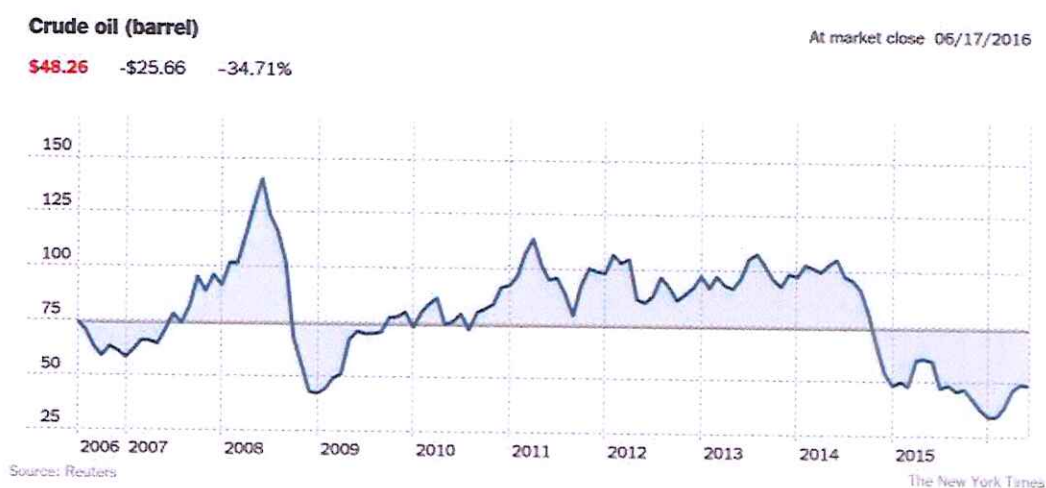


Fig. 2 – Oil Prices between 2006 and 2016

Crowding out Home-Grown Manufacturing

The resource curse has also been shown to have a negative impact on the development of domestic manufacturing. Many theories of development point out that countries that are able to industrialize and add a strong manufacturing sector to their economies are able to develop and become wealthier. Additionally, the economist Kiminori Matsuyama argued that economic development that focused on manufacturing had the added benefit of increasing productivity over time by learning-by-doing, and continually enhancing the capabilities of the economy (Matsuyama 1992).

The real problem for resource-rich countries is that the reliance on the natural resource for the majority of the GDP may tempt the country to forgo any efforts to industrialize or develop a

competitive manufacturing sector. The result of this is that the economy of the resource-rich country is ever dependent on the natural resource and a manufacturing sector of the economy that can generate additional revenue, jobs, and skills for a country's population independent of the natural resource. The problem, however, is that this process never gets a realistic chance to happen and is dis-incentivized by the massive flow of income from the natural resource.

Fostering Autocratic and/or Oligarchic Institutions

The resource curse has been connected with the lack of democratic development within resource-rich countries. The most common reason given for the development of autocratic societies in resource-rich countries is the lack of accountability of the ruling elites and poor institutional development throughout the government. It's argued that, without strong institutions, [natural resource wealth] leads to the enrichment of minority elite groups; and as the sector develops, the interest of those groups in capturing rents and maintaining their hold on power acts as a barrier to improving governance. (Stevens 2015).

The theory of the resource curse leading to the lack of democratic development is thought also to fit Middle Eastern oil exporters especially well. In this region, governments' access to rents, in the form of oil revenue, may have freed them from the need for taxation of their peoples, and that this in turn freed them from the need for democracy (Frankel 2012). This does not lead to the conclusion that Middle Eastern oil exporters have bad governments, rather it points to the fact that there is not the relationship between the ruling elites and the population found in most developed countries whereby the ruling elites are accountable to the population of the country based on tax collection and the concomitant demand for representation.

Cyclical Structural Damage Caused by Commodity Boom and Busts

Also known as the Dutch Disease, refers to the negative impact that the sudden discovery of natural gas by the Netherlands in the late 1950's had on the overall economy. Basically, the boom introduced the infusion of natural gas wealth had several unanticipated side-effects including a real appreciation of the currency, an increase in spending, an increase in debt, a weakening competitiveness of domestic products in a global market due to the suddenly stronger currency, and finally the difficulty that may be encountered in servicing debt if a bust in the commodity price.

Economists have developed models that explain the problem clearly. In their models, the economy has three sectors: a tradeable natural resource sector, a tradeable (non-resource) manufacturing sector, and a non-traded sector. Capital and labor are used in the manufacturing and non-traded sectors, but not in the natural resource sector. The greater the natural resource endowment, the higher is the demand for non-tradeable goods, and consequently, the smaller is the allocation of labor and capital to the manufacturing sector. Therefore, when natural resources are abundant, tradeable production is concentrated in natural resources rather than manufacturing, and capital and labor that otherwise might be employed in manufacturing are pulled into the non-traded goods sector. As a corollary, when an economy experiences a resource boom (either a terms-of-trade improvement, or a resource discovery), the manufacturing sector tends to shrink and the non-traded goods sector tends to expand (Sachs 1995).

The real problem of the "Dutch Disease" is that either a country has to deal with the shocks to the economy during a boom and bust cycle, both good and bad. These shocks can be painful if not foreseen and properly anticipated through economic policy. If the commodity price does maintain a boom state for an extended period, currency appreciation makes the crowding-out of

non-commodity exports more likely as they become less competitive on the global market (Frankel 2012).

Solution: Economic Diversification

Since it is generally accepted that Qatar is in fact subject to the resource curse, it would be desirable to avoid the worst of the problems associated with the curse. Just because a country is subject to the resource curse does not lead automatically to the worst problems associated with it, particularly the problem of an inability to develop the economy in a way that secures long term success for the country. Most economists agree that the path forward for resource-rich countries, especially in face of the resource curse, is to seek ways to diversify their economy and strengthen institutions within the country to perform good governance.

The concept of economic diversification refers to the presence of multifarious and generally non-overlapping sectors that account for the overall GDP of a country. Economic diversification also emphasizes the importance of having a diversified economy where more than one sector plays an important role in economic development (Albassam 2015).

The United Nations Framework Convention on Climate Change (2016) has also stressed the importance of economic diversification, offering a clear definition of the concept and goals that diversification aims to achieve. “Economic diversification has been used as a strategy to transform the economy from using a single source to multiple sources of income spread over primary, secondary and tertiary sectors, involving large sections of the population. The objective has always been to improve economic performance for achieving sustainable growth; for example, building resilience against fluctuations in extra-regional economic activity, reducing

vulnerability to income loss due to volatility of product price on the international market, creating job opportunities and alleviating poverty.”

Based on this understanding of economic diversification, economists have identified many clear benefits from diversifying an economy. Economic diversification has been connected to stability and sustainability in economic growth. An economy's reliance on one income resource puts at risk that economy's ability to maintain a certain level of economic growth in the long run since the economy is profoundly dependent on income from that resource (Albassam 2015). Economic diversification also helps to self-insure against the large macroeconomic shocks transmitted to countries heavily dependent on a limited range of resource exports by wide swings in resource prices (Gelb 2010). Likewise, economic diversification, especially in manufacturing enables dynamic learning-by-doing (Matsuyama 1992) gains that raise productivity and income. A related argument is that diversification exposes producers to a wider range of information, including about foreign markets, and so raises the number of points for potential “self-discovery”. Capability in one sector can open the way to others, especially those that use related knowledge (Gelb 2010).

Overall, economists make the argument is that diversified economies perform better over the long term (Gelb 2010). An important point to make is that Qatar is in agreement with this position. In the Qatar National Vision 2030 document, the government of Qatar makes bold statements about the need for and determination to pursue economic diversification. The document states that an essential pillar of the national vision is the “development of a competitive and diversified economy capable of meeting the needs of, and securing a high standard of living for, all its people both for the present and for the future” (Qatar 2008).

The Qatar National Vision 2030 document gives more detail on what Qatar aims to achieve by economic diversification. The document states that “[a] diversified economy that gradually reduces its dependence on hydrocarbon industries, enhances the role of the private sector and maintains its competitiveness through:

- Expansion of industries and services with competitive advantages derived from hydrocarbon industries
- Design and development of economic activities in which Qatar can specialize, including the technical and human requirements of these activities
- A knowledge-based economy characterized by innovation; entrepreneurship; excellence in education; a world-class infrastructural backbone; the efficient delivery of public services; and transparent and accountable government”

Based on this document, it appears that Qatar is implicitly aware of the threats posed by the resource curse and has acknowledged that the proper path forward for successful development is through the pursuit of economic diversification. It is Qatar’s pursuit of economic diversification that is important for this paper.

1.3 Justification of the Topic Selection

The theme selected is important because it appears that the era of very high prices for oil and natural gas may be finished for the foreseeable future. The U.S. Energy Information Administration (EIA) states in its publication entitled Short-term Energy Outlook that the price of oil is projected to remain well below its heights of 2008 per barrel into 2017 as the oil market seeks to find balance between supply and consumption demand (EIA). Furthermore, the EIA projects that the oil market will remain volatile. The EIA point to several factors in the global

economy that have a direct impact on oil prices adjust, including China's economic growth and demand, Iranian oil entering the market, US oil producers exit or reentry into the market, and so on. Because of so many moving parts impacting oil prices and energy prices generally, it's important for economies that rely on revenue from oil and natural gas to try to limit the impact that such volatility has on their economies.

Beyond the resource curse issue, Qatar has a vested interest in developing economic diversification of its economy. The great benefit of diversification serves in fact as an antidote to the worst aspects of the resource curse. Overreliance on a single resource or sector of the economy puts the overall economy at the mercy of the vacillations of the global market for that commodity, which can harm an economy in times of low prices. Also, a sudden infusion of capital from sales of a single resource or rents generated from exploitation of that resource can cause the currency of that state to suddenly increase in value, but also making products of that country less competitive on the global market. Finally, the sudden infusion of wealth from a single resource can act as a disincentive for the population to acquire new knowledge and participate as a competitor in the global economy. To all these problems, economic diversification will help reduce their negative impact. Ideally, economic diversification will give the economy of a state a broader base to create wealth and generate revenue. Once achieve, the state will no longer be at the mercy of the market for the single resource, will be able to stabilize its currency and become more competitive in other sectors of the global economy, and give their population avenues to participate and utilize learned and developed skills.

If Qatar is indeed subject to the resource curse as it develops its economy and society, it is vital to learn from past mistakes of other countries and pursue policies that work to minimize the worst results caused by the resource curse. Furthermore, since it's recognized that economic

diversification is seen by economists as the means of escaping the worst problems of the resource curse being able to measure and qualify Qatar's progress is important. For this reason, and all the reasons listed above, Qatar has a vital interest in being able to gauge its progress towards economic diversification and understand the quality of that progress thus far.

1.4 Statement of the Questions to be answered by this Study

Given the fact that Qatar is recognized as being subject to the resource curse, to what measurable degree has Qatar been able to implement the solution of economic diversification? Furthermore, for a state with unique characteristics like Qatar, what prospective types of diversification are most important and most likely to succeed?

1.5 Objectives of the Study

General Objective

In consistency with the problem stated above, the objective of this paper is to answer the question of the degree to which Qatar has achieved its goal of economic diversification so far. In conjunction with an examination of the degree to which Qatar has achieved diversification, the objective of this paper is also to determine which economic sectors are most important to Qatar's ultimate success in diversification and which have the best chance of becoming sustainable over time.

In order to fulfill this objective, the methods chosen include both quantitative and qualitative research. A mix of both types of data will be useful because this paper examines economic diversification in both the present time for which there is data available to perform the analysis. But this paper also will examine the prospects for future economic diversification that is

sustainable over time for which qualitative research based on current development theories can be determined through interviews.

Intermediary Objectives

In consistency with the specific objective above, the intermediary objectives include a range of high-level research and data analysis. As a foundation for greater insight into both the quantitative and qualitative analyses of this research it is important to have a strong grounding in economic theory – particularly development economics with a strong focus on the issues that pertain to Qatar specifically. Those issues include the resource curse theory, economic diversification theory, and economic sustainability. Although knowledge of any of these areas will not directly support responding to the question posed as the problem to be answered, they are essential knowledge for anyone interested in conducting meaningful research. This is because this knowledge will give proper context to understand what quantitative and qualitative research is most relevant and will generate analysis to address the problem effectively and produce a meaningful answer.

A second intermediate objective of this paper includes gathering economic data for Qatar. There are several types of economic data that are particularly important. They include data on how Qatar's different economic sectors are financed; data on which economic sectors account for Qatar's total GDP (including how much each sector contributes to it); data on amount and types of exports from Qatar.

There is a clear relationship between the economic data variables. Greater complexity seen in the GDP of Qatar may show signs of economic diversification, but can also be misleading depending on how non-hydrocarbon sectors are able to sustain their existence. Each sector of the

economy of Qatar is either able to fund itself and generate revenue resulting in profits or it relies upon other sectors of the economy (especially the hydrocarbon sector) to fund its operation. One aspect of economic diversification is achieved when a sector of the economy is able to exist and function independently of the funding of other sectors of the economy. Likewise, a wider range of exports can also reflect on diversification, but also can be misleading for the same reasons described above for GDP.

A third intermediate objective of this paper includes gathering interviews from a variety of sources that represent authoritative voices from Qatar's government and business community. Economic develop does not happen in a vacuum, those leading the process have to deal with a huge range of variables and challenges over time. The qualitative data that will be produced from the interviews will fulfill the objective of eliciting vital information about Qatar's economic diversification plans that cannot be understood only by examining the quantitative data available.

1.6 Scope and Limitations of the Study

This research concerns primarily Qatar's economy and not on the GCC or the wider MENA region. The data collected and interviews conducted are only with regard to Qatar. The factors considered with the data and interviews focus primarily on Qatar's economic development and do not aim to give any insights into the political or social development of the country unless it has a direct relationship to Qatar's economic development.

The quantitative analysis is done without any intent to create new data that does not exist already. Rather, the analysis utilizes the most up-to-date existing data to perform a variety of analyses from existing models of economic diversification. The Quantitative analysis does aim to

give some unique insight into the interrelatedness of the various models of economic diversification with regard to Qatar.

The qualitative analysis intends to create new data through new and up-to-date interviews on economic diversification with prominent members of Qatar's government and business community.

The quantitative and qualitative analyses both do reference countries in the GCC and important baseline countries to compare and give context to data and results for Qatar's economic diversification. Both the quantitative and qualitative data is limited to the macroeconomics of Qatar and does not consider microeconomic data or what impact qualitative analysis from a microeconomic perspective has on the research.

2 Literature Review

The literature consulted in this paper can be divided into four prominent categories. These categories include: 1) the resource curse theory, 2) economic development theory that includes a subset focused on 3) economic diversification, and finally literature on 4) measuring economic diversification. All of the different categories, particularly the first 3, had some degree of overlap, but each exists as distinct areas of scholarship.

Resource Curse Theory

The scholarship available on resource curse theory originates with work done by economists in the middle to second half of the 20th century, particularly regarding boom and bust economic cycles as well as the problem of poor economic performance by resource-rich developing

countries. This second phenomenon ran against intuition and led many economists to ask why this was happening.

Although some work regarding the phenomenon of what would be called the resource curse had been examined by other scholars (Hirschman 1977) – including research describing the “Dutch Disease” (Van Wijnbergen 1984) – Richard Auty (1993, 2001) is typically credited with originating the phrase “natural resource curse” to describe the phenomenon. His work set the groundwork for analyzing the problem by looking at the relative success or failure of resource-rich countries beginning at a low-income stage of development and comparing different countries that produced varying levels of successful development trajectories.

Soon after Auty’s work appeared, Sachs and Warner (1995) were the first to apply econometric approaches to studying the problem of the natural resource curse. They argued that natural resource wealth was correlated to slower economic development by impacting the non-resource sectors of economies negatively. Sachs and Warner (2001) extended their earlier work and examined a different set of variables from their original work concluding that resource-rich countries failed to optimize their opportunities for export-led growth. They also argued that geographical or climatic conditions fail to provide convincing evidence for the phenomenon. Gylfason (2000) stressed the need for natural resource-rich countries to actively counteract the tendencies for their economies to underperform and ignore the importance of allowing market-forces to work in the development process. Stevens and Dietsche (2008) have contributed to the resource curse debate by arguing that good institutions are essential for successful development to prevent the worst abuses of poor leadership and corrupt practices elsewhere in the public sector. Venebles (2016) reexamines the resource curse from an up-to-date perspective and asks again why the problem persists despite years of analysis and commentary on it.

There has been much written about the natural resource curse in the context of the Middle East, and particularly about the states that constitute the GCC. In a book focused on the phenomenon of acquiring wealth through rents, Beblawi (2015) describes the “rentier state” and the impacts this has on economic development. Likewise, Ali (2016) and Sillitoe (2014) have conducted a study of the MENA region with findings concerning the resource curse impact on the region, both provide a good overview of how the resource curse uniquely impacts the GCC region. Stevens (2015) looks at the role of sovereign wealth funds (SWF) as a means of neutralizing the shock as a result of commodity volatility for resource-rich countries. Finally, Ross (2001 and 2012) turns to the issue of democratization and the resource curse, inquiring whether or not oil resource wealth hinders the development of democracy, paying particular attention to the Middle East.

Economic Development Theory and Economic Diversification

The topic of development has been of great interest to economists, especially since the end of World War II when former colonies became independent and faced the task of economic stewardship on their own. A lot has been written about development theory, although not all of it is applicable for this study. The area of development theory that is applicable has to do with the unique context of development in the Middle East, especially after the moves to exploit massive oil reserves from the 1940s and Qatar’s development of its natural gas reserves from the 1970s.

The theory of development that is most pertinent is Modernisation Theory and the work of Rostow (1959). In his article, *The Stages of Economic Growth*, Rostow argued that development flowed through several sequential stages, including a “take off” stage that reflected a country being able to control and run its own economy successfully. This type of theory is appealing to

the countries of the Middle East that have great wealth through hydrocarbons and are able to finance their own development.

The type of growth experienced by the Middle Eastern countries with hydrocarbon wealth leads to a discussion of how that growth should be pursued. Work by both Nurkse (1953) and Rosenstein-Rodan (1943) advocate a “big push” to develop across a wide range of sectors all at once. This approach, although appealing for those interested in quick modernization of the Middle East weren’t particularly realistic. The development theory of unbalanced growth advocated by Hirschman (1977), particularly with focus on the development of linkages throughout the economy, seemed to fit the situation in the Middle East more closely.

Into the 21st century, most hydrocarbon-rich countries of the Middle East have made great strides in development and modernization. The construction of infrastructure, buildings, institutions and companies driving growth in things like education, travel, retail consumption, and tourism have emerged. Discussion now turned to economic stabilization, sustainability, and human capital. Into this context, theories of diversification in the Middle East became very pertinent to economic planners and scholars.

Wilson (2013) provides a strong theoretical grounding in development in the modern Middle East. Gelb (1988, 2010) covers a lot of ground in his work on diversification in resource-rich countries – especially focusing on why resource-rich countries should diversify away from advantages. Hesse (2006) discusses how export diversification can help growth, which is an important issue for economies of the GCC at the moment. Finally, Albassam (2015) reflects on the path of Saudi Arabia towards economic diversification and finds that it’s often easier said than done, exposing many of the problems that resource-rich countries in the Middle East encounter as they push for diversification.

Studies focused on resource rich countries, weighing the benefits of diversification are useful to expose potential pitfalls along the diversification road. Studies by Joya (2015) and Wiig (2012) look at some of the problems that countries encounter as they attempt to diversify their economies. Two additional recent studies on the issue of economic diversification specifically in the GCC include Al-Kawaz (2008), Hvidt (2013) and Callen (2014). These studies examine empirical and comparative data to understand how the GCC is progressing with diversification and what problems are being exposed through the experience.

Measuring Economic Diversification

With the goal of economic diversification being paramount, so much so that considerable work has been done on producing methodologies and models to measure it accurately. This is especially important for countries that are worried about the natural resource curse. Stevens (2015) called the ability to measure economic diversification as a way to assess how far a country has been able to diversify its economy away from the extractive sector. A country that has succeeded in diversifying might be said to have avoided the curse and benefited from its natural resources.

Literature focused on econometrics and data analysis measure diversification through the process of using general economic performance data such as GDP and export data and running it through various models. Espinoza (2013) takes a broad look at the macroeconomics of the GCC to generate analyses of their performance and development progress. Luciani and Beutel (2012) provides a wealth of information on precisely how to measure diversification as it applies to the GCC and their development models.

More specifically, literature on the Herfindahl-Hirschman Index and econometric measures devised to measure the concentration ratio of a given sector to the overall GDP (Shediac 2008). Much of the literature review has also been locating good statistical information about the economy of Qatar. This includes the United Nations Statistics Division (2014) COMTRADE databases, Qatar Statistics Authority (QSA), and Qatar Ministry of Development Planning and Statistics Economic Outlook information (2016).

Finally, the paper by Booz & Company entitled Economic Diversification: The Road to Sustainable Development (2008) gives a strong focus on the topic of measuring economic diversification and the implications garnered from the metrics. In this paper, measurements are made for economic sustainability and exposure to economic volatility, which are strong indicators of the ability of an economy that has a degree of diversification to maintain growth that is not reliant on a single sector for its economic support as it matures.

It almost goes without saying that measurements of the relationship between economic diversification and sustainability are very important. To that end, the paper covers a wide range of possible metrics that can be produced. Some of the types of measurements highlighted in the paper include productivity and competitiveness and the relation of economic volatility to concentration, employment, and economic performance are performed. A range of measurements of diversification against sustainability. They include the following:

- Productivity and Competitiveness
- Economic Concentration
- Unemployment Levels in Concentrated Economies
- External Trade

Likewise, the paper points to productivity and competitiveness as another measure of economic diversification. In their paper, Booz & Company have found that poor economic diversity is linked to low productivity and competitiveness. They state that productivity is directly related to competitiveness because the more people and/or capital it takes to do a job or create a product, the lower productivity is. And the lower productivity is, the more a product costs, and the less competitive that product can be in the marketplace. They also found that if a workforce is very sparse in a country's largest economic sector and heavily distributed in less economically important sectors, labor and capital productivities in concentrated sectors lag far behind those in less concentrated sectors.

Another key finding in the Booz & Company report has to do with the degree of economic concentration as leading to unacceptable exposure to volatility and fluctuation in economic cycles. The paper states that High Economic Concentration Leads to Volatile Growth and Fluctuating Economic Cycles. High economic concentration makes an economy vulnerable to external events, such as changes in the price of the dominant commodity.

Further to this point of measurement, the Booz & Company analysis of economic concentration showed that, with time, economies worldwide have somewhat adapted to better absorb oil-price shocks, as businesses, governments, and individuals have integrated changing oil prices into their decision making, expectations, consumption, savings, and investment patterns. However, it is important to understand to what degree Qatar is prepared to absorb the shock that commodity volatility brings to the economy.

The final area of analysis that is important for the literature review of measurements of economic diversification is unemployment that exists in concentrated economies. The Booz & Company paper discusses how volatility in concentrated economies may spawn structural

unemployment issues and engender systemic risks. Having volatility in the sectors of the economy that support the highest proportion of economic sectors presents a particular problem. It causes frequent unemployment and often results in high structural unemployment rates—that is, unemployment that occurs because the available laborers do not have the skills or knowledge needed to match the available jobs.

3 Research Hypotheses and Framework

Based on the literature review and synthesis of the latest thinking in economic theory as it has to do with the natural resource curse and economic diversification in GCC generally and Qatar specifically it would follow that Qatar is not facing the worst consequences of the resource curse at the present moment and is moving forward with determination to diversify its economy.

More specifically, it is hypothesized that Qatar is indeed showing positive indicators of its progress in becoming more economically diversify – reflected both in the quantitative and qualitative analyses. In this hypotheses, quantitative analysis reflects a healthy degree of diversification when compared to both regional and baseline countries. Likewise, the qualitative analysis reflects an awareness of the threats posed by not only the resource curse, but also the challenges of development, and a concerted effort to address these threats through policies that will directly increase economic diversification.

4 Methodology

The research methodology for this study includes both quantitative econometrics and qualitative analysis through the use of interviews and questionnaires. It's important to have both types of analytical information in order to have a full view of Qatar's economic diversification.

The reason for this is that quantitative data will enable the measurement of how much Qatar does or does not rely on the oil and natural gas sector for its economic development. Qualitative analysis, on the other hand, allows for an assessment of the mood or sentiment of leading members of the Qatar business community and government with regard to Qatar's economic diversification through its business activities and governmental actions.

The research methodology explores in detail the precise "prospects" of Qatar's economic diversification. There is already much written about the directions in which Qatar plans or already is acting to diversify its economy. Researchers at BMI (2016) assess Qatar's economy on a regular basis and have said, "The non-hydrocarbon economy will grow steadily in relative importance over the next 10 years, and by the end of the forecast period we project it to constitute more than 51% of nominal GDP. Qatar will continue to focus on building up its financial services industry as it aims to rival Bahrain and the UAE as a regional financial centre."

Likewise, a report issued by Qatar National Bank (QNB) in 2015, states that Qatar's acknowledged goal of economic diversification is progressing. The report says, "[a] major programme of infrastructure investments is underway to diversify the economy away from hydrocarbons, leading to double-digit growth in the non-hydrocarbon sector. The main areas of investment have shifted from oil and gas to construction, services and transport. The bulk of these projects are expected to be completed ahead of the FIFA World Cup in 2022, driving growth over the medium term. Beyond 2022, Qatar is expected to enter a new human capital phase of growth that will depend on attracting, developing and retaining talent. In line with its National Vision 2030, Qatar aims to transform itself into a knowledge-based economy."

The Oxford Business Group's yearly report on the economic state of Qatar in 2015 provides a wealth of information about a range of economic performance indicators across a range of

sectors. Emphasis on the need to push diversification can be found throughout the publication. A notable section entitled economy analysis states the emphasis clearly. It states, “non-oil growth is expected to drive economic expansion, and the government has made it clear that there will be no let up in the project roll out, despite oil market volatility. Well before oil prices dropped, Qatar had moved to achieve sustainable longterm growth via efforts to diversify its income, ownership structure and capabilities. Diversification has been ongoing and saw the value of the non-hydrocarbons sector exceed that of hydrocarbons for the first time in Q3 2014, reaching 50.7% of GDP growth compared to 49% in Q2 2014. Qatar National Bank (QNB) reports that non-oil growth was spurred by investments in infrastructure projects, as well as a fast-expanding population and corresponding growth in consumption.”

With this in mind, it makes sense to focus on education, construction, manufacturing, technology and tourism as key growth sectors and essential for the push for economic diversification. This is particularly true in light of Qatar's selection as host of the 2022 football World Cup. Another important point is that a central tenet of Qatar's drive to diversify is the creation of a 'knowledge economy', in a similar fashion to changes taking place in the UAE and Saudi Arabia, through the commercialization of research and development in partnership with the private sector. Education City, which contains the Qatar Science & Technology Park, will be an important feature of this strategy (BMI 2016).” Likewise, a large sections of the Qatar National Vision 2030 document is devoted to diversification. There is large agreement that Qatar is well positioned to achieve success in the areas of financial services and sports tourism (Oxford Business Group 2015). The reason why this is the case is based on Qatar's huge reserves of wealth in its sovereign wealth fund and other global investments. Also, Qatar's selection to host the 2022 World Cup and its aggressive pursuit of hosting other global sporting events (including

the Olympics) is the main reason why it is seen as a viable location for the development of sports tourism. The prospects of Qatar to achieve success in other areas, particularly education and high technology is not as clear as of yet. Research that sheds further light onto the issues of economic diversification is the main focus of the research methodology, both quantitative and qualitative.

Quantitative Analysis

In regard to quantitative analysis, this study makes use of economic diversification measurement models. There are many different models of measurement from which to choose, but three models are chosen to provide a good cross-section of economic diversity from different perspectives on Qatar's economy. The models chosen for this study include 1) the Herfindahl-Hirschman index, (equivalent to a model that measures economic concentration across GDP sectors), 2) adjusted net savings (genuine savings) and 3) a model that measures export diversity against the hydrocarbon sector. The last two measurements are inspired by the metrics developed by Booz & Company in their paper entitled Economic Diversification: The Road to Sustainable Development (2008). In the paper, several measurements of economic diversification are offered to gauge the degree of diversification within an economy.

Herfindahl-Hirschman Index

The Herfindahl-Hirschman index (HHI) is a long-standing and commonly used measurement for evaluating market concentration and diversification of an economy. The index is calculated by taking the sum of the squared shares of various industries in GDP. In the normalized form, the index varies from 0 to 1. Low number (closer to 0) reflect a country that has a large number of sectors with similar employment shares indicating high diversity. High numbers (closer to 1)

indicate that one sector accounts for nearly all the employment and has less diversity. (Beutel 2012).

Measurement of the HHI for Qatar and the other GCC countries over time are used to gauge general diversification trajectories. Comparisons to other non-GCC countries are also useful, especially countries that represent similar size and stage of development as Qatar.

Economic Diversity as a Function of GDP Concentration

In developing measurements for GDP concentration and export diversity, work done by Booz & Company in their publication *Economic Diversification: The Road to Sustainable Development* gives clear inspiration on how to proceed. The reason why the Booz & Company paper has been used is that the analysis done by Booz & Company identified a clear link between economic diversification and sustainable growth. Their analysis also showed how diversification can reduce a nation's economic volatility and increase its real activity performance. Their findings provide a firm reminder to policymakers worldwide that one key to building a strong, sustainable economy is building a diversified economy—one that is not overly dependent on a single commodity and that has a strong external as well as internal focus.

A variation of these metrics is used to inspire further analysis in this study – specifically measurement of Qatar's economy that are not hydrocarbon-based or reliant on the hydrocarbon sector for sustainability. The sectors of the economy analyzed reflect a broad range of economic activity in Qatar.

There are several guiding principles for the quantitative analysis of economic diversity in Qatar. First, the contributions to GDP should be distributed across a range of economic sectors. Using GDP distribution data, it is possible to begin measuring economic concentration and

diversification. The idea behind using GDP is that by reviewing distribution over a variety of sectors, both in the hydrocarbon as well as non-hydrocarbon sectors, it's possible to determine whether they are evenly distributed across a wide variety of economic sectors— or whether they relied heavily on just one or two sectors – showing high or low degrees of economic diversification. Interestingly, the measurement that is done in the paper is equivalent to the HHI, only without using that name.

This measurement of economic diversification is called the Concentration Ratio. The Concentration Ratio measures a nation's concentration in a given sector through a calculation of the sum of squares of the percent contribution to GDP for each sector, similar to the HHI. An additional metric can be derived from this calculation, the diversification quotient, which is the inverse of the concentration ratio; it provides a metric that policymakers can use to gauge their nation's economic diversity. Essentially, the lower the concentration ratio (similar to the HHI) and the higher the diversification quotient, the more diversified a nation's economy.

Using this econometric approach, it is possible to produce measurements for Qatar over a range of years. Just as important, other economies that are either comparable to that of Qatar or that can serve as benchmarks can be calculated as comparison to Qatar. These economies are those that reflect the ideal of successful economic diversification and those that have failed to escape from the resource curse and are which have a minimally diversified economy.

Adjusted Net Savings (Genuine Savings)

The World Bank has come up with a model to measure economic sustainability of an economy, which is an important aspect of the goals of diversification. Countries that diversify, but are not able to create a sustainable future will become less able to grow and further develop

in the future. The World Bank model aims to measure how much countries are saving in a genuine sense and thereby how sustainable their current actions will be going into the future.

The measurement is done by taking various statistics including consumption of fixed capital, energy depletion, mineral depletion, carbon dioxide emissions damage, and particulate emission damage as drains on adjusted net savings for a country. Human capital investments in things like education are seen as gains that add value to the adjusted net savings of a country. A calculation is performed by subtracting all the drains on savings from the gross national savings and adding the gains from human capital to arrive at a final value that represents adjusted net savings or genuine savings.

A negative value for adjusted net savings rates imply that total wealth is in decline. Policies leading to persistently negative adjusted net savings are policies for unsustainability. In addition to serving as an indicator of sustainability, adjusted net savings has several other advantages as a policy indicator. It presents resource and environmental issues within a framework that finance and development planning ministries can understand. It reinforces the need to boost domestic savings, and thereby the need for sound macroeconomic policies (Beutel 2012).

Concentration Ratio of Export Diversity against the Hydrocarbon Sector

Finally, export trade is a key measure of the strength of economic diversification as it represents the ability of an economy to attract external revenue into an economy that obviously is not reliant on the hydrocarbon sector. Export trade helps reduce economic volatility. On a positive note, it does seem that this pervasive volatility (and its enduring spillover effects) can be mitigated with the development and diversification of high-value-added exports of goods and services.

The way that export diversity is measured is by dividing exports into groups based on some number x categories as grouped by the Broad Economic Categories (BEC) and as defined by the UN Comtrade database. Once export trade has been divided into groups, it's possible to take the sum of non-hydrocarbon exports and divide this into the hydrocarbon exports to produce a result value. Results that are greater than 1 indicate an export diversity that is more diverse compared to the hydrocarbon sector. Results less than one indicate that diversity of exports are low as compared to the hydrocarbon sector.

This ratio gives equal emphasis to the x largest export categories (where x is the categories defined by the BEC as defined in Comtrade) but neglects the remaining categories in the export market. If the ratio value is close to unity, this means that the x categories included in the ratio make up the entire export bill and hence concentration is high (Meilak 2008).

All these metrics are important to understand how to measure economic diversification and the degree to which it has or has not been achieved. Data provided by the Qatar government and other international organizations like the United Nations is used to make the calculations that inform the quantitative methodology of this study.

Qualitative Analysis

The qualitative analysis helps to compliment the quantitative analysis of the study. The intent is to give rich insight into the topic of economic diversification that can't necessarily be summarized or explained by only reviewing results from the quantitative analysis. It's possible that results from a qualitative analysis will help to elucidate or explain something within the quantitative analysis that may need further insight to properly understand.

What is included in the qualitative analysis for this study is interviews and surveys with prominent individuals within the business community of Qatar as well as the government of Qatar. This is important because the business community and government of Qatar have come together to help for the Qatar National Vision 2030. A key point of the national vision has to do with economic diversification. The document states:

“Development of a competitive and diversified economy capable of meeting the needs of, and securing a high standard of living for, all its people for the present and for the future.”

There is strong support for the ideals of economic diversification within the government of Qatar. In the Qatar National Vision 2030 document, it is stated that “Qatar’s bountiful hydrocarbon resources can be leveraged to make sustainable development a reality for all its people. Converting these natural assets into financial wealth provides a means to invest in world-class infrastructure; build efficient delivery mechanisms for public services; create a highly skilled and productive labor force; and support the development of entrepreneurship and innovation capabilities. If attained, these achievements would in turn provide a broader platform for the diversification of Qatar’s economy and its positioning as a regional hub for knowledge and for high value industrial and service activities. However, the challenges should not be underestimated” (Qatar 2008).

This statement is very powerful and encouraging about the commitment on the part of the government of Qatar for economic diversification. However, statements of intention do not necessarily equate to actual results. In order to gauge the level of support and initiative that the business community and government of Qatar have for economic diversification, as well as their abilities to successfully achieve this goal, it is necessary to inquire into the details of the

statements on the part of the business community and the government of Qatar. This is where qualitative research methods are applicable.

When doing research, it is sometimes necessary to understand how individuals think, feel or behave in particular situations, or in relations with others that develop over time. In order to record and begin to analyze such information, there are several qualitative research methods that can be used. They include use of in-depth interviews, participant observation and other methods to gather data.

Qualitative methods are scientific, but are focused more on the meaning of different aspects of peoples' lives, and on their accounts of how they understand their own and others' behavior and beliefs. Among the many possibilities for this study, three general types have been chosen. They include case studies, interviews (both semi-structured and unstructured), and questionnaires. The information garnered from the qualitative analysis will mesh well with quantitative analysis to give a fuller view of economic diversification within Qatar.

Case Studies

Case studies can be very helpful when doing qualitative research. Basically, case studies are the examination of a small number of specific examples. For this study, the case studies are represented by a variety of different types of business interests within Qatar. Their narratives and the in-depth study of respondent's stories can help to give a fully understanding of complex concepts across a range of examples.

Case studies also help in the exploration of different business, cultures and communities that make up the economic life in Qatar. However, in order to examine how far research can go in

generalizing the specific cases for wider society, some form of quantitative methods are often needed.

The case studies examined in this study concern the tourism industry within Qatar. These studies will help shed light on role or expected role that tourism will play in the economic diversification of Qatar. They are useful to show how intangible things such as hospitality and comfort in travel will bolster the tourism sector and add to diversification efforts within Qatar.

Semi-structured Interviews and Unstructured Interviews

In semi-structured interviews the researcher has a small core of questions or areas they wish to explore, but will then take the questions in different directions, depending on the answers they receive. Flexibility is important with this type of interview. This method is used when seeking richly descriptive information.

Unstructured interviews are open-ended and informal. The researcher is seeking a detailed picture and tries to bring no preconceptions. This type of interview is often used in narrative research. Generally, the researcher asks one question and then leaves the interviewee to talk or 'tell their story'.

Both techniques are employed to elicit predetermined information through the use of scripted questions, but the questions are crafted in such a way as to be open for further discussion. This includes questions to governmental and business figures on the Qatar National Vision 2030's stated diversification goals, the development of human capital within Qatar, employment planning for nationals, and comparison of Qatar to other models of diversification found in the GCC, particularly Dubai.

Open questionnaire survey

Unlike questionnaires in quantitative research, which offer a limited range of choices, open surveys seek opinion and description in response to open-ended questions. They may be used to gather information and ideas from more people than one-to-one interviewing would allow.

This technique is employed when the interview subject is unavailable for a face-to-face interview or when further information is desired that was not captured during the initial interview with a single interviewee.

In summary, the research methodologies utilized for this study are meant to provide quantitative metrics that show numerical evidence in support or against the object of this research – whether or not the economy of Qatar is becoming more diversified in congruence with the stated goals of the Qatar National Vision 2030. The qualitative methodologies are meant to help give textual support, context, and explain action of the results from the quantitative research results. Combined, these two research methodologies should allow for an in-depth and clearer understanding of the progress being made towards the goal of economic diversification as it continues to develop.

Universe and Sample

The universe used for this study is two tiered. First, there is potentially the universe of GDP (Gross Domestic Product) data by economic activity for the entire community of nations. This universe is necessary to create benchmarks for comparison of similar data to Qatar. The second tier is the GDP of Qatar itself, divided into sub-sections based on economic activity.

The universe extends temporally from roughly the 1970s to the present day in order to capture a range of activity over time that implies some type of change. Most importantly, the

point at which an economy changes from a single-resource dependent economy to a diversified economy.

The sample is the UN Comtrade databases, the World Bank, Qatar National Bank (QNB), and the Qatar Ministry of Planning Development and Statistics (MPDS). Datasets derived from these sources comprise the sample universe used by the research methodology.

Statistical Treatment

The basic statistical treatment of data will include formulas that determine relative diversification scores per sector of the economy, such as the formula for the HHI (also called the concentration ratio).

Equation for the Herfindahl-Hirschman index (HHI)

$$H = \sum_{i=1}^N s_i^2$$

Equation for Adjusted Net Savings (Genuine Savings)

Gross national savings – Consumption of fixed capital = Net savings

Net savings + educational expenditures – energy depletion – mineral depletion – net forest depletion – carbon dioxide emissions damage – particulate emissions damage =

Adjusted net savings (genuine savings)

Equation for measuring the concentration ratio of economic sectors

Economic sector segment / total economy = concentration ratio of sector segment %

\sum (Concentration ratio of sector segment, x1, x2) = **concentration ratio for sector**

$$1 / (\text{concentration ratio for sector}) = \text{diversification quotient}$$

Equation for measuring the concentration ratio for export diversity

$$\sum (\text{non-hydrocarbon export sector, } x_1, x_2) = \text{non-hydrocarbon sectors}$$

$$\text{Non-hydrocarbon sectors} / \text{hydrocarbon sector} = \text{export diversification quotient}$$

5 Data Analysis and Results

The data collected, processed and analyzed comprise a well-rounded examination of the state of Qatar's push towards the goal of fuller economic diversification. The results are compiled using data that is designated with each result listed in this section.

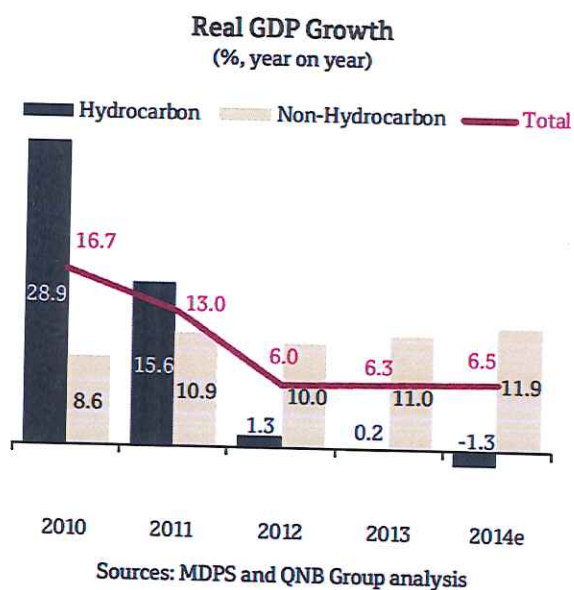
Before introducing the data and analyzing the results, it's useful to present some additional information about the economy of Qatar in 2016. Qatar has rapidly grown from the date of its independence in 1971 from a country with a tiny economy based on traditions like pearling to a economic power, boasting an economy that is among the fastest growing in the world today. Having some additional context of the state of Qatar's economy in 2016 will help produce a fuller picture of the trajectory and prospects for Qatar's future diversification and escape from the worst problems of the resource curse.

Qatar's Economy in 2016

The first thing that jumps out concerning the economy of Qatar is the incredible wealth of the country. Qatar's wealth is due predominantly from the hydrocarbon sector of its economy. According to a report from QNB about Qatar's economy in 2015, Qatar has the third largest gas reserves in the world after Russia and Iran, estimated at 872tn cubic feet. Hydrocarbons generated an average income of USD404k per Qatari national in 2013, significantly higher than

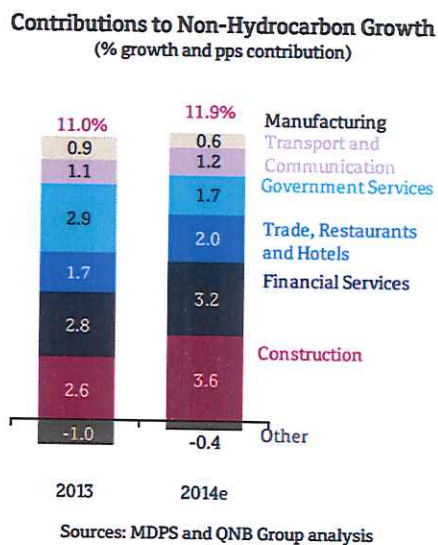
in other GCC countries. Proven gas reserves, along with crude oil and condensate reserves, totaled 188bn barrels of oil equivalent in 2013. This corresponds to 687k barrels of oil equivalent of hydrocarbon reserves per Qatari national. At current extraction rates, Qatar's proven gas reserves would last at least another 155 years and oil reserves another 33 years (QNB 2015). This wealth is essential for Qatar to meet its current needs, but also to finance its future development.

Although in 2014 there was a major downturn in the prices of oil and gas, Qatar is well positioned to weather the worst and adjust in the long-term to an overall lower price for hydrocarbon products. A major part of that push, of course, is diversification. Some of the benefits of this process are already reflected in GDP growth in the non-hydrocarbon sectors of the economy. As of 2014, growth in the non-hydrocarbon sector was 11.9 percent.



In conjunction with the growth in non-hydrocarbon sectors, Qatar is pursuing several projects in areas that will help continue to expand and grow the non-hydrocarbon sectors of the economy.

In 2014, “[t]he largest contributors to real non-hydrocarbon GDP growth are estimated to have been construction, financial services and trade, restaurants and hotels. Construction expanded robustly on the implementation of major infrastructure projects, such as the development of Lusail, Barwa City and the Education City. Financial services; trade, restaurants and hotels and government services benefited from the rapid population growth, which added to the expansion of the non-hydrocarbon sector. Transport and communication and manufacturing made additional contributions to non-hydrocarbon growth as the economy continued its strong diversification drive” (QNB 2015).



The Ministry of Planning Development and Statistics also weighed-in concerning efforts to economic diversification by stating in its report Qatar Economic Outlook 2016 - 2018 that “The share of oil and gas in aggregate output declined further in 2015 in real and nominal terms. In comparing shares, the stake of hydrocarbons in total real output is significantly higher than the same share in nominal (current price) terms, given the sharp fall in hydrocarbon prices since mid-2014. The calculation in nominal terms provides an alternative barometer of the changing

composition of output in the economy: the declining share of hydrocarbons in nominal GDP in 2015 reflects a combination of growth of the non-oil and gas sector, a fall in oil and gas prices, and a marginal decline in oil output” (2016).

Likewise, the Ministry also gave an analysis of the non-hydrocarbon sectors, stating that the non-hydrocarbon sector directed economic expansion in 2015, growing at 7.8%, with all subsectors showing growth. As in 2014, services were the major driver of growth, contributing 2.5 percentage points. Construction contributed 1.1, and manufacturing 0.3, percentage points. Oil and gas GDP contracted marginally, subtracting 0.1 percentage points from overall growth, largely because of a fall in oil production.

The fastest-growing components of the non-oil and gas sector in 2015 were construction (17.8%), agriculture (8.0%), services (7.4%) and electricity and water (7.0%). All non-oil subsectors posted slower growth than in 2014.

Among the service subsectors, the growth streak in the finance, insurance, real estate and business services subsector continued, albeit at a slower pace, expanding by 8.7% year on year in 2015 (figure 2.10). Additional credit was offered in response to demand from real estate developers and contractors working on large infrastructure projects, which also drove high growth on the insurance market.

Expansion in the trade, restaurants and hotels subsector showed a similar trend, at 8.0%, driven by a marked Government, household and social services growth edged down to 6.5% but stayed healthy thanks to continuing growth of the population. Lastly, transport and communications decelerated to grow by 4.2%, given the cessation of large capacity additions and the dependence on existing fleet utilization.

The primary driver of services over 2015 was the finance, insurance, real estate and business services subsector, which accounted for nearly half of aggregate services expansion. Trailing somewhat, government, household and social services was the second largest contributor to services expansion, at 2.1 percentage points. Dropping significantly from its contribution to growth in 2014, the trade, restaurants and hotels subsector was the third-largest contributor.

Buoyed by Qatar's huge investments in infrastructure and real estate, real construction output grew at a rapid 17.8%. Large projects include Qatar Rail and real estate developments for Lusail City. Eight new shopping malls were also under construction along with a plethora of new hospitals, schools and hotels.

Real manufacturing output grew at a tepid 3.2% in 2015, partly constrained by the availability of feedstock from upstream production, where supply has largely plateaued. Nevertheless, production across traditional production lines expanded over the year—of refined petroleum products by 4.4% and of petrochemicals by 11.8%. Growth in fertilizers continued to slow appreciably from 2014, with output inching up by just 1.7%. Production of other manufacturing products ebbed in 2015: basic chemicals—primarily petrochemicals and gas-to-liquid products—shrank year on year by 8.9%, and steel output by 6.2%, reflecting a global glut (Ministry of Planning Development and Statistics 2016).

It should also be noted that Qatar is currently making massive improvements on its infrastructure, partly in anticipation of the World Cup 2022, but also as a means to improve the viability of doing business inside Qatar. A major component of the non-hydrocarbon sector is construction, which continues to grow. The area of financial services was very important as Qatar looks to expand its banking and investment offerings to Qatari and non-Qatari customers. Finally, tourism is a major contributor to growth in the non-hydrocarbon sector as more hotels,

restaurants, and consumer attractions are opening. This area too is anticipating the needs for the upcoming World Cup 2022.

In terms of macroeconomic numbers in 2014 and 2015, the Ministry of Planning Development and Statistics states that “In real (volume) terms Qatar’s economy expanded by 3.7% year on year in 2015, largely maintaining the general pace of 2013 and 2014. The non-oil and gas sector accounted for all the GDP growth in 2015, led by services and construction. With lower average oil prices, in nominal (value) terms the economy contracted by 20.6%, its first decline since 2009. The share of oil and gas in aggregate output slipped further in 2015 in both real and nominal terms, reflecting the continuing change in composition in the overall economy to one dominated by the non-oil and gas sector” (Ministry of Development Planning and Statistics 2016).

Trade also is a very important part of Qatar’s economy, with the hydrocarbon sector taking an obvious lead in exports and receipts. The Ministry of Development Planning and Statistics gave an overview of Qatar’s trade by stating that “Qatar’s trade surplus fell by half in 2015 from its 2014 value, but still posted a surplus of 29.2% of nominal GDP. The current account posted a surplus estimated at 8.2% of nominal GDP. The fall in the balances was led by lower merchandise export proceeds, which plunged by 39% on lower hydrocarbon prices. However, a fall in imports provided a buffer, helping to maintain both accounts in surplus” (2016).

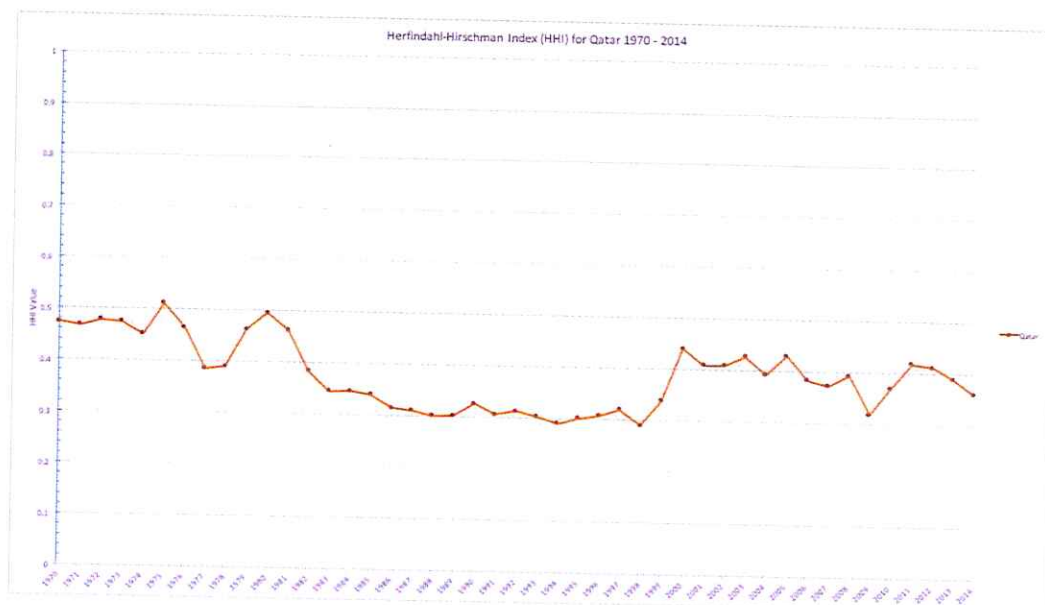
Stated in their report of the economic outlook for Qatar, the Ministry of Planning Development and Statistics states very clearly that it fully expects the non-hydrocarbon sectors of the economy to continue their strong growth. This bodes well for the drive to achieve economic diversification – to such a degree where Qatar can lean on this part of its economy to compensate for shortfalls from low oil and gas prices and stabilize the country’s economic

performance through the highs and lows of the hydrocarbon world market.

With the information about Qatar's current economy in mind, it's possible to look at the data concerning Qatar's level of economic diversification and provide context and analysis.

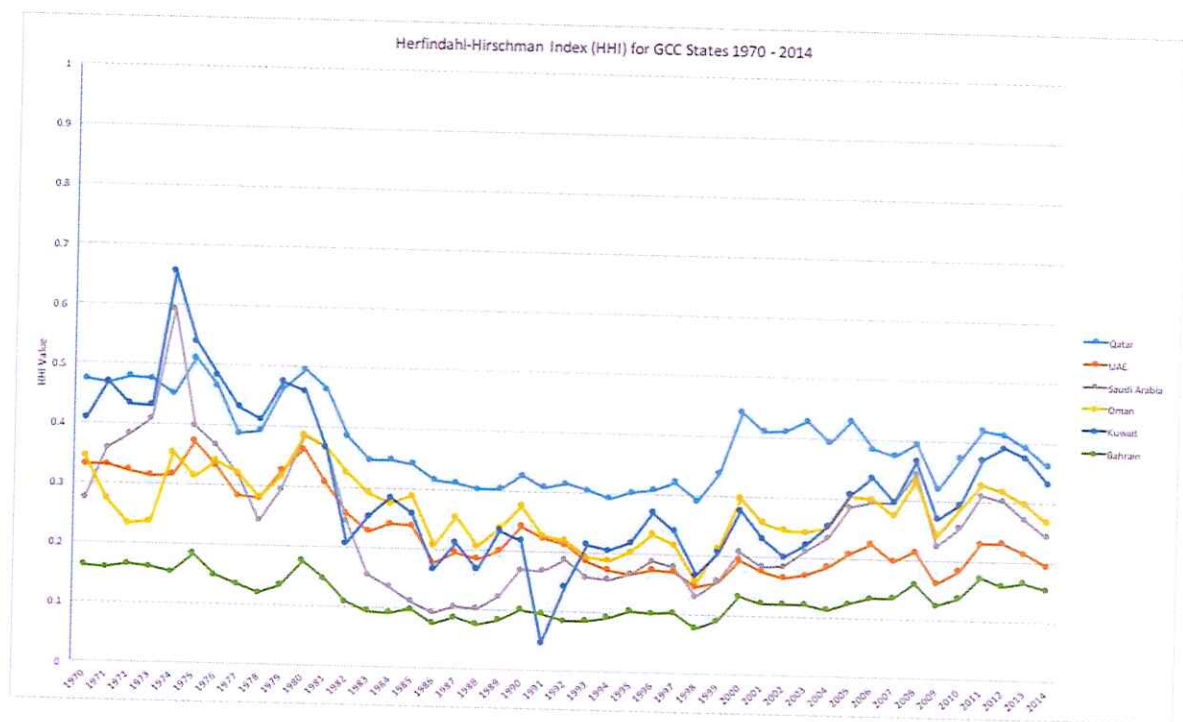
The Herfindahl-Hirschman Index

This index gives a metric to judge the degree of diversification within an economy. Lower values indicate a more diverse economy. As can be seen, Qatar has gone through several ups and downs regarding this indicator since 1970. What's important to note from this measurement, however, is the generally downward trend that can be seen since a boom in oil prices from around 2000. This indicates that Qatar is slowly becoming more economically diverse. The outlier of 2009 is reflective of the world economic crisis of 2008 that depressed demand throughout the world economy, as a result lowering prices and demand for hydrocarbon products. This lowered the degree to which hydrocarbons dominated the economy in 2009, and therefore produced a more diversified economy. However, this was soon corrected. The overall trajectory still points to increased economic diversity.



As a point of comparison, Qatar generally has lower scores than its GCC neighbors, but there is still a general direction given to Qatar's diversification push. The outliers on this chart include the world economic crisis of 2008, but also in 1991, Kuwait saw a downturn in its hydrocarbon sector due to the First Gulf War and its invasion by Iraq.

The data used to produce this chart comes from the United Nations Statistics Division, National Accounts Main Aggregates Database.

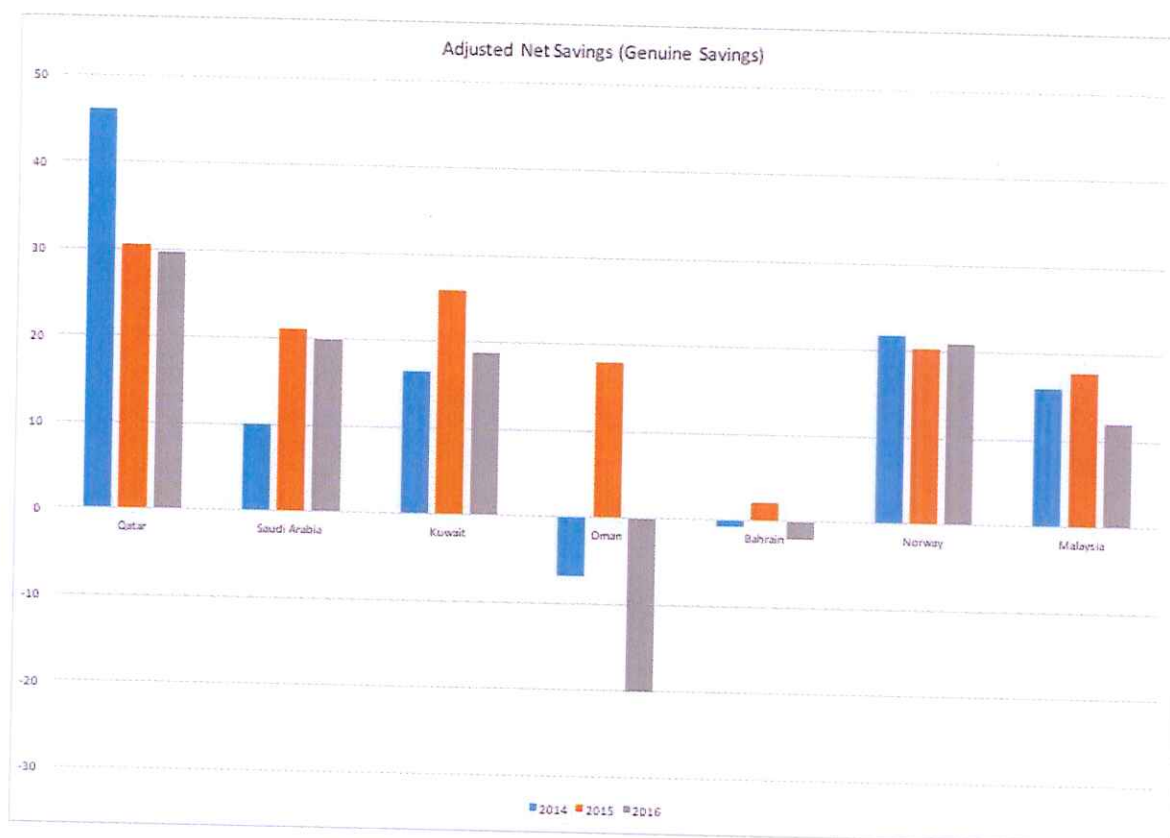


Adjusted Net Savings (Genuine Savings)

This indicator is important to show savings and more importantly is a measure of sustainability. A higher value indicates that the country is saving and therefore will be able to leave more resources for future generations, enabling them to continue to live at the same standards of living as their predecessors. For this indicator, Qatar comes out very positively. Qatar is committed to saving, as can be seen by its investments in the sovereign wealth fund and efforts to improve education across the country. Qatar's proceeds from hydrocarbon sales clearly make this possible, but as the indicator shows, it's important for Qatar to take advantage of it.

This indicator also reflects on environmental sustainability, since natural resources are also tangible things that can be passed along to future generations. Qatar is using its hydrocarbon resources at a steady rate. Where Qatar could aim to improve its carbon footprint, which is per capita among the highest in the world at the moment.

The date used to produce this chart comes from the World Bank.

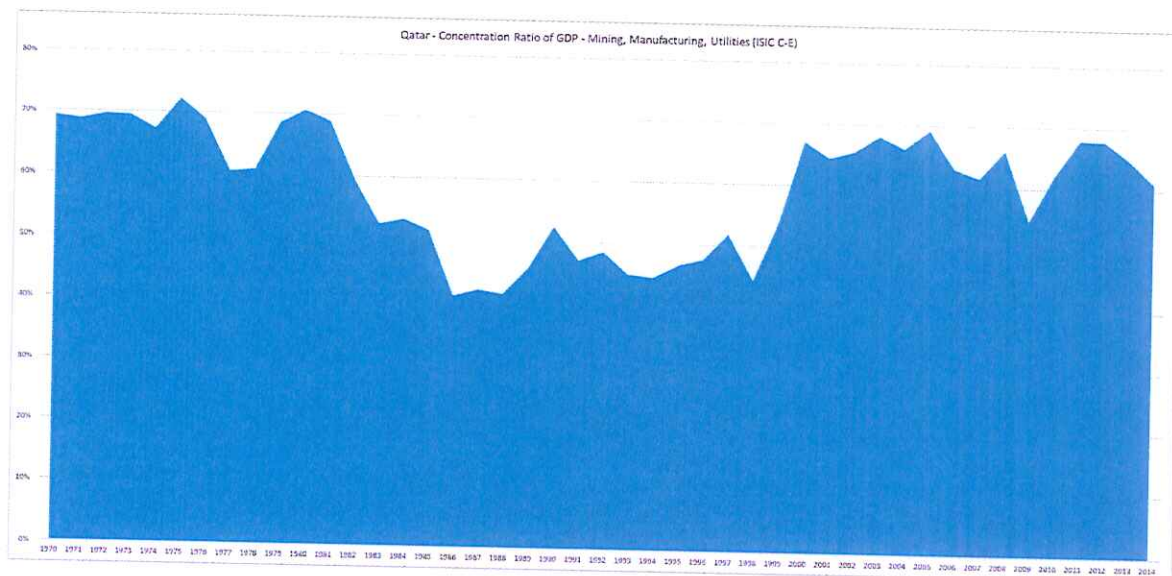


Concentration Ratio – Mining, Manufacturing, Utilities - Economic Sector

Qatar does rely heavily on its hydrocarbon sector, as is reflected in the Concentration Ratio indicator. This shows that even though hydrocarbons had a lower concentration during the late 1980s and most of the 1990s, the period from 2000 saw an increase in world demand for oil and natural gas, resulting in it becoming a large part of Qatar's overall economy. This indicator will likely remain at or near current levels for some time.

Although this indicator does show less diversification for Qatar's economy, it can be understood in the context of expanded world demand and massive economic growth within Qatar at the current moment. Over time, this indicator should fall below its current value.

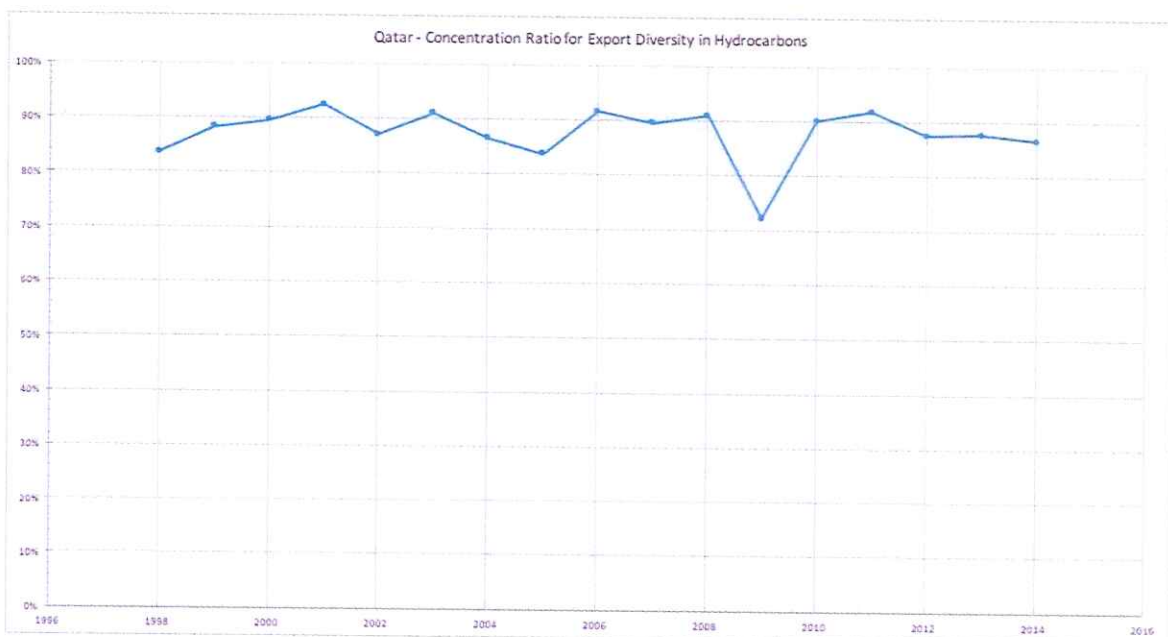
The data used to produce this chart is from the United Nations Statistics Division, Comtrade.



Concentration Ratio - Export Diversity

This indicator shows the concentration of hydrocarbons to the overall exports of Qatar. As can be clearly seen, hydrocarbons play a major role in the exports of Qatar. This, similarly to the Concentration Ratio indicator above for hydrocarbons in Qatar's GDP, reflects a lower degree of diversification. Qatar can do much to improve this, however. It's an area that deserves more attention moving forward.

The data used to create this chart is from the United Nations Statistics Division, National Accounts Main Aggregates Database.



Case Studies - Tourism

The case studies analyzed here form part of the qualitative analysis for this paper. The case studies chosen concerned the tourism industry and how it can be an important part of the process of increasing economic diversification. The case studies examined here deal with several different forms of tourism, including environmental, business, and sports tourism. Qatar has made incredible strides along the path to enhancing its appeal as a tourism destination. Of the most prominent was the opening of the Hamad International Airport in 2014. This signaled Qatar's intention to be an important participant in the travel industry and prepared to handle to influx of visitors for normal tourism as well as for large events like the World Cup in 2022.

The appeals of tourism are clear. In his case study of Abu Dhabi as a tourist destination, Richard Sharpley identified several key things that make tourism so attractive for countries looking to develop and diversify their economy. In his case study, the focus is on Abu Dhabi, but the concepts apply equally well to Qatar. The key attractions of tourism include: 1) Tourism is a growth industry. Since 1950, international tourism has demonstrated consistent and remarkable growth. 2) Tourism redistributes wealth. This is good to help develop a balanced economy where benefits are shared both many participants. 3) There are no trade barriers to tourism. Moving people to visit destinations does not involve typical barriers like other forms of trade. 4) Backward linkages. Tourists consume a lot of things "on site" and help stimulate the local economy in ways beyond the basic tourist visit to attractions or events. 5) Tourism utilizes "free" natural infrastructure. This reduces many additional costs that would have to be met by the host country. This clearly is most effective in visiting locations that are often classified as environmental tourism, such as tourism to parks and wildlife preserves.

There are some drawbacks to tourism in Qatar, mainly having to deal with the climate and temperatures during the summer that go well into 40+ degrees Celsius. This problem can be met in part by cooling technologies. The biggest challenge seems to be a branding problem, getting people to view Qatar (or the GCC) as a welcoming and attractive location to visit. The case studies reviewed all find ways that this challenge can be met.

The first case study concerned the development of environmental or bio-tourism in Qatar. The case study looked at the Al Reem Biosphere Reserve (BR) as a potential location for a significant environmental tourist location. It weighed the potential of the site as well as the problems that would have to be overcome.

The case study had two important aims in their investigation and recommendations from the case study. They included: 1. Establish good tourism as a vehicle for nature conservation and tourist education, and 2. allow the local population to benefit from the economic returns that will be offered by tourism development. The location offers many potentials for tourism

The case study states, "Al Reem is one of the most unique habitat complexes within Qatar and also within the whole Gulf region. Its landscapes are very diverse and vary from huge limestone rock formations and mesas to stone deserts, wadis and sabkhas. The surroundings are perfectly suited to several outdoor activities, like mountain biking, snorkeling, kite surfing or picnicking. But not only the natural beauty is attractive to people; especially the huge variety of wildlife found in the reserve is unparalleled in the country. Typical and eponymous for Al Reem is the "Reem" gazelle which can be seen around the Ras Abu Abrouk peninsula and within the three wildlife breeding centres. Also raised in the breeding centres and threatened with extinction is the Arabian Oryx, the national symbol of Qatar" (Richtzenhain 2008).

Nearby the Al Reem BR is an attraction called the Arabian “Cultural Village,” which in addition to being located in a unique setting of the biosphere reserve, is a unique tourist opportunity for visitors to learn about life in Arabia, especially life from the time before oil was discovered. Also, other recreational activities occur at the location, including fishing, camping, off-road driving, and kite-surfing.

The case study finished by recommending further development of the location as a tourist attraction, but warn of the impact human visitors may have on the delicate environment. Adding things like camel farms could enhance the interest of visitors to the site. The case study definitely finds potential for economic activity and doing other things important to the development of Qatar like preserving the cultural heritage, educating people on the natural attractions of Qatar, and protecting the environment.

The next case study has to do with Qatar as a destination for Meetings, Incentives, Conferences, and Events (MICE). The reason this is possible in Qatar was through the opening of the Qatar National Convention Centre, which has been open since 2011. This case study looks at the convention center as a model for building a facility that will attract tourism through the hosting of many MICE events, but also is consistent with other trends in the tourist industry. They include, creating a space that is environmentally friendly and sustainable, incorporating technology throughout the space, and appealing to the regional tourists tastes in luxury. The case study shows how the convention center meets all these requirements, but also is fully functional and has won awards and recognition for its architecture and place in the Middle East.

Following along with the theme of the second case study, the next case study looks at Qatar’s ability to host large events, and prepare itself for the mega-event of the World Cup in 2022. The tourist industry will have to meet many demands and challenges for this event, but the potential

exists to build a solid foundation for future events. Success will help put Qatar on the map as a destination of choice for tourists.

This case study, published in 2012, highlights the growth of Qatar's tourist industry. It states, "The past decade has witnessed a remarkable increase in the number and scope of events in Qatar, which makes it an interesting context within which the motives behind this phenomenon could be investigated. As a result of its growing economic success and a strategic national vision, this emerging country has made substantial efforts to promote and host a wide range of events. In recent years, Qatar has become something of a Mecca for international conferences, attracting a wide and diverse variety of global events to the small Arab state. In addition to hosting major sports events and successfully bidding to host two major ones within the next coming years, Qatar has become a key destination for business and educational meetings, sport and entertainment events, art and culture events, commercial marketing and promotional events, international conferences, major exhibitions and festivals" (Khodr 2012).

This case study deals specifically with the 15th Asian Games held in Doha in 2006. Qatar has included tourism, particular sport tourism, as a goal of its overall development plan. Mega-events are especially attractive, not only because they have the potential to generate revenue, but also because they see value in to potential to set, make, enhance, or change and modify the image of the host destination, or simply expose and promote the country (Khodr 2012).

The government of Qatar, in hosting the Asian games and seeking additional events to host, to fulfill a set of strategic aims by the government. The strategy aims to attract a growing number of visitors by increasing the number of international conferences, world-scale events, exhibitions, and business visits. Also, massive investments are part of the strategy in the MICE sector aimed at positioning Qatar as an upscale destination and guiding the development of sustainable events

and supporting infrastructure. Additionally, developing the country into a leading world-class events destination would also facilitate the intended shift from mass tourism to business-oriented tourism as one of the components of the tourism strategy. The strategy rests on the five pillars of tourism that include meetings, culture, education, sports, and leisure (Khodr 2012).

The case study points to the hope that tourism (including mega-event tourism) will become a major contributor to the economy and is clearly part of an economic diversification plan. The case study found that the Asian Games was a qualified success, teaching Qatar of what it will need to improve and change in order to become a “brand” within the tourism industry. Progress continues as the country prepares for the World Cup in 2022.

It’s clear from the case studies that the tourism industry in Qatar is growing, aware of its place within Qatar’s larger development plans, and hopeful to become a big contributor to the success of the country in terms of building financial and social capital. Tourism in Qatar is as much about branding the country as it is about hosting events. It has a clear and important role in the process of economic diversification for Qatar.

Interviews

The questions for the interviews I conducted cover a range of issues surrounding Qatar’s prospects for achieving economic diversification. A sample of the questions includes the following:

1. Economic Diversification is a stated goal of the Qatar National Vision 2030 document.
2. Why is economic diversification an important goal for Qatar? Why should Qatar attempt to achieve greater economic diversification?
3. How far has Qatar progressed in its goal to achieve economic diversification?

4. As of today, how dependent are other sectors of the economy on the oil and gas industry for their support/existence?
5. Will non-oil and gas industries be able to exist and survive independently, without support from the oil and gas industries? And if yes, when will this be achieved? If no, will Qatar take steps to develop other parts of its economy other than oil and gas?
6. Which sectors of the Qatar economy have the greatest possibility to achieve economic independence and/or become profitable? (ex. tourism? agriculture? aviation?)
7. Is Qatar ready to compete in a global market without the support of revenue from the oil and gas industries? If yes, which sectors are best placed to compete successfully?
8. Does Qatar view lower market energy prices as a threat to its national goals in the 21st century?
9. What role, if any, does Qatar view renewable energy having for the future?
10. In which ways is Qatar developing its business environment to prepare Qatar for global competition? Can Qatar businesses compete without support from the oil and gas industries?
11. What changes are still needed in order for Qatar to develop greater economic diversification?

These questions provide a sample of the many issues and topics that deal with Qatar's economic diversification that were discussed in the interviews. During the interviews, a range of interrelated issues were exposed that reflect how much Qatar's economic development is infused within the day-to-day life and existence at the microeconomic level of the Qatari people and expatriates currently residing within Qatar. The interviews were extremely insightful and provide a good balance to the economic analysis conducted earlier in this paper.

The interviewed conducted included Sheikh Faisal Bin Qassim Al Thani, CEO, Chairman and Founder of Aamal and Al Faisal Holding, Abdulbasit Talib Al-Ajji, Director of Business Development & Investment Promotion for the Qatar Ministry of Economy and Commerce, and Mr. Menaif Al-Jabri, Head of Barwa Bank branches in Qatar. All three men are in positions of

prominence within Qatar and provide unique insights from their business and governmental positions within Qatar.

Hydrocarbon Economy

The first thing that the interviews elicited was the consistency between the economic data analysis shown earlier in this paper and the policy statements referenced and interview responses given. In discussing the Qatar economy and its dependence on the hydrocarbon sector, both interviewees stated that Qatar is, and will remain for the immediate future, dependent on hydrocarbons to drive growth and development of its economy. However, rather than admitting that hydrocarbons dominate the economy of Qatar without qualification, both interviewees stated that Qatar recognized this situation and had enacted policies that invested the proceeds of the hydrocarbon economy into massive development projects. This investment in development projects is consistent with the Qatar National Vision 2030 document.

The interviewees also stressed that Qatar's economy was much more complex than was reflected in the data reflecting heavy dependence on hydrocarbons. Notably, Qatar's development of a sovereign wealth fund has the stated focus of retaining and expanding existing wealth generated from hydrocarbon sales for the future economic security of the nation. This effort is being led by the Qatar Investment Authority (QIA). This is done with full recognition of the potential volatility that maintaining investments solely within Qatar would generate, being tied so closely with the highly volatile global energy markets. To address this issue – in fact a core threat posed by the resource curse theory – the QIA looks for opportunities to diversify its investment portfolio for the Sovereign Wealth Fund. The QIA states on its public website that “[t]he majority of the Fund's investments are outside Qatar. We actively engage with overseas

markets, partners and organizations. Our teams are constantly connected to the world's financial centers, assessing opportunities, selecting and closing deals” (Qatar Investment Authority, 2016).

Sheikh Faisal added that Qatar’s economic development through hydrocarbons does not happen within a vacuum. The leadership of Qatar, including Sheikh Faisal, are keenly aware of the history of Qatar and its need to adapt its economy. Once Qatar was primarily dependent on pearls and fishing for the bulk of its economic activity, but today both industries are obsolete and play very little roles in economic development within the modern state of Qatar. The point that Sheikh Faisal made was that the people of Qatar have adapted with the changes that globalization brought to Qatar and would be capable of adapting to further changes that hydrocarbons and its unique challenges bring today.

Diversified Economy

Both interviewees had much to say about the prospects for Qatar’s economic diversification and future development. Mr. Al-Ajji identified three important non-hydrocarbon sectors of the Qatar economy that were strong for development. These included health, education, and tourism. Sheikh Faisal stated that tourism would be an important part of the economic diversification plan for Qatar giving emphasis to the value of hosting the World Cup in 2022.

In each of these areas, health, education, and tourism, Qatar has already made great advances in its development both in terms of infrastructure and training. The interviews shed light on prominent projects being undertaken in each of the three sectors. With regard to health, Qatar has built its medical sector around Hamad Medical Corporation (HMC). As stated on their website, HMC is leading the development of the region’s first academic health system – combining innovative research, top-class education and excellent clinical care – and is committed to

building a legacy of healthcare expertise in Qatar. HMC collaborates with key partners who are experts in Qatar and beyond, including Weill Cornell Medical College-Qatar, the Institute for Healthcare Improvement and Partners Healthcare, Boston. HMC is also the first hospital system in the Middle East to achieve institutional accreditation from the Accreditation Council of Graduate Medical Education – International (ACGME-I), which demonstrates excellence in the way medical graduates are trained through residency, internship and fellowship programs.

In conjunction with this health care capacity, Qatar has built the Sidra Medical and Research Center – a facility focused on ultramodern medical care and high-quality education, training, and research on a global scale. Sidra has a focus on partnering with existing educational institutions and medical providers to enhance the health sector of Qatar and achieve international prominence. On their website, it's stated that "Sidra will work closely with its academic partner Weill-Cornell Medicine in Qatar (WCM-Q) as well as other health and research institutions like Hamad Medical Corporation (HMC) and Qatar Biobank in regard to all three missions – raising the standard of health care throughout the country and providing valuable opportunities for research and learning."

Just as in health care, Qatar also is developing a stronger global presence in the area of education. Two institutions in particular reflect the development of Qatar's economy with regard to education. First, Education City represents a unique project of inviting several top programs from internationally recognized leaders in education to Qatar in order to provide high quality education to local and international students. On the topic of Education City and in conjunction with the goal of diversification, Sheikha Moza bint Nasser – a leading force in the initial development of Education City – stated in an article in the Washington Post that "[m]indful that gas and oil reserves will not last forever, Education City [will be a force] to catalyze a transition

to a ‘knowledge-based’ economy.” In the article she further added, “[b]ringing these academic programs here was not just for the sake of the programs, we brought [the institutions] here to elevate all aspects of our society — including, she said, economics and politics. We wanted our citizens to be mentally open. We wanted them to be critical thinkers, to have a stake in the country” (Anderson 2015).

Likewise, Qatar University has in recent years, undertaken a massive expansion project and gained international recognition in education. In an article from 2016 in the Chronicle of Higher Education, the advancement made by Qatar University as a regional and internationally recognized force in education has not gone unnoticed. The article states, “Qatar University has, in the last five years, been one of the fastest growing institutions for research in the region. Our researchers’ publications have increased by approximately 246 per cent in this period. The university has undertaken more than 450 research projects with 319 collaborators in the past years. The ever-increasing research efforts have resulted in 3,200 co-authored publications from 1,093 collaborating institutes” (Wazen, 2016).

Finally, tourism was stated by both interviewees as an important non-hydrocarbon economic sector. Qatar has made great efforts to become a regional and international tourist destination. Focusing on tourism is seen by the leaders of Qatar as a natural sector for growth, especially when considering that reports from organizations like the UN World Tourism Organization view tourism as an area of high growth for the future. On the Qatar Tourism Authority website, the importance of tourism is evidenced by the statement that “[i]nternational tourism, already by some measures the world’s largest industry, is projected to grow strongly in future. According to the UN World Tourism Organization, tourism accounts for 10% of total GDP and 1 in 11 jobs worldwide. Global visitor arrivals totalled 1.13 billion in 2014 and will reach 1.8 billion by 2030.

Annual tourism growth in the period 2010-30 is expected to average 3.3% overall and 4.4% in emerging markets (including the Middle East)” (Qatar Tourism Authority, 2016). The website also states the clear economic advantages of tourism for Qatar, including:

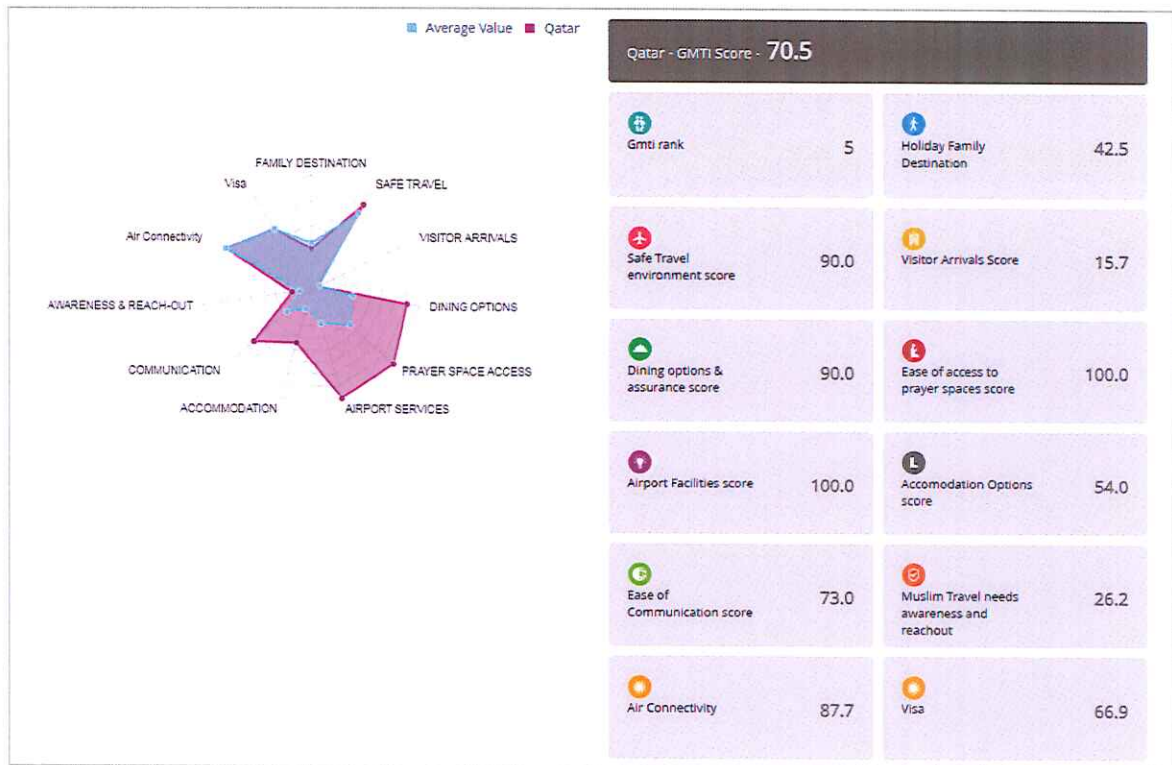
- Economic diversification, improved structural balance and reduced volatility,
- Increasing foreign exchange earnings,
- Creating new private sector business and employment opportunities,
- Stimulating construction, transportation, infrastructure development, trading, retailing, leisure and recreation services, and other related and ancillary industries.

Qatar’s development of tourism also takes advantage of an area of growth in which it has a competitive advantage, Muslim Friendly Tourism (MFT). This type of tourism gives particular emphasis to interests and concerns of Muslim tourists, including tourism that highlights faith-based needs, such as the availability of halal food and prayer facilities. MFT also gives deference to the cultural interests and sensitivities of Muslims travels including privacy and consideration for the discretion desired by female tourists for families.

In this area of tourism, Qatar has come to play a leading role compared to other countries. According to a report issued by the Standing Committee for Economic and Commercial Cooperation of the Organization of Islamic Cooperation (COMCEC), Qatar has real potential for growth in this area of the tourism sector. The report states that [t]he number of Muslim arrivals to Qatar has increased largely in recent years. In comparison with 2010, the total number of Muslim visitors in 2014 has increased by almost four times (COMCEC, 2016). This particular area of tourism is viewed with great potential for growth. The report states that Muslim visitor arrivals are expected to nearly double in the next five years to reach 2.76 million by 2020. In 2014 the Muslim tourist arrivals were 1.49 million. The Muslim visitor arrival growth rate will

be about the same as the total visitor arrivals. The percentage of Muslim tourist visitors in 2014 was 52.0 percent of total arrivals and this would be the same over the next five years. Qatar is expected to attract Muslim tourist from the GCC region (COMCEC, 2016).

In many areas of importance to Muslim tourists, Qatar has been rated favorably. According to the Crescent Rating, a website focused on halal travel, Qatar rates very favorably compared with other countries looking to attract Muslim tourists. With a score of 70.5 according the Global Muslim Travel Index (GMTI), Qatar is in place 5 out of 130 Muslim and non-Muslim majority countries world-wide. In many areas, including dining options, prayer space access, airport services for Muslims, accommodation and communications, Qatar rates well above the average for Muslim friendliness. Throughout the interviews, areas such as these were highlighted as potential for further economic growth and increased diversification of the Qatar economy.



Source: Crescent Rating, Global Muslim Travel Index (GMTI) 2016, Qatar

Human Capital

The interviewees both had much to say about the development of Qatar's human capital. This area is of particular concern and importance to the success of Qatar's National Vision 2030 and the goal of economic diversification. It is, in many ways, the most challenging as well. In particular, the concern is that Qatari nationals are trained and capable to perform in highly skilled jobs that the diversification plan hopes to create. This process is more challenging than it may appear on the surface. First, due to the tremendous wealth created by the hydrocarbon economy, employed Qatari nationals enjoy a high rate of pay. The type of jobs that must be created to sustain such high pay do not include manual labor and the service sectors of the economy. The

jobs that Qatari nationals do and will occupy require a high degree of skill, education, and training.

The leaders of Qatar are aware of this challenge. Both Sheikh Faisal and Mr. Al-Ajji recognize that in order for Qatari nationals to be successful they need to be well-educated and employed in jobs that are important and significant for Qatar's continued development. Sheikh Faisal noted that the level of education that Qatari nationals are receiving today, both inside Qatar and abroad, will help meet the challenges they will face once employed. Sheikh Faisal also commented that Qatari nationals will be employed within Qatar, but they will also be working and providing support in many ways to countries around the world.

Mr. Al-Ajji's comments were similar to Sheikh Faisal. He noted that Qatari nationals are very unlikely to fill low-skill positions within Qatar. Rather, they will be attracted to highly skilled and paid positions that require advanced training and education. Qatar has made one of its stated goals in the National Vision 2030. In the section on Human Development Outcomes, the National Vision 2030 document states its goal as increased and diversified participation of Qataris in the workforce through:

- Broad investments in certification and training programs by public and private institutions
- Incentives for Qataris to enter professional and management roles in business, health and educational sectors
- High quality training opportunities for all citizens, corresponding to their ambitions and abilities
- Increased opportunities and vocational support for Qatari women

This also includes targeted participation of expatriate labor (Qatar, 2008). The inclusion of expatriate labor is an important point since it is very unlikely that Qatari nationals would be able

to continue to enjoy the current lifestyle they have now without some level of expatriate labor participation in the workforce. Both interviewees recognized this and acknowledged the benefits that the expatriate workforce has brought to the development of Qatar.

Adding to the comments made by Sheikh Faisal and Mr. Al-Ajji, Mr. Al-Jabri highlighted the role played by the Qatar Development Bank (QDB) in helping develop human capital within Qatar. He said that the QDB allowed Qatari nationals to obtain funding and capital needed to enter the marketplace and develop their capabilities. Mr. Al-Jabri said that the QDB aimed to help Qatari nationals across a wide range of sectors, not favoring any one particular sector. On the QDB website, the vision is strongly worded. The QDB's aim is "To develop and empower Qatari entrepreneurs and innovators to contribute in the diversification of the Qatari economy through successful small and medium enterprises that are able to compete in global markets through:

- Direct and indirect financing of mandated sectors in general, but with sector agnostic approach
- Enhancing technical skills and capability development.
- Promoting and supporting exports.
- Providing opportunities for small and medium enterprises domestically and globally.
- Business support through the provision of initiatives and services associated with real estate development and housing loans to citizens.
- Promoting SME (Small & Medium Enterprises) ecosystem development.

Mr. Al-Jabri stressed that the QDB played the dual role of enhancing the possibilities for development of human capital for Qatar and providing incentives for Qatari nationals to participate in the private sector economy. These are both very important points, since the QDB

can help Qatar avoid problems that other countries engaging in similar development and diversification projects have encounters.

Emphasizing this point, the importance of developing human capital for Qatar should not be taken lightly. Other examples from the GCC are examples of problems that can result from not addressing the development of human capital aggressively. Saudi Arabia, in particular, offers a glaring example of the problems that can result from underdevelopment or poor development of human capital. In his article, B.A. Albassam describes the situation in Saudi Arabia where there is a large population of nationals and few jobs that they are capable of occupying at the moment. He says, “Establishing the General Authority for Investment to attract foreign investment in 2000 and supporting non-oil sectors such as tourism and service sectors to absorb unemployment among citizens are examples of Saudi government policies to achieve economic diversification. However, these policies have not succeeded in creating jobs or diversifying the economy. According to the Ministry of Economy and Planning, unemployment among Saudis reached 12.1% in 2012; also, 0.8% (481,600) of the non-Saudi workers, who usually do types of work that Saudis will not do, is unemployed (seventh and eighth development plans, 2000–2010). The lack of success in utilizing the tourism and service sectors was a result low-quality education and training system outcomes and the need to improve regulations that organize these sectors (e.g., tourism, investment)” (2015). Saudi Arabia’s experience points to the importance of having a high-quality educational system that properly prepares graduates for the complex and skilled work that is earmarked for nationals joining the workforce.

It should be noted that Saudi Arabia’s experience is somewhat unique since their population is much larger than other GCC members, including Qatar. This large population adds a level of difficulty in finding adequate employment for nationals. However, even in GCC countries that

have smaller populations, like the United Arab Emirates, there are still many challenges to developing human capital. In a study on the process of Emiratisation in the UAE – the process of incorporating more nationals in key positions within all sectors of the economy – there have been mixed results. The study states that “UAE nationals face a number of barriers to entry into the private sector workforce such as educational standards, experience and skills, lack of training, human resource policy in organisations, limited career development, language skills, incentive system, culture, English fluency, gender issues and nepotism” (Al-Ali, 2008).

The study also noted that increasing nationals’ participation within the private sector is the most challenging part of the Emiratisation process. Another study on human capital in the UAE describes the challenge in the private sector. Migrants comprise 68% of the Gulf’s private sector labor forces, ranging from 55% in Saudi Arabia to 99% in the UAE. Employment for Gulf citizens, in contrast, is generated through the provision of high-wage public sector jobs; on average, Gulf nationals comprise 73% of the region’s public sector labor forces (Ewers, 2013). The biggest challenge is finding ways to transfer external knowledge to local populations. Based on the interviewees’ responses to questions of human capital in Qatar, the government and business community is aware of the problem and the need to find solutions quickly. Qatar benefits greatly from strong investment in higher education. As part of the Qatar National Vision 2030 document, Qatar endeavors to build “A world-class educational system that equips citizens to achieve their aspirations and to meet the needs of Qatar’s society, including:

- Educational curricula and training programs responding to the current and future needs of the labor market
- High quality educational and training opportunities appropriate to each individual's aspirations and abilities
- Accessible educational programs for life-long learning

A national network of formal and non-formal educational programs that equip Qatari children and youth with the skills and motivation to contribute to society” (Qatar, 2008) As shown by examples from Saudi Arabia and the UAE, education that trains and motivates nationals to perform at a high-level in their employment is essential to successfully incorporating nationals into the full economy of Qatar.

Business Climate and Competitiveness

The interviews highlighted the current state of business climate within Qatar as well as the incentives to attract Foreign Direct Investment and for Qatari businesses to compete within the global marketplace. The interviewees highlighted the many ways in which Qatar is positioning itself to be an attractive and easy place to do business. Mr. Al-Ajji pointed to the very favorable tax policies of Qatar for individuals living inside Qatar as well as companies that wish to come to Qatar to do business. Additionally, Mr. Al-Jabri provided important insights into the development of economic Free Zones in Qatar. He commented on how this would be a significant change from past policies by creating strong incentives for FDI within Qatar. According to the QDB, the Free Zones would allow:

- An investor may operate as a branch of a foreign company or register a local company.
- Foreign ownership of 100% is permitted.
- A company may exercise its business without a sponsor or a local agent.
- An investor may sponsor foreign employees.

Building on these concepts, Qatar’s overall efforts to attract FDI stand out. According to the World Bank Group’s ease of doing business index, Qatar is ranked number 1 in terms of favorable tax policies (2016). Specifically, what this includes is a tax policy for what Qatar terms

Free Zones and Non-Free Zones. As described above, inside Free Zones, taxes eliminated entirely in the case of companies owned by Qatari or foreign nationals. Outside of the Free Zones, the tax liability is 10% of taxable income and a minimum of 35% for oil companies. Even in the Non-Free Zones, however, there's an array of fully exempt activities. Income from fishing and agriculture is exempt, in order to promote those primary sectors. Other commercially viable projects that are in line with national objectives, introducing new technology and employment for Qataris, are evaluated by a Tax Exemption Committee who decides on the granting of tax exemptions. Foreign-owned air and sea transport companies operating in Qatar are exempt from income tax providing there are reciprocal provisions. Natural persons pay no capital gains tax, tax on bank savings interest, dividends or bonds, subject to minor restrictions (Truby, 2016). Additionally, there is a law restricting non-Qataris from owning only 49% of a company. However, Qatar's foreign investment law permits non-nationals to own 100% of companies registered in Qatar (outside of Free Zones) in certain sectors, subject to special approval and the project outcomes being aligned with the demands of Qatar's development plans (Turby, 2016).

The interviewees pointed out these very attractive policies to foreign and domestic companies operating in Qatar. This has helped pave the way for foreign investment, but also for Qatari companies and businesses to develop and become actively competitive in the global marketplace. Examples given where Qatari companies and businesses include Qatar National Bank (QNB), Qatar Airways, Ooredoo Telecommunications, and 5-star Hotels owned by Qatari investors. Mr. Al-Jabri noted that QNB was recognized internationally as one of the top banks in the world by Bloomberg. In order to qualify as the top bank the world, QNB had to meet a rigorous list of requirements. The strongest-bank ranking includes lenders with at least \$100 billion in assets -- something QNB achieved for the first time in 2012 with a series of

acquisitions in the Mideast and North Africa that gave it a foothold in 25 countries. The ranking weighs and combines five criteria, including Tier 1 capital compared with risk-weighted assets; nonperforming assets against total assets; and efficiency, a measure of costs against revenues (Tuttle, 2013). QNB also stands out as the consistently present in the top 10 of Bloomberg's rankings since it achieved its number 1 ranking in 2012. Mr. Al-Jabri commented how this performance and recognition reflected Qatar's ability to compete successfully on a global scale in the banking sector.

Additionally, Qatar's business community also features companies dedicated to sustainability and competitiveness in the area of renewable energy technology. Qatar is particularly well positioned to develop solar power, given the sunny climate. Exemplifying this effort is Qatar Solar Technologies (QSTec). Although investments in advanced solar energy technologies, like that being developed by QSTec require subsidization from the hydrocarbon sector, this industry is most capable to become profitable independently due to the nature of the technology and Qatar's environment. On their website QSTec states that they are "building an 8,000 metric tonne per year (MTPY) high quality, solar grade Polysilicon manufacturing facility in the Ras Laffan Industrial City (RLIC), Qatar with first exports of product commencing in 2016. In addition to this QSTec has installed ground and rooftop PV installations at its RLIC site with a total installed capacity of 1.1 megawatts of solar power" (QSTec, 2016).

In an interview given by QSTec CEO, Dr Khalid K Al Hajri, he describes the vision for QSTec, stating that their vision is to be a "globally leading integrated company. Getting involved in Solar World, which is the major producer of panels in Europe and the US; and also Centrotherm, which is a general combined technology provider with 95 percent of the polysilicon marketshare worldwide, and in semiconductors they have 45 percent of the market"

(Al Hajri, 2016). The interviewees describe this as an example of a Qatari led company seeking out competitive advantage and using advanced technology to compete in the global market. This is in many ways the model that Qatar can follow while it benefits from the revenue produced by the hydrocarbon sector.

Finally, solar energy is not the lone sustainability project that also aims to achieve the goal of diversifying Qatar's economy. Mr. Al-Jabri described the progress being made with the construction and urban planning for new cities in Qatar including Msheireb City and Lusail City. Both developments, currently being built as of 2016, have a strong focus on sustainability. In support of their success in planning for a sustainable future, Msheireb City states on the property website that "[s]ustainability is central to the Msheireb ethos, both in the conservation of resources and the inherent quality of design that will benefit the generations to come. In line with the goal of achieving average LEED (Leadership in Energy and Environmental Design) Gold Ratings, the entire project features sustainable design that consumes fewer resources, generates less waste, costs less to operate, and has diminished carbon footprint" (Msheireb, 2016). Specifically, Msheireb will also have one of the largest collections of LEED certified green buildings. The project aims to maximize the use of micro climactic effects by utilizing wind and sun patterns, maximize water and energy efficiency, and reduce carbon emissions across the site (Zahra, 2015).

In conjunction with the developments in Msheireb and Lusail, Qatar has created the Qatar Green Building Council (QGBC) that holds an annual conference called the Qatar Green Building Conference. Additionally, the government of Qatar, through the QGBC, has supported and promoted Qatar Sustainability Week, during which there is a unique opportunity within

Qatar to engage in discussions about sustainability and the future growth and development of the country.

Overall, the results from these interviews reflects on the general theme that is elicited from the most recent economic statements and outlook from the Government of Qatar and the banking sector as represented by QNB. The interviewees were candid in their assessment of Qatar, and acknowledged the challenges for the future as well as the successes already secured by Qatar. The interviews also reflect the results of the quantitative analysis – that although Qatar is not yet at place where it can call its economy diversified in any substantial and sustainable way, it is moving in the right direction. The case studies also show progress towards this goal. The interviews help fill in the blanks, especially in areas dealing with tourism, technology, health, and human capital.

What the interviews also added to this study, which is not immediately visible in the quantitative analyses, is the importance of the culture of Qatar and the impact that traditions that have existed for centuries have on the development of Qatar. Sheikh Faisal, in particular, was able to comment from personal experience over the breadth of his life and experience of Qatar's development that Qatar and the Qatari people are held together by strong familial and communal bonds that are essential for the nation to overcome the dislocation that rapid development now happening in Qatar brings to society. Qatar is likely to succeed in its goals of economic development and diversification because the people of Qatar support each other and are highly adaptable to change and this prepares the population to face the future with confidence and determination. This intangible quality, in addition to all the blessing that the natural resources of oil and natural gas available to Qatar, will allow it to succeed despite the challenges that have led other nations to failure.

6 Discussion and Conclusions

Qatar and its people have witnessed an incredible amount of change in just the recent years. It currently is engaging in a tremendous push to develop its country from a point in 1971 where there was little to no modern infrastructure, few features of modern financial systems including the Qatar Exchange stock market, and a handful of attractions to draw tourists to their country. That's not to say that Qatar lacks leadership or a long history of governance. For centuries the land of modern Qatar has been populated and ruled based on tribal and Islamic traditions that formed the foundation for the rule of law and the society that emerged into the modern era.

The discovery of hydrocarbon natural resources in the first half of the 20th century set the stage for Qatar's massive wealth and subsequent ability to rapidly modernize its country. That wealth and rapid growth has not come without its potential threats, however. Qatar's economy before the development of hydrocarbons was reliant on grazing, fishing, pearling, and costal trade (Oxford Business Group 2015). Those forms of economic activity are largely disappeared today, and the modern economy of Qatar is built almost entirely on wealth from hydrocarbon extraction.

Although it may seem that Qatar has little more to do to secure its history since the discovery of hydrocarbons, it faces some real threats to its economic, and thereby political and social stability, in the form of the resource curse. Qatar is indeed a candidate for suffering from the curse since its economic reliance on hydrocarbons is overwhelming. This study has shown that the resource curse threatens Qatar, especially with regard to shocks caused by commodity volatility and cyclical structural damage cause by commodity boom and busts. In fact, Qatar is facing budget deficits in the coming years based on its current rate of spending and the drop in oil prices since 2014 (Parasie 2015).

The consensus among scholars studying the resource curse, and reflected in this study, is that economic diversification is the best antidote a developing country like Qatar can adopt to stave off the worst impacts of the resource curse. Many benefits to the diversified economy have been identified including 1) greater economic stability as less reliance is placed on a few economic activities that may be subject to business cycles or exogenous shocks 2) reduced risk and uncertainty because not all areas of economic activity are likely to be adversely affected at the same time, and 3) positive spillover effects between different types of economic activity in the form of economies of scale, diffusion of technology, integrated production process, and organizational and managerial benefits (Beutel 2012).

Clearly, the best solution to the resource curse is economic diversification, and this has been heard by the political and business leaders of Qatar with their recognized and continued drive to increase economic diversification within the country. Measurements of Qatar's increased economic diversification show progress as has been shown in this study.

However, another problem remains – diversification for the sake of diversity will not necessarily bring economic growth and stability (Beutel 2012). If a country diversifies into things for which either there is no demand or into areas where Qatar has some degree of comparative advantage, then the push for economic diversification will not succeed over the long-term.

When economists talk of “comparative advantage” they are referring to economic activity that an economy can produce at relatively low costs than others. In other words, it means that countries have certain strengths, and the resulting pattern of trade and production should reflect those strengths (Beutel 2012). In Qatar's case, it clearly has a comparative advantage in hydrocarbons. As shown in this study, downstream hydrocarbon sectors are a viable route of

growth for Qatar. This growth, however, is still somewhat tied to one product, so does not solve the overall goal of economic diversification.

Fortunately, Qatar has many other areas of economic activity for which it can grow and become competitive on a global scale. These areas, identified in this study, are tourism, financial services, technology, and health services. Several case studies and interviews reflect the concerted efforts by the government and business community to advance projects and investment into these areas with the expectation that they will become independently viable sectors of the economy.

In answer to the problem posed earlier in this study of the measurable degree to which Qatar has been able to diversify economically, the answer is that it has made a good start and that is reflected in the measurements. At this point in time, Qatar has invested heavily in non-hydrocarbon sectors and the impact those sectors have on GDP provide a clear measure of diversification. However, the areas in which Qatar has diversified are not yet viable without support from the hydrocarbon sector, as is also shown clearly by the measurements done in this study.

This study also explored which prospective areas of economic diversification are most viable and capable of succeeding in Qatar. The answer to this question cannot yet be easily extrapolated from the econometric measurements. Qatar has measurable results, as shown by growth in the share of non-hydrocarbon sectors over time, but this does not necessarily confirm that they will be viable over the long-term, especially when they are no longer supported by the hydrocarbon sector.

Review of the case studies and information from the interviews show that there is some consensus over which prospective areas Qatar will see most success for its economic diversification. Those prospects include tourism, especially sports-tourism, financial services – especially the specialized area of Islamic banking as well as investment in foreign assets, and telecommunications. These areas clearly are the most popular and highly rated amongst the case study literature and interviews. They are areas for which, in today's globalized world of international travel and instantaneous communications, that Qatar can in fact develop a comparative advantage. If successful, these sectors will go far to achieving Qatar's goal of economic diversification.

There was one indirect question raised in the study that should be addressed for further research. That is the question of human capital development in Qatar. The measurements used in this study show that Qatar does invest in education and there is a real interest in developing human capital as shown from the interviews. Failure to adequately invest in human capital and develop strategies for effective deployment of that capital could cause problems for Qatar in the long-term. Resource curse literature recognizes that underdevelopment of human capital is a real problem for resource-rich countries, especially in the GCC region. With population rates high in the GCC, it's very important that human capital is developed and deployed in such a way to extend the real gains of Qatar's development throughout the entire population.

In my view, Qatar has fully recognized both the threats that come with incredible natural resource wealth – as exemplified through the resource curse theory description and analysis – and the benefits that can be gained through economic diversification. With regard to the natural resource curse, Qatar is indeed subject to it. Qatar's heavy dependence on the hydrocarbon sector impacts all aspects of its economy and development planning. While many countries with

incredible natural resource wealth succumb to failure through ignoring price volatility, corruption that sudden wealth can engender, and lack of incentive to develop non-natural resource economic sectors as well as human capital, Qatar is taking aggressive and positive steps to mitigate or eliminate these threats.

The Qatar in which I have studied and experienced day-to-day life is a country that is aware of the threats of the resource curse and is taking the necessary steps to avoid the traps of the curse. Qatar has tied its currency to the US Dollar, which brings some degree of stability, even with price volatility. Additionally, Qatar has a vast sovereign wealth fund and states its investment strategy as asset building in a number of countries across the world, and spanning a wide range of sectors. The sovereign wealth fund is strategically spread across asset classes, in order to generate sustainable returns and maintain resilience against adverse market cycles and volatility (QIA).

In my view, Qatar is also blessed with competent and worldly leadership in government and business. This is important because this leadership is entrusted with the incredible wealth of the country and needs to be strong to resist any potential corruption and possess the knowledge to lead the country astutely as it rapidly develops.

Finally, the strongest indication that Qatar is avoiding the resource curse is reflected in its dedicated and consistent investment in a diversified economy beyond the hydrocarbon sector as well as in its people shown by the commitment to education throughout the country and for people of all ages. The combination of these two factors will clearly bolster Qatar's prospects for economic diversification.

Those prospects are strongest in the areas described in this paper as tourism, financial services, and telecommunications. The population of Qatar is very much engaged and invested in these developments and understands that its long-term future is tied to their success. In my view, Qatar will be successful because it has headed off the threats of the resource curse in sufficient time and magnitude as well as aggressively develop itself with a clear focus on economic diversification and human capital development so that it will achieve economic sustainability before the wealth from its natural resources runs out.

Overall, this paper has shown that Qatar is advancing in its goal of economic diversification, as reflected the in the measurements presented. And Qatar has several good prospects for success in many sectors of its economic diversification plans, as shown in the case studies and interviews in this study. The move along the path towards full economic diversification has only begun in Qatar. With continued investment (both in human and non-human capital) and care for its development, Qatar has laid the foundation for its ultimate success.

7 References

- Al-Ali, J., 2008. Emiratisation: drawing UAE nationals into their surging economy. *International Journal of Sociology and Social Policy*, 28(9/10), pp.365-379.
- Albassam, B.A., 2015. Economic diversification in Saudi Arabia: Myth or reality? *Resources Policy*, 44, pp.112-117.
- Ali, Mohamed Sami Ben, Lara Cockx, and Nathalie Francken, 2016, "The Middle East and North Africa: Cursed by Natural Resources?" in Mohamed Sami Ben Ali, ed., *Economic Development in the Middle East and North Africa: Challenges and Prospects* (New York: Palgrave MacMillan).
- Al Hajr. Khalid K, Dr. 2016. Interviewed by World Finance, 10 August. Available online at <http://www.worldfinance.com/markets/energy/qatar-solar-technologies-lays-foundation-for-menas-solar-strategy>
- Al-Kawaz, A., 2008. Economic Diversification: The Case of Kuwait with Reference to Oil Producing Countries. *Journal of Economic Cooperation*, 29(3), pp.23-48.
- Anderson, Nick, 2015. In Qatar's Education City, U.S. colleges are building an academic oasis. *Washington Post*. Available online at https://www.washingtonpost.com/local/education/in-qatars-education-city-us-colleges-are-building-an-academic-oasis/2015/12/06/6b538702-8e01-11e5-ae1f-af46b7df8483_story.html
- Auty, Richard, 1993, *Sustaining Development in Mineral Economies: The Resource Curse Thesis* (Oxford University Press, New York).
- Auty, Richard, 2001. *Resource Abundance and Economic Development*. World Institute for Development Economics Research (Oxford University Press).
- Beblawi, H. and Luciani, G. eds., 2015. *The Rentier State*. Routledge.
- Beutel, J., 2012. Conceptual Problems of Measuring Economic Diversification, as Applied to the GCC Economies. *Resources blessed: Diversification and the Gulf development model*.
- Bryde, David, Yusra Mouzugh, and Turki Al Rasheed, eds., 2015. *Sustainable Development Challenges: In the Arab States of the Gulf*. Gerlach Press: Berlin.
- Business Monitor International (BMI) Ltd., 2016. *Qatar Country Risk Report Q1 2016*.
- Callen, M.T., Cherif, R., Hasanov, F., Hegazy, M.A. and Khandelwal, P., 2014. *Economic diversification in the GCC: Past, present, and future*. International Monetary Fund.
- Crescent Rating. 2016. *Global Muslim Travel Index*. Available online at <https://www.crescentrating.com/reports/mastercard-crescentrating-global-muslim-travel-index-gmti-2016.html>
- Espinoza, R.A., Fayad, M.G. and Prasad, A., 2013. *The Macroeconomics of the Arab States of the Gulf*. International Monetary Fund.

- Ewers, M.C., 2013. From knowledge transfer to learning: The acquisition and assimilation of human capital in the United Arab Emirates and the other Gulf States. *Geoforum*, 46, pp.124-137.
- Gelb, A.H., 1988. Oil windfalls: Blessing or curse? Oxford University Press.
- Gelb, A.H., 2010, November. Economic diversification in resource rich countries. In Lecture at a high-level seminar on Natural resources, finance and development: Confronting Old and New Challenges., organized by the Central Bank of Algeria and IMF Institute in Algiers, on (pp. 4-5).
- Gulfbase.com: State of Qatar. 2016. Market Information Trading Co., Gulfbase.com. Available online at <http://www.gulfbase.com/Gcc/Index/6>
- Gylfason, T., 2000. Resources, agriculture, and economic growth in economies in transition. *Kyklos*, 53(4), pp.337-361.
- Hesse, Heiko, 2006. Export diversification and economic growth. World Bank, Washington, DC.
- Hirschman, Albert O., 1977. A generalized linkage approach to development, with special reference to staples. *Economic development and cultural change*, 25, p.67.
- Hvidt, M., 2013. Economic diversification in GCC countries: Past record and future trends.
- Khodr, H., 2012. Exploring the driving factors behind the event strategy in Qatar: a case study of the 15th Asian Games. *International journal of event and festival management*, 3(1), pp.81-100.
- Krauss, Clifford. June 2, 2016. Oil Prices Explained: Signs of a Modest Revival. New York Times. Available online at http://www.nytimes.com/interactive/2016/business/energy-environment/oil-prices.html?_r=0
- Luciani, G., 2012. Resources blessed: diversification and the Gulf development model. Gerlach Press.
- Mallakh, R., 2015. Qatar (RLE Economy of Middle East): Development of an Oil Economy. Routledge.
- Meilak, C., 2008. Measuring export concentration: the implications for small states. *Bank of Valletta Review*, 37, pp.35-48.
- Matsuyama, K., 1992. Agricultural productivity, comparative advantage, and economic growth. *Journal of economic theory*, 58(2), pp.317-334.
- Ministry of Development Planning and Statistics. 2016. Qatar Economic Outlook 2016-2018, Issue Number 10. Doha, Qatar.
- Mongardini, Joannes, 2015. Qatar Economic Insight 2015. Qatar National Bank. Doha, Qatar.
- Msheireb Properties. 2016. Sustainability. Available online at <http://mdd.msheireb.com/home/sustainability.aspx>

- Nurkse, R., 1953. Problems of capital formation in developing countries. New York: Columbia UP.
- Oxford Business Group, 2015. The Report: Qatar 2015. Oxford Business Group.
- Parasie, Nicolas, April 2, 2015. "Qatar Risks Budget Deficit in 2016 Due to Low Oil Prices, IMF Says." *Wall Street Journal*. Available online at <http://www.wsj.com/articles/qatar-risks-budget-deficit-in-2016-due-to-low-oil-prices-imf-says-1427983369>
- Qatar, G.S.D.P., 2008. Qatar National Vision 2030. Doha, General Secretariat for Development.
- Qatar Investment Authority. Investment Approach. 2016. Available online at <http://www.qia.qa/Investments/Pages/Investment-Approach.aspx>
- Qatar Solar Technologies (QSTec). 2016. About QSTec. Available online at <https://www.qstec.com/about>
- Qatar Tourism Authority. Tourism and Qatar's Future. 2016. Available online at <http://www.visitqatar.qa/corporate/glance/tourism-and-qatar-future.html>
- Richtzenhain, M., Al-Jaberi, A., Böer, B., Breulmann, M., Darwish, F., Dowling, R., Grainger, J., Llewellyn, O., Muhannadi, K., Pilcher, N. and Schwarze, H., 2008. Towards Environmentally Friendly Tourism in Arabian Biosphere Reserves.
- Riley, Charles. February 11, 2016. Oil crash taking stocks down ... again. CNN Money. Available online at <http://money.cnn.com/2016/02/11/investing/oil-price-crash/>
- Rosenstein-Rodan, P.N., 1943. Problems of industrialisation of eastern and south-eastern Europe. *The economic journal*, 53(210/211), pp.202-211.
- Ross, M.L., 2001. Does oil hinder democracy? *World politics*, 53(3), pp.325-361.
- Ross, M.L., 2012. *The oil curse: how petroleum wealth shapes the development of nations*. Princeton University Press.
- Rostow, W.W., 1959. The stages of economic growth. *The Economic History Review*, 12(1), pp.1-16.
- Sachs, J.D. and Warner, A.M., 1995. Natural resource abundance and economic growth (No. w5398). National Bureau of Economic Research.
- Sachs, J.D. and Warner, A.M., 2001. The curse of natural resources. *European economic review*, 45(4), pp.827-838.
- Sharpley, R., 2002. The challenges of economic diversification through tourism: the case of Abu Dhabi. *International Journal of Tourism Research*, 4(3), pp.221-235.
- Shediac, R., Abouchakra, R., Moujaes, C.N. and Najjar, M.R., 2008. *Economic Diversification: The Road to Sustainable Development*. Booz & Co. <http://www.strategyand.pwc.com/media/uploads/EconomicDiversification.pdf>

- Sillitoe, Paul. ed., 2014. Sustainable Development: An Appraisal from the Gulf Region (Vol. 19). Berghahn Books.
- Stevens, P., Lahn, G. and Kooroshy, J., 2015. The Resource Curse Revisited. Chatham House Research Paper, London.
- Stevens, P. and Dietsche, E., 2008. Resource curse: An analysis of causes, experiences and possible ways forward. *Energy Policy*, 36(1), pp.56-65.
- Tan, T., Al-Khalaqi, A. and Al-Khulaifi, N., 2014. Qatar National Vision 2030. Sustainable Development: An Appraisal from the Gulf Region, 19, p.65.
- TradeArabia.com. March 22, 2016. As oil prices weaken, GCC to see slow growth, budget deficit increase. TradeArabia: Business News Information. Available online at http://www.tradearabia.com/news/OGN_303305.html
- Trofimovskaya, Irina and Andrew Kirby. 2012. MICE Destination Qatar, Case Study. Qatar National Convention Centre. Doha, Qatar.
- Truby, J. and Cywie, A., 2016. Free Zones, Foreign Ownership and Tax Incentives for Foreign Direct Investment in Qatar. *Global Trade and Customs Journal*, 11(6), pp.284-287.
- Tuttle, Robert and Chong Pool Koon. 2013. Qatar Bank No. 1 Supplanting Singapore as Canada Slips. Bloomberg Markets. Available online at <http://www.bloomberg.com/news/articles/2013-05-01/qatar-bank-no-1-supplanting-singapore-as-canada-slips>
- United Nations Statistics Division. 2015. National Accounts Main Aggregates Database, United Nations Statistics Division, New York, USA. Available online at <http://unstats.un.org/unsd/snaama/dnllist.asp>
- United Nations Statistics Division. 2014. UN COMTRADE. International Merchandise Trade Statistics, United Nations Statistics Division, New York, USA. Available online at <http://comtrade.un.org/>
- United Nations Framework Convention on Climate Change (UNFCCC), 2016. 'The concept of economic diversification in the context of response measures.' United Nations, (FCCC/TP/2016/3)
- Van Wijnbergen, S., 1984. The Dutch Disease': a disease after all? *The Economic Journal*, 94(373), pp.41-55.
- Venables, A.J., 2016. Using natural resources for development: why has it proven so difficult? *The Journal of Economic Perspectives*, 30(1), pp.161-183.
- Wazen, Cesar, 2016. How Qatar University became the most international institution in the world. *Times Higher Education*. Available online at <https://www.timeshighereducation.com/blog/how-qatar-university-became-most-international-institution-world>

- Wiig, A. and Kolstad, I., 2012. If diversification is good, why don't countries diversify more? The political economy of diversification in resource-rich countries. *Energy policy*, 40, pp.196-203.
- World Bank Group, 2016. *Doing Business 2016: Measuring Regulatory Quality and Efficiency* (Vol. 13). World Bank Publications.
- Wilson, Rodney, 2013. *Economic development in the Middle East*. Routledge.
- The World Factbook: Qatar. 2016. Available online at <https://www.cia.gov/library/publications/the-world-factbook/geos/qa.html>
- Zahra, Farwa. 2015. The Smart Side of Msheireb Downtown. *The Edge: Qatar's Business Magazine*. Available online at <http://www.theedge.me/the-smart-side-of-msheireb-downtown/>

Appendices

Appendix I – Glossary of Terms

BR	(Biosphere Reserve)
BMI	(Business Monitor International)
COMCEC	(Committee for Economic and Commercial Cooperation of the Organization of Islamic Cooperation)
COMTRADE	(United Nations Commodity Trade Statistics Database)
EIA	(U.S. Energy Information Administration)
GCC	(Gulf Cooperation Council)
GDP	(Gross Domestic Product)
GNI	(Gross National Income)
HHI	(Herfindahl-Hirschman index)
HMC	(Hamad Medical Corporation)
LEED	(Leadership in Energy and Environmental Design)
MENA	(Middle East and North Africa)
MICE	(Meetings, Incentives, Conferences, and Events)
MPDS	(Qatar Ministry of Planning Development and Statistics)
MFT	(Muslim Friendly Tourism)
QDB	(Qatar Development Bank)
QGBC	(Qatar Green Building Council)
QIA	(Qatar Investment Authority)
QNB	(Qatar National Bank)
QSTec	(Qatar Solar Technologies)
QTA	(Qatar Tourism Authority)
SME	(Small & Medium Enterprises)
UAE	(United Arab Emirates)
USD	(United States Dollars)