11-2019

UNITED ARAB EMIRATES POST OIL STRATEGY: AN EXAMINATION OF DIVERSIFICATION STRATEGIES AND CHALLENGES

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This thesis is submitted in partial fulfilment of the requirements for the degree of Master of Governance and Public Policy

Under the Supervision of Dr. Osman Antwi-Boateng

November 2019

Declaration of Original Work

I, Noura Hamad Salim Al Jaberi, the undersigned, a graduate student at the United Arab Emirates University (UAEU), and the author of this thesis entitled "*United Arab Emirates Post Oil Strategy: An Examination of Diversification Strategies and Challenges*", hereby, solemnly declare that this thesis is my own original research work that has been done and prepared by me under the supervision of Dr. Osman Antwi-Boateng, in the College of Humanities and Social Science at UAEU. This work has not previously been presented or published or formed the basis for the award of any academic degree, diploma or a similar title at this or any other university. Any materials borrowed from other sources (whether published or unpublished) and relied upon or included in my thesis have been properly cited and acknowledged in accordance with appropriate academic conventions. I further declare that there is no potential conflict of interest with respect to the research, data collection, authorship, presentation and/or publication of this thesis.

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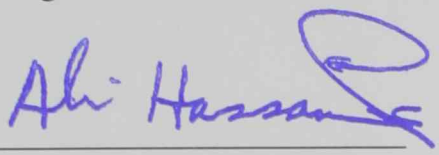
Signature  Date 28/1/2020

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Abstract

For decades, oil-rich countries have been thoroughly discussed in the literature; in regard to the heavy dependence on oil revenue for the state's development, and economic diversification has become one of the main issues of oil producing countries worldwide, due to the critical situation and different factors and pressures surrounding the global oil market. To achieve the research objectives and to answer the research questions, the paper analyzes the post oil strategy of the United Arab Emirates and examines its challenges as a country located in a region with abundant oil wealth that has allowed it to become one of the main oil exporters besides other GCC countries. The purpose of this paper is to highlight the initiatives of the United Arab Emirates government to create a good economic environment towards diversification. The paper uses a qualitative methodology by collecting data through in-depth interviews with government officials, experts and academics in order to collect different views and perspectives concerning this matter. The findings show that the government has a clear vision for diversification which is embodied in the effective laws and policies to enforce the post oil strategy effectively. The major economic diversification strategies includes: investing in research and development, attracting foreign direct investment, developing a petrochemical industry, manufacturing, tourism, aviation, financial services and banking hub, logistical hub, digital economy and knowledge economy. There are many challenges associated with UAE's diversification strategy. Economically, there are challenges such as global economic crises, oil price volatility and exchange rate regime; Geopolitical challenges include: regional conflicts and tensions, while cultural and social challenges include: demographic imbalance and low Emiratis participation in the private sector. The research concludes with the following policy recommendations: efficient and effective implementation of Emiratization strategies, skill development and vocational training, developing targeted policies to increase national fertility and enhancing soft power tools.

Keywords: Economic diversification, resource curse, post oil-strategy, Dutch disease, oil dependence, demographic imbalance, Emiratization.

Title and Abstract (in Arabic)

استراتيجية الإمارات ما بعد النفط: سياسات التنويع الاقتصادي والتحديات

الملخص

يعد اعتماد الدول النفطية بشكل كبير على عائدات النفط في التنمية والتطوير من أهم المواضيع التي تم مناقشتها في كثير من الدراسات والأبحاث. وتركز هذه الدول مؤخراً على استراتيجيات التنويع الاقتصادي وتقليل الاعتماد على النفط؛ وذلك بسبب الأوضاع غير المستقرة التي تشهدها أسواق النفط العالمية، فضلاً عن اختلاف وتنوع الأطراف واللاعبين المؤثرين على هذه السلعة على مستوى العالم. ولتحقيق أهداف البحث وللإجابة على تساؤلات البحث، تناقش الورقة استراتيجية دولة الإمارات ما بعد النفط وأهم التحديات المحيطة بها، حيث تقع دولة الإمارات في منطقة غنية بالموارد النفطية مما خولها لتصبح أحد أهم الدول المصدرة للنفط إلى جانب الدول الخليجية الأخرى. وتهدف الورقة إلى تسليط الضوء على المبادرات التي تبنتها حكومة دولة الإمارات لخلق بيئة اقتصادية أكثر تنوعاً. وتعتمد الورقة على المنهج الكيفي من خلال إجراء مقابلات مع المسؤولين الحكومين والخبراء والأكاديمين في دولة الإمارات؛ لجمع الآراء ووجهات النظر حول هذه الاستراتيجية. وتتلخص نتائج المقابلات في أن دولة الإمارات قامت بإعداد رؤية واضحة نحو التنويع الاقتصادي وتقليل الاعتماد على عائدات النفط من خلال تطبيق القوانين والسياسات التي تساعد على تنفيذ هذه الرؤية. وتتضمن استراتيجيات التنويع الاقتصادي الاستثمار في أنشطة البحث والتطوير والاستثمارات الأجنبية المباشرة وتنويع صناعة البتروكيماويات وتطوير قطاعات السياحة والطيران والخدمات المالية وقطاع البنوك والخدمات اللوجستية، بالإضافة إلى الاستثمار في الاقتصاد الرقمي واقتصاد المعرفة. في حين ترتبط التحديات التي قد تعترض هذه الاستراتيجية بالجوانب الاقتصادية والتي تتمثل في الأزمات الاقتصادية العالمية وعدم استقرار أسعار النفط وسياسات سعر الصرف. في حين تتضمن التحديات الجيوسياسية الصراعات والحروب التي تشهدها المنطقة. تتلخص التحديات الثقافية والاجتماعية في الخلل في التركيبة السكانية وقلة إقبال المواطنين للعمل في القطاع الخاص. وتلخص الورقة أهم التوصيات لمعالجة التحديات الخاصة بتنفيذ استراتيجية التنويع الاقتصادي مثل التطبيق الفعال لاستراتيجيات التوطين وبرامج تطوير المهارات والتدريب المهني وتطوير سياسات زيادة الخصوبة بين المواطنين وتعزيز أدوات القوة الناعمة، بالإضافة للإشارة لأهم الحلول والسياسات المطبقة في بعض الدول.

مفاهيم البحث الرئيسية: التنويع الاقتصادي، النفط، لعنة الموارد، استراتيجية ما بعد النفط، المرض الهولندي، الاعتماد على النفط، الخلل السكاني، التوطين.

Acknowledgements

I am very grateful firstly to Allah, the Almighty who gave me this knowledge and the chance to complete my Masters education. I would next like to thank my family who have supported me in every possible way, making me proud of my achievements. I would extend my thanks to Dr. Osman Antwi-Boateng who gave right directions whenever I needed them and enhanced my interest in the subject. He has encouraged me to look into key topics related to my subjects and to actively participate in the research activity. Through my thesis work I have obtained a good background in theory and research under his supervision.

I would like to extend my thanks to committee members for providing their support, feedback and guidance throughout my preparation of this thesis, especially the efforts put in by my advisor Dr. Osman Antwi-Boateng. I am glad of the opportunity to take my Master's Degree from the United Arab Emirates University, and I would like to thank the university for providing the necessary resources and for assisting me throughout my studies and research. In addition, the services provided by the Library Research Desk in supplying me with the relevant reference material is well appreciated. The Library resources available online were particularly helpful in allowing me to look into recent articles from renowned journals.

My special thanks go to my family members including my parents, brothers, and sisters who helped me along the way. I am sure they suspected that the process was endless. I would also thank my friends who continuously provided their support and motivated me to finish my masters study.

Dedication

To my beloved parents, family, and my country, the United Arab Emirates

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Chapter 1: Introduction

1.1 Overview

Sustainability is a critical aspect that all modern economies need to achieve through utilizing their available resources in the most efficient ways. Natural resources are closely linked to a state's development. For both oil producers and oil users, the efficient use of oil is a key element in economic development. While this is not a vital condition in all economies with abundant natural resources, the importance of oil comes from being not just a commercial commodity, but a strategic one that involves different players and actors and being highly affected by global political and economic factors.

For decades, oil-based economies have been intensively discussed in the literature; due to their seemingly complete dependence on oil revenues in economic development, and their urgent need to reduce this dependence because of the critical circumstances surrounding the stability of global oil prices. Regardless of the volatility of oil prices and oil crisis that occurred in the 1980s and in 2014, the new development of shale oil caused a major challenge to conventional oil production. Oil exporting countries differ in the nature and extent of their economic diversification strategies and how quickly they are implemented. GCC countries with their heavy dependence on oil revenue in all aspects of development are taking serious steps towards the creation of new sources of income by boosting policies and strategies for a more diversified economy.

Since its establishment in 1971, the United Arab Emirates has witnessed massive development accompanied by very rapid economic growth. The basis of this development is in the country's leadership belief and keenness to invest in its human capital before investing in other sectors of the economy with the available resources. The United Arab Emirates is one of the few oil-rich countries where oil revenues have been effectively utilized in development, thereby contributing towards the renaissance of the country. But oil revenues are never sufficient for any country to be developed; rather it is the case that governments have a key role and responsibility in allocating and distributing wealth by proper, positive policies and tools.

We live in a globalized world, which means that borders and constraints between people and countries continue to disappear every day. Different global actors are more engaged in political, economic, cultural and social aspects and there is no doubt that the oil sector is changing and is affected by different global political and economic forces. As an OPEC member, the United Arab Emirates is affected by decisions taken by that body. The reduction in oil production decided by OPEC limited growth in 2017, the weak growth of the global economy and the decline in the regional liquidity continue to be the most significant risks, and low oil prices and fiscal austerity measures continue to put pressure on the economy of the United Arab Emirates. The real growth rate of the GDP was estimated at 2.3% in 2016, a significant decline compared with the average growth rate of 5% between 2010 and 2014 in the period leading up to the collapse of oil prices in 2014 (Ministry of Economy, 2018).

Due to the low oil prices and global variables that influence the oil industry, the United Arab Emirates government recognized at an early stage the necessity for a post-oil plan and for an economic diversification strategy in the oil-dependent state. Economic diversification is an approach that ensures different revenues for a country, rather than depending on one main revenue. It's not only for that reason, but also to secure the needs of future generations, especially with the threat of resource scarcity.

Many plans and strategies have been developed towards diversification. This approach requires a doubling of efforts and involves many challenges. For its part the United Arab Emirates has better infrastructure - and is therefore better positioned - to diversify its economy compared with other GCC countries. This can be seen in the huge projects and international events the country has organized and hosted. Creating a good business environment with effective plans and strategies, making an investment in human capital, and building a knowledge-based economy, looking for new sources of revenue and decreasing the reliance on oil are all tangible steps that the United Arab Emirates has adopted towards economic diversification

The leadership of the United Arab Emirates seeks to play a superior role in this field. In this regard, before launching the United Arab Emirates Post-Oil Strategy in 2016 Sheikh Mohammed bin Rashid said that, "The United Arab Emirates is ready and has been always pioneering, it has the innovative solutions and creative ideas to address challenges. Our goal is leading by example and conveying a historic image of the United Arab Emirates' achievements to the world". In turn, His Highness Sheikh Mohamed bin Zayed Al Nahyan, once said that, "We strive to make the United Arab Emirates a model of a nation that has succeeded to transform its

economy from depending on natural resources to depend on skills and its human capital and they are our bet for a prosperous future" (WAM, 2016).

The United Arab Emirates is preparing to shift for a new era that is more flourished, diversified and innovative. The past decades still delivered a very effective performance as the wise leadership established the fundamentals of the state's comprehensive development, but it is now the time for a radical change.

1.2 Problem Statement

The "Resource Curse" literature shows that a country's over-reliance on oil revenue receipts is actually harmful to its development because of dangers associated with the "Dutch-Disease" syndrome where other productive sectors of the economy are neglected due to that over dependence. Several examples abound among major oil-producing countries. Examples such as Iraq, Iran, Nigeria, Libya, Angola show that their oil wealth has been a curse rather than a blessing as they have all faltered in their economic and development agendas unlike the United Arab Emirates, where the government launched its post-oil strategy with great effort to achieve the goals of this strategy. Behind the success of the United Arab Emirates is a deliberate state policy of diversification that has seen the country's non-oil sector now accounting for 60% of its GDP. In this regard, His Highness Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the United Arab Emirates Armed Forces, said, "In 50 years, when we might have the last barrel of oil, the question is: when it is shipped abroad, will we be sad? If we are investing today in the right sectors, I can tell you we will celebrate at that moment" (The National, 2019).

This research is seeking to identify the diversification strategies that the United Arab Emirates has been following, and continues to follow, in order to ensure the sustainability of its post-oil economy. The important aspect in conducting such a strategy is to know its strengths and weaknesses, in order to make sure that the path being followed is the right one and is most appropriate in achieving the desired ends. Despite the efforts have been made for this strategy, the next period will include many challenges regarding that decreasing dependency on oil and looking for other effective ways to diversify the economy, and this research will provide recommendations to the decision makers to address the challenges of the diversification strategy, and to maximize benefits. The research aims to answer the following questions: 1) what strategies does the United Arab Emirates utilize to diversify its economy, and 2) What challenges does the United Arab Emirates face in its diversification strategies?

1.3 Purpose of the Research

The purpose of this research is to highlight the steps taken by the United Arab Emirates government to create the right mix of political and economic activities that would lead the national economy towards diversification. Those steps have made an effective impact on the economic indicators of the United Arab Emirates; and this is reflecting the government's will to really shift the economy from one that is oil-based to one that is more diversified. In this regard, His Highness Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the United Arab Emirates Armed Forces, said: "We strive to make the United Arab Emirates a model of a nation that has succeeded in transforming its

economy from depending on natural resources to depending on skills and its human capital and they are our bet for a prosperous future" (Emirates247, 2016).

It is important to identify the challenges facing the government in its implementing of strategies and plans and to consider how these challenges can be addressed. This process will also draw from the experiences of other oil-rich countries that have successfully embarked on economic diversification in order to make policy recommendations based on their best practices, as well as to avoid their mistakes. This research is motivated by the current orientation, whereby most oil-rich countries such as the United Arab Emirates are planning their path towards post-oil economies in order to keep pace with global changes and to meet challenges that the oil industry faces and will face. While there are several research studies on the dangers of oil dependency, similar attention has not been paid to the work that has been done in countries such as the United Arab Emirates who have taken a proactive stance in initiative comprehensive policies and strategies to achieve a post-oil economy. In spite of the United Arab Emirates' promise of post-oil success, not much has been written from within the country apart from some exploratory observations by foreign scholars. Thus, this research represents an indigenous scholarly attempt at generating empirical evidence about the diversification strategies of the United Arab Emirates in its quest to be non-oil dependent. Hence, the importance and the contribution of this research.

1.4 Research Objectives

The objectives of this research are as follows - to:

- Examine the United Arab Emirates' economic transformation since independence;
- Examine the contribution of Petro-carbon to the economic development of the United Arab Emirates;
- Examine the challenges faced by the United Arab Emirates in the global oil market;
- Examine the rationale behind the United Arab Emirates' post-oil vision;
- Discuss diversification strategies initiated by the United Arab Emirates;
- Examine the strengths and weaknesses of the diversification strategies of the United Arab Emirates;
- Make policy recommendations towards effective post-oil diversification.

1.5 Overview of Methodology

In this thesis, qualitative research methodology has been adopted and followed. The approach is divided into primary data collection and secondary data collection. The primary data collection includes conducting in-depth interviews with government officials from the United Arab Emirates and top business executives based in the country, including economic and political science scholars and researchers. The format of the interviews employs a combination of structured, unstructured or semi-structured interviews, depending on the subject. This is

supplemented by primary documents and data from the United Arab Emirates government, from international financial agencies of clear standing, such as the IMF, the World Bank and OPEC, and reputable global think-tanks. The economic data and information from secondary sources are drawn from such agencies as reputable international business media outlets and publications.

1.6 Literature Review

1.6.1 History of Oil Discovery

What is now the United Arab Emirates was previously a series of separate emirates with limited resources and weak economies that were mainly driven by nomadic farming, date palm cultivation, fishing and the pearl trade. In the 1930s, Abu Dhabi was a poor village depending on the pearl trade - a trade which came to be destroyed by the production of cultured pearls in Japan. Morton (2011) reviewed the history of the discovery of oil in Abu Dhabi as the first fields discovered were located in Abu Dhabi, which then became “the rich oil emirate”. Sheikh Shakhbut was interested in oil discovery and assigned Petroleum Development (Trucial Coast) (PDTC), to conduct a survey in 1936 but at that time everything indicated the difficulties of oil exploration in the area. In the early 1950s, PDTC continued to drill in different locations such as Ras Sadr and Jabel Ali but both were found to be dry. Then, in 1958, Abu Dhabi Marine Areas Ltd. (ADMA), jointly owned by British Petroleum and Compagnie Française des Pétroles (later known as Total), started drilling in the Umm Shaif field, using marine drilling platforms. This huge field, about 300 Km^2 in size, was struck at about 8,755 ft., and came on stream in 1962.

The following year, in 1959, PDTC discovered the Murban-Bab field, which was about 450 Km^2 in size and this came on stream in 1964. This was followed by the discovery of the Bu Hasa field in 1962 by the same company, while ADMA discovered the Zakum offshore field in 1965. PTDC changed its name to the Abu Dhabi Petroleum Company (ADPC) and signed a 50-50 oil sharing agreement with Sheikh Shakbut in 1965, that same sharing ratio being agreed with ADMA. In 1971, Sheikh Zayed became the president of the new state of the United Arab Emirates (Morton, 2011).

In the same year, the Abu Dhabi National Oil Company was created. It gained a 60% interest in ADPC and ADMA in 1974, the two companies then being reincorporated as the Abu Dhabi Company for Onshore Oil Operation and Abu Dhabi Marine Operating Companies (Morton, 2011).

The Murban field started exporting oil at a rate of 3,674 barrels per day. Nowadays, the accumulated production of oil from fields such as the Bu Hasa field, west of Bab, and the Bida Al Qemzan, Asab, Shah and Sahil amounts to around three million barrels of oil per day (ADNOC, 2019). After the extensive process of search, United Arab Emirates has become one of the largest oil producers in the world and one of the key actors in the oil market.

1.6.2 Oil Regulations

The discovery of oil made a significant change in the economy of the United Arab Emirates and raised the economic status from that of being an economy with very limited recourses to being one of the strongest economies in the region. This was especially after federation where regulations and policies have been developed;

in order to serve the economic development of the state. Strict regulations were established by the government in order to regulate the oil sector; especially across the seven emirates, with each emirate having its own oil resources. In the following section we offer a brief overview of the oil sector's regulations and policies in the United Arab Emirates. Because of the federal and local levels of the emirates, there are special regulations developed to regulate and distribute oil revenues among the different emirates.

Regarding the oil and gas regulation 2013, "each emirate of the United Arab Emirates has constitutionally entrenched rights to the natural resources (including oil and natural) within that emirate; such resources are deemed the public property of that emirate" (Boston & Mhairi, 2013). So, each emirate develops its own policies and regulations regarding the development of oil and natural gas such that, in this regard, the ultimate control lies with the respective emirate's ruler.

In the case of Abu Dhabi, it does not have a comprehensive petroleum legislation governing the granting of exploration and development concession rights. Many laws have been issued to manage the petroleum industry in the emirate; laws such as the following: the Abu Dhabi Gas Ownership Law (Abu Dhabi Law No. 4 of 1976), the Abu Dhabi Petroleum Resources Conservation Law (Abu Dhabi Law No. 8 of 1978), the Abu Dhabi Petroleum Ports Law (Abu Dhabi Law No. 12 of 1973, as amended) and the Abu Dhabi Tac Decree of 1965 (as amended). The Supreme Petroleum Council has the overall responsibility for petroleum industry policy making. It also controls the management of ADNOC, Abu Dhabi government owned Oil Company.

In the Emirate of Sharjah, the Sharjah Petroleum Council is responsible for the regulatory oil sector. It also responsible for submitting recommendations to the Ruler for concessions and for concluding such agreements. Dubai has a different way of regulating the oil industry through concessions or contracts between companies and the government of Dubai, and this is managed by the Department of Oil Affairs.

Moreover, the Dubai Supreme Council of Energy (established in 2009) is responsible for the provision of primary energy resources at a reasonable cost and for reducing the negative environmental impacts.

On the federal side, the Ministry of Energy has limited power to develop policies at the federal level; because it is subject to the constitutional rights of the respective emirates. The Ministry of Environment and Water oversees the federal approvals, but the environmental departments of each local emirate are responsible for approval within their emirate and for the enforcement of federal requirements and local environmental regulations and laws.

In general, the United Arab Emirates oil production is dominated by three major companies; with the majority owned by ADNOC with international companies such as BP, Total, Exxon Mobile, Shell, Japan Oil Development Company Limited and Patrex. The first company to consider is the Abu Dhabi Company for Onshore Oil Operations (ADCO), which operates the onshore concession originally granted in 1930. The second company is the Abu Dhabi Marine Operating Company (ADMA-OPCO) that operates the offshore concession originally granted in 1950, and the third company is the Zakum Development Company (ZADCO) that operates the Upper Zakum offshore field and the Umm Al Dalkh and Satah offshore fields.

1.6.3 United Arab Emirates Economy

Aarten (2002) discusses the political economy of the United Arab Emirates by describing the oil discovery in 1960 in Abu Dhabi and how the oil wealth opened up the region to the outside world; especially to the American and British oil companies. Her paper analyzed how the rulers of the United Arab Emirates use the oil economy as an instrument in securing political stability in the United Arab Emirates by using a hypothesis. She explained the characteristics of the term "Rentier Economy" which are: first, that an economy where rent situations predominate are considered to be rentier economies. Second, that the rentier economy is an economy with a substantial degree of external rent. Third, in a rentier economy few are involved in the generation of the rent (wealth), while the majority is only involved in the distribution or utilization of it. This thesis has strengthened the assumption that the rulers use the oil economy as an instrument in securing political stability. The basic assumptions of the rentier theory, in the case of the United Arab Emirates, have therefore been strengthened.

Omaira (2001) states the major features of the United Arab Emirates economy as the following: (1) the adoption of a free market system, (2) a reliance on oil, (3) a reliance on an incoming labor force, (4) a narrowness of the domestic market, and finally (5) the significance of geographical location. The writer presented numbers and figures to show the achievement of the United Arab Emirates economy and then mentioned policies that have been implemented to accomplish such achievements, which are based on the principle of achieving the welfare of its citizens. The macroeconomic policy that has been adopted includes a free market economy and a diversification of income resources, which aims to attain high macro-

and micro-growth rates. The general guidelines that have been employed for the policies that have been implemented can be summarized in the following ways: first, a fiscal policy which seeks to balance public income and spending.

Second, a monetary and credit policy that aims to preserve the strength of the dirham and its exchange rate against foreign currencies and to organize the banking sector and raise its efficiency by rules and regulations that determine the reserve ratio and the interest and credit rates. Third, a trade policy that aims to liberalize the state's foreign trade by imposing no quantitative or technical barriers and by levying extremely low customs duties (not more than 4%). And fourth, an investment policy that aims to encourage private sector investments besides foreign investments, by establishing industrial and free zones in the various emirates. The paper also summarized the future economic objectives of the United Arab Emirates such as realizing sustained and higher growth rates in all production and services sectors, enhancing the process of diversification, assigning a larger economic role to the private sector and developing the skills of the national labor force.

1.6.4 Oil Sector Contributions to the United Arab Emirates Economic Development

Before the Federation, the seven emirates were known as the "Trucial States", with each emirate managing its internal affairs independently and having control over its domestic and commercial activities. Al Sadik (2001) mentioned that the economy prior to the Federation had many phases of growth, with its base until the 1950s being on agriculture, fishing, the raising of livestock, traditional manufacturing and pearling. By discovering oil in 1950s, the rulers of the Trucial States started to plan for development by establishing the "Trucial States Council". A

little improvement was made in health care, road building, agricultural, vocational training, statistics and surveys of water and soil resources (Delgado, 2016), but development was increased when the late Sheikh Zayed become the ruler of Abu Dhabi. He started early on to fund and aid other emirates; in order that the emirate of Abu Dhabi would have a better life and services.

The federation of the emirates in 1971 came to strengthen and complement the modest development generated by oil wealth, but with a comprehensive regulatory framework and policies. There is no doubt that oil had the largest role in the development of the United Arab Emirates, but this would not have happened without the generosity and wisdom of late Sheikh Zayed who employed oil revenues to promote the development of the new state. The time of federation was very appropriate for an economic boom, as Delgado (2016) argues: “the sudden rise in oil production and export activities during the 1970s and early 1980s coupled with the boom in oil prices during this decade, allowed the country to have the necessary capital to invest in the development of the economy”.

Indicators shown how the economy of the United Arab Emirates is heavily based on oil revenues. The two main indicators are oil sector contribution to GDP and oil export revenues in proportion to total export revenues. First of all, according to Kenton (2018), GDP is “the monetary value of all the finished goods and services produced within a country's borders in a specific time period”. In the 1970s, oil contribution to GDP was higher than 40%; the percentage continued to decrease but was still greater than 10% until 2013. The same situation applied to oil export revenues, which were always higher than 40%.

Delgado (2016) measures the real GDP from 1972 to 2014; because the real GDP only considers changes in the quantities of goods and services produced by the economy, so it provides a clear image about the huge economic development of the United Arab Emirates in a short period of time. As Kenton (2018) stated, "[real GDP] is an inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year, it can account for changes in price level and provide a more accurate figure of economic growth". The real GDP increased from 27,545 billion USD in 1972 to 249,578 billion USD in 2014. During this period the lowest value of real GDP was in 1986 (79,909 billion USD); due to the drop in oil prices in international markets, while the highest value was in 2014 (249 billion USD).

Delgado (2016) also suggests three main stages in the growth of the United Arab Emirates economy. The first stage was from 1975 to 1984 when oil prices increased, leading to an overall increase in the revenues of the United Arab Emirates. The second stage was from 1985 to 1999, which saw a slowdown period due to the fall of oil prices and revenues. The third was from 2000 to 2014, where the economy registered record-breaking growth rates.

Indicators and numbers mentioned above show a clear picture of the great progress and evolution of United Arab Emirates economy. The economic development led by oil revenues allowed the development of other fields and made the United Arab Emirates a global competitor in different aspects, and the country's stable political status played an active role in shaping the policies and conditions of the region, allowing it to become an important partner for great powers such as USA, China, Germany and other countries.

At the same time the United Arab Emirates has witnessed a huge increase in population size from 180,000 in 1968 to 9.6 million in 2015, this massive increase occurring due to the high need for foreign workers in all fields. As of 2015, the United Arab Emirates registered higher scores in terms of the country's infrastructure, macroeconomic environment and institutions than the group of advanced economies as well as the USA and UK (WEF, 2015). In terms of its regulatory environment the United Arab Emirates has been ranked number 4 among 140 countries in the lack of government bureaucracy and regulations, 3rd out of 140 in terms of efficiency of customs procedures and 2nd out of 140 in the lack of tariff barriers (WEF, 2015). Delgado (2016) stated that, "By looking at the most well-ranked indicators it is possible to note that the economic success of the United Arab Emirates has not been only due to abundant oil resources. Prudent and wise policy-making by the United Arab Emirates government has played an unquestionably vital role in fostering the country's economic development".

1.6.5 Challenges Facing the United Arab Emirates Oil Sector

The United Arab Emirates has faced a range of challenges regarding various aspects of development and achieving welfare for its people. As mentioned previously, oil has played, and continues to play, a great, perhaps central, role in the economic, social and political development of the country. Due to the important and significant role of oil at the international level, which affects political and economic status; many players can influence the stability of the oil price. For its part, the United Arab Emirates is one of the main oil producing countries and is an active member in OPEC. So, this is the main challenge United Arab Emirates facing concerning the oil market.

The first challenge facing the United Arab Emirates government, as Al Sadik (2001) has mentioned, was how to utilize the oil revenues to strengthen and maintain the federation, improve special services and achieve a good level of welfare for the public, and to develop the non-oil sector. Monetary integration was one of the important achievements of the United Arab Emirates government when the United Arab Emirates Monetary Agency was established in 1973 and issued the United Arab Emirates national currency (the dirham). This agency was replaced by the United Arab Emirates Central bank in 1980 with assigned responsibilities and duties. In 1974, the United Arab Emirates Council of Ministers outlined and defined the main themes and guidelines for development. Another main challenge facing the United Arab Emirates is economic diversification and the development of non-oil income sources. Al Sadik (2001) argues that, "although the share of non-oil income (AGDP) has continued to increase and has, since 1982, surpassed the oil share, the linkages and dependence of the former on the latter is large. Thus, recession in the oil sector has a negative impact on the overall performance of the non-oil GDP". The main challenge is how the United Arab Emirates reacts to low oil prices, especially at this time of changes in the balance of international power and in a time of the existence of many conflicts around the world. According to the World Bank (2016), the United Arab Emirates produces three million b/d of crude oil, but government revenues decreased from 41% of GDP in 2013 to 29% of GDP in 2015. Despite low oil prices, the government spending has continued with expenditure increasing from 30% of GDP in 2013 to 34% of GDP in 2015. The result of that was a fiscal deficit of about 5.2% of GDP in 2016, after a surplus of about 10.4% of GDP in 2013.

The United Arab Emirates faces all those challenges by the adoption of policies that assist in both reducing oil-dependency and diversifying the economy. A World Bank commentary stated that, “The government has been investing its oil surpluses into the non-oil economy. In particular, it has managed to develop the Dubai financial and real-estate centers, international airline hubs in Dubai and Abu Dhabi, and sports-tourism in a number of Emirates as well as light manufacturing and transport and retail trade services” (World Bank, 2016).

Many analysists argue that GCC countries were less affected than other oil-producing countries by the 2014 oil crisis. Al Asoomi (2019) argues that GCC countries were able to absorb a price decline in 2014, their annual budgets for 2015 being equal or close to the 2014 budgets. He adds that different measures have been taken by GCC countries to limit unexpected expenditures to confront the oil price volatility, besides the huge cash reserves especially in the United Arab Emirates and the Kingdom of Saudi Arabia that help to finance development projects. However, GCC countries still remain vulnerable to the oil crisis; due to the continuous geopolitical developments in the region. So, it’s the time to invest, improve and develop exciting sectors or to establish new industries and sectors to maintain the development growth and welfare level away from oil revenue.

1.6.6 Challenges of Oil Dependency for Oil Producing Countries

When considering challenges facing oil-exporting countries in general and at the international level; we will find many challenges have been discussed through many studies and researches. First, I will discuss the concept of Resource Curse because it is very important to know more about this concept when reviewing the challenges that oil producing countries are facing.

The term “Resource Curse” was first defined by Richard Auty in 1993 as, “the perverse effects of a country’s natural resource wealth on its economic, social, or political well-being” (Ross, 2015).

Abdullah (2017) wrote the chapter of “Challenges in Petroleum Countries” that addresses the economic and political aspects of the resource curse. In regard to the economic aspects, he discussed first “Dutch disease”; which is a phenomenon that emerged in Netherlands in the 1960s due to the extraction of natural gas that resulted in a boom in the natural resources. The phenomenon has been examined by many economists. Cordon and Neary (1982) developed a model to explain Dutch disease in terms of three economic sectors: the natural resources sector; the non-resource traded goods sector and non-traded good sector. They argue that this phenomenon happens when the non-traded goods sector is squeezed by growth in the other two sectors. They also relate Dutch disease to two effects: the spending effect and the resource movement effect (Brahmbhatt et al., 2010). The spending effect comes into play when increased domestic income from the booming natural resources sector leads to higher aggregate demand and spending by the public and private sectors, while the resource movement income effect takes place when a boom in the natural resource sector attracts capital and labor from other parts of the economy (Brahmbhatt et al., 2010). De-industrialization occurred due to both effects, in addition to the relocation of labor away from the traded goods sector (Auzer, 2017). Lower economic growth may have resulted from Dutch disease because of an inappropriate allocation of resources between the traded and non-traded goods sectors. So, when a government spends natural resource revenues on public services such as roads, telecommunication, construction, electricity, etc., these are the factors that would prompt Dutch disease.

In summary, oil producing countries should create appropriate polices regarding resource allocation and put more effort into the development and investment in the non-resource sector; to avoid sequences of Dutch disease.

The second issue the writer addressed in terms of economic aspects is oil price volatility. Changes in oil prices is one of the main challenges of the oil producing countries, and the major reason for the high levels of oil price volatility is political tension. The writer mentioned several events that played a significant role in the movements of oil prices. These included the Iranian revolution in 1980, the invasion of Iraq in 2003, and political conflicts in Nigeria and Venezuela. There are other reasons for price volatility such as OPEC's decisions concerning oil supply, fluctuating demand for crude oil and increasing demand from emerging markets such as China and India. Other challenges the writer mentioned regarding the economic aspects of the resource curse is mismanagement of oil revenues which cause negative effects on economic growth such as macro-economic volatility, the low quality of public expenditures, and budget deficits.

Unstable oil prices lead to changes in public spending which affects macro-economic stability and as a result pose a major threat to economic growth. A low quality of public expenditures happens when there is an absence of appropriate polices and guidelines for the investment of high oil revenues. Some governments tend to spend oil revenues in public projects without any economic return which means an inefficiency of fiscal policies developed in such countries. Budget deficits and debt would be result of the mismanagement of oil revenues, and deficits occur when the oil producing countries have extra public spending in time of high oil revenues, countries then need to borrow in order to compensate for the deficit.

On the other hand, oil producing countries may fall into debt due to inefficient fiscal policies that should have prevented budget deficit in the case of decreasing oil prices. Briefly, the creation of fiscal policies that are appropriate and efficient is one of the main challenges facing oil producing countries, in order to draw the full advantages of oil revenues for economic growth and the development of other areas. Good governments know how to utilize oil revenues in investment in other sectors, in order to avoid sequences of oil price volatility as much as possible (Auzer, 2017). On the other hand, there are many political aspects of the resource curse. According to Auzer (2017), "ineffective governance in relation to the petroleum sector in oil- and natural gas- exporting countries may be related to corruption, rent seeking, patronage, poor institutional quality, lack of skilled human capacity and social and political conflict. Corruption is the main factor for inefficiency governance, besides the lack of accountability that cause other problems which make the resource revenues useless".

Bhattacharyya and Hodler (2008) found that democratization can be an effective and powerful tool to reduce corruption in resource rich countries. They argue that oil-rich countries have a high rate of corruption in cases where a non-democratic regime has been in place for more than 60% of the years since 1956, while this rate is lower and shows a high level of accountability in countries with a long history of democracy. On the other hand, Aslaksen (2007) has argued, based on empirical results that corruption has occurred in both democratic and nondemocratic countries, and in OPEC countries and non-OPEC countries.

A number of studies and papers have examined the relationship between corruption and oil abundance. Sala-i-Martin and Subramanian (2013) found that corruption, weak governance, rent seeking and plunder are all problems observed in oil-rich countries. Dietz et al. (2007) have stated that resource-rich countries have developed more slowly than resource poor countries. They tested three indicators of institutional quality which are corruption, bureaucratic quality and the rule of law, and they found that corruption is the main reason for weak and poor economic performance of the oil-rich countries.

Mănescu and Nuño (2015) state that oil markets witnessed a significant transformation because of the unexpected rise of the US shale oil production. For this the modern technologies of horizontal drilling and hydraulic fracturing, as well as rising oil prices have enabled huge exploration and exploitation of shale oil. They add that it is estimated to reach 4.8 mb/d by 2020, representing about a third of total US supply. Seznec (2019) indicates other main challenges to the conventional oil production, such as exploiting bitumen deposits in Venezuela, which has enabled the country to become a major non-conventional oil supplier. To this must be added the growing pressure from renewable energy, the increased availability of natural gas through the proliferation of pipelines and a rise in the supplies of liquefied natural gas (LNG) all over the world and the sociopolitical conflicts in conventional oil producing countries such as Libya, Iraq, and Syria, the mismanagement of resources in Venezuela, and sanctions against Iran. Taken all together therefore, the revolution of shale oil besides the instability in the price of oil, and a wide range of geopolitical developments all highlight the importance of economic diversification and the need to look for new sectors to begin a post-oil era; one that is less dependent on oil revenues.

1.6.7 Diversification in the Oil Producing Countries

Natural resources are still limited resources that one day will no more exist; besides they are surrounded by many challenges and pressures at the local, regional and international level. Oil-rich countries have already recognized the danger of being countries that are oil dependent without having other recourses, and many started years ago to look for other economic resources; to reduce their vulnerability to the effects of changing oil prices, the interfering of different factors and parties in allocating oil revenues, in addition to the corruption and lack of accountability that increased in such cases. We will review below different examples of literature discussing various experiences - both successful and failed - in economic diversification towards reducing oil-dependency.

The International Monetary Fund (IMF) has defined economic diversification as "the shift to a more varied production structure, involving the introduction of new or expansion of pre-existing products, including higher quality products" (IMF 2007). Concerns for economic diversification have appeared due to the serious consequences of oil-dependency, and studies have divided these consequences into three categories: consequences focused on volatility, consequences focused on crowding out, and consequences that focus on institutional quality, government accountability, and violent conflict, while other studies have put a focus on the links between these problems (Ross, 2017).

According to Ross (2017), the most important sequences involve macroeconomic volatility. Economy being more affected by the international price shocks when the export sector is more concentrated, and therefore it more relative to the domestic economy.

Volatility in the prices of oil and minerals result from short-term inelasticities in both supply and demand. The second consequence that Ross has drawn attention to is a crowding out of other tradable sectors through the Dutch disease. The third consequence related to the oil dependency arises from problems associated with political outcomes, including authoritarian governments, high corruption rates, etc.

In his paper also, Ross (2017) says that we still know little about economic diversification in oil-rich countries because of two reasons; the first concerns missing and inconsistent data, where data provided by oil-rich economies are scarce and misleading so it is difficult to identify the true level of diversification. The second reason comes from not using standard measures for export diversification; although it is easier to measure export diversification than other forms of diversification. So, we will review successful cases and failed cases; to determine to what extent oil-rich countries meet the challenge for diversification.

Hendrix (2017) has used two perspectives to analyze diversification: oil and gas rents as a share of GDP and fuel exports as a share of total good exports. The first perspective measures the relative size of the resource and nonrecourse sectors; while the second perspective measures export concentration. The writer has analyzed oil and gas diversification in 40 oil- and gas-rich economies that have 83.4 percent of global oil reserves and 77.0 percent of natural gas reserves (CIA 2016). He makes a comparison between oil and gas rents as a percentage of GDP from 2002 to 2004 and from 2012 to 2014. In the first period the oil and gas rents accounted for an average of 28.7% of GDP, this percentage had decreased to 22.3% in the second period.

The more successful economic diversification experiences are Uzbekistan (67.6% in 2002-04 vs. 12.4% in 2012-14), Nigeria (32.4% vs. 14.5%) and Russia (28.4% vs. 15.3%). Other countries such as KSA, the United Arab Emirates, Kuwait, Colombia and Ecuador had higher oil and gas shares of GDP than earlier times in the 2000s. On the other hand, only a third of the 40 countries witnessed oil exports decline as a share of total good exports. These were Papua New Guinea, Vietnam, Yemen and Egypt. Other countries such as Ghana, Niger, Bolivia, Colombia, Russia and Venezuela saw an increase in oil exports as a share of total good exports. He includes the analysis by listing the countries with a decline in both perspectives as comparatively poor countries (Nigeria, Papua New Guinea, and Yemen) to wealthy (Qatar); and from small (Bahrain, Qatar) to quite populous (Egypt, Nigeria, Vietnam).

When discussing economic diversification in oil producing countries we cannot ignore the unique experience and most successful example and that is made by Norway. Norway's economic freedom score is 74.3, making its economy the 23rd freest in the 2018 Index. Its overall score has increased by 0.3 points, with improvements in labor freedom, government integrity, and judicial effectiveness outpacing lower scores for the government spending, monetary freedom, and fiscal health indicators. Norway is ranked 12th among 44 countries in the European region, and its overall score is above the regional and world averages. (Heritage Foundation, 2018). Norway is in the global top five of exporters of crude oil. The oil and gas sector constitute around 22% of Norwegian GDP and 67% of Norwegian exports (European Commission, 2018).

First of all, Norway has a distinguished model used to regulate and govern the petroleum industry, which is called the “Norwegian Model” based on a separation of commercial, policy and regulatory functions in the petroleum industry. Thruber et al. (2011) describe this model in their article as the following: first, commercial functions are managed by a commercial entity, the National Oil Company (NOC) Statoil for oil operations inside and outside Norway. Second, there is the Ministry of Petroleum and Energy which is the policy making entity in charge of setting goals for the sector, making plans to achieve these goals and monitoring the crucial licensing process. Third, the Norwegian Petroleum Directorate is the regulatory agency responsible for collecting data on all hydrocarbon activities on the Norwegian Continental Shelf, collecting fees from oil operators, providing advice for the Ministry on technical matters and developing petroleum regulations related to resource management. This administrative system has delivered great results for the Norwegian economy from many perspectives. For example, in terms of conflicts of interest; NCOs will be focused only on commercial operations and have no power in developing or creating policies and regulations for the oil industry. The state also will have full control on oil policies. The good oil industry government leads to good diversification, and that is why Norway has a successful experience of diversification and has become a model and example to follow by other oil exporting countries.

Shediac et al. (2008) mentioned the policies followed by Norway forwards economic diversification, such as establishing a social pension or sovereign wealth fund from oil revenues to be invested abroad; in order to avoid oil-price volatility and remove excess liquidity from the economy, as well as investing labor and capital and using technologies in industries.

Shediac et al. (2008) have analyzed the link between economic diversification and sustainable growth across three categories of countries: GCC economies; the Group of Seven, consisting of Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States; and Transformation economies consisting of Hong Kong, Ireland, New Zealand, Norway, Singapore, and South Korea. They measured diversification by evaluating GDP distribution of each country across different economic sectors, as agriculture or manufacturing to determine the "Concentration Ratio" and a "Diversification Quotient". The article defined concentration ratio as "it measures a nation's concentration in a given sector by taking the sum of squares of percent contribution of GDP, and diversification quotient as the inverse of the concentration ratio". The lower the concentration ratio in a country and the higher its diversification quotient, the more diversified is its economy. In addition to that, the article presents many important findings such as, first: GCC countries have the lowest diversification percentage due to structural gaps in non-oil sectors such as inefficiencies in labor, capital and knowledge and technology, ineffective investment of oil revenues and excess liquidity is used for the internal economy instead of being used in the external economy, in order to avoid and insolate economy from oil price volatility. This is unlike Canada and Norway where they have adopted effective and strong policies regarding diversification. Another important finding shows employment distribution among three groups. This tends to be balanced in G7 and transformation economies, while it is not equal in GCC countries. The oil and gas sector provides work for only 1% of the population yet, at the same time, produces 47% of GDP. It is important to measure the deployment distribution in diversification because it reflects and shapes GDP distribution between sectors.

Iqbal (2015) has used another diversification test - that of "significant export

diversification" - to measure export diversification in 17 countries during the period he specified as the starting decade (1970-1980) and ending with the decade (2000-2010), to see if oil export shares in the closing decade are lower than 20% at starting decade, by which we can identify whether such a country achieved economic diversification or not. The result has shown that only the United Arab Emirates and Indonesia meet the diversification test, while other countries (such as Gabon, Venezuela, Trinidad and Tobago) saw significant diversification periods when oil process were low from 1985 to 2000 but this has not been sustained by increasing oil prices in the early 2000s. Indonesia use labor-intensive manufactories such as textiles and footwear, besides primary resource-based items like palm oil and wood products. On the other hand, the United Arab Emirates have made huge efforts in developing tourism and transport service exports as has happened in Dubai by becoming an international transport hub.

A study published by the Organization for Economic Co-operation and Development (OECD) in 2011 discussed the importance of governance in selected African countries. It emphasized that good governance is a key element for economic diversification, which is driven by prudent economic management that develops the regulatory frameworks to enhance and create a healthy business climate. Angola is a clear example of an African country whose economy flourished during a period of increasing oil prices. According to the OECD (2011) "Angola has become one of the world's fastest growing economies in the world, with a GDP growth rate of 20.6% in 2005, 18.6% in 2006 and nearly 27% in 2007", but this growth stopped and dropped to 0.6% in 2009 after the global economy crisis.

In the case of Angola, it has a centralized government that is heavily involved in driving the economy. The oil wealth in Angola is being used to strengthen the concentration of the country in the oil industry, (such as an investment in West African iron ore mines and in Portugal, and the purchase of Iraq's oil development rights in 2009) instead of diversifying the economy. Another problem with the government in Angola is that there are many concerns regarding transparency in using oil revenues, such that it has not joined the Extractive Industries Transparency Initiative (EITI).

From what has been described above, we can notice by reviewing different cases of economic diversification that good governance and policies are key factors for the successful diversification as Norway and Canada, while countries with a high level of corruption, weak governments or those suffering authoritarian regimes, as is the case with most of the African countries, still need greater efforts and more time to progress their economic diversification.

Chapter 2: Theoretical Framework & Research Methodology

2.1 Theoretical Framework

With regard to the topic of this thesis, it is important to have a closer look at the theory of "resource curse"; as the UAE is an oil-rich country. This will help in determining to what extent that UAE has been affected by this theory, as well as, gauging the actual need for reducing oil dependency. Moreover, it's important also to discuss the concept of economic diversification; as the thesis addresses the post-oil strategy of the UAE, so this will assist in offering recommendations for the right path for this strategy, where diversification is highly dependent on government plans and policies.

2.2 Resource Curse

As we have earlier mentioned, the Resource Curse concept was introduced by Richard Auty in his book "Sustaining Growth in Mineral economies" (1993). The Resource Curse refers to the phenomenon of worse economic performance in resource-abundant countries comparing to that in resource-poor countries (Auty, 1993).

The term has received wide attention from different parties and agencies. Studies and debates have rapidly increased in number to discuss and analyze the concept of resource curse. Below we will review some studies that focus on resource curse.

Ross is one of the scholars who has made great contributions regarding the theory of resource curse. As UAE is an oil-rich country, Ross (2017) argues that petroleum has at least three important effects: it makes authoritarian regimes more durable; it increases corruption; and it helps trigger violent conflict in low- and middle-income countries. In addition to that, Ross (2015) mentions three main debates that have arisen about the effects mentioned previously. The first is about the conditions that oil requires to have such effects. There is no agreement between scholars about conditions, since they are conditional and limited in scope. The second debate concerns the mechanisms that produce these conditional effects, and the third is about whether the resource curse is real or illusory. A minority of studies have suggested that an appearance of resource curse is a "statistical artifact" that is created by endogeneity or omitted-variable bias. Other scholars suggest that despite the damaging effects of oil, this is counter-balanced by beneficial effects which are usually ignored.

Vahabi (2015) suggests two different meanings of resource curse. He distinguishes between political resource curse and economic resource curse. The former means that resource rich countries grow more slowly than countries that are lacking in resources, and there are three main economic models introducing such a curse: Dutch disease models, corruption and rent-seeking models, and institutional explanations. Vahabi (2015) states that, "the political resource curse was initially explored in the pioneering works of Mahdavy (1970), Karl (1997), Collier and Hoeffler (1998), and Ross (1999)". It means that regimes with rich natural resources tend to be more authoritarian and have a greater chance of experiencing civil wars.

Ricardo and Rigobon (2003) mention in their work three approaches to resource curse. The first approach is related to the Dutch disease, the second is about rent-seeking activities, while the third approach considers the damaging effects of volatility. These approaches can be briefly described as the two writers explain in their work. First, Dutch disease refers to the negative consequences resulted from increasing revenues from natural resources as creating more capacity to import both tradable and non-tradable goods which lead to a contraction in manufacturing. So, this is not a sufficient interpretation of slow economic growth for a country has oil with limited manufacturing. Second, rent-seeking means when the government has more wealth and prefers to engage in rent-seeking activities rather than investing in productive activities to create more wealth. This creates another problem, referred to as the "common-pool" problem where the costs are shared between many agents, but the benefits are private and may lead to overspending on average and to a distorted allocation of spending over time (Ricardo & Rigobon, 2003). Thirdly, volatility has negative effects on growth, investment, income distribution, poverty and educational attainment. Ricardo and Rigobon (2003) argue that, "Natural resource rents tend to be very volatile because the supply of natural resources exhibits low price-elasticities of supply".

The purpose of the brief outline above about the resource curse concept is to appreciate how the UAE was able to govern the oil sector in a positive way and deal with resource-based revenues in a way that prevents the economy from being afflicted by the resource curse.

Different studies have discussed the resource curse theory and have explained various methods or implications adopted by resource-rich countries that lead to the negative side of natural resource abundance. Gylfason (2011) identifies four main channels of transmission from plentiful natural resources to sluggish and slow economic growth. The first channel emerges from the overvaluation of the national currency, which has resulted from the Dutch disease that has already been discussed. The huge increase in raw-materials exports drives up the real exchange rate, which affects other exports. Frequent change in booms and busts help in increasing the volatility of the exchange rate and this consequence is what is required for reducing the total exports and decelerating economic growth. The second channel identified by Gylfason (2011) is that of rent-seeking. There are many forms for this behavior, such as offering tariff protection for domestic producers, which can lead to an increase in the corruption rate and a reduction in social equity. The third channel is a lack of security and good management with a focus on the creation of wealth, and the last channel that may lead to slow economic growth is ignoring the development of human resources, knowledge and education. The writer gives an example of this issue, where OPEC countries spend less than 4% of their GNP on education compared with 5% for the world as a whole. This is a significant indicator as to why countries that are naturally resource-rich are suffering from illiteracy and poverty.

Other issues that have been closely associated to the natural resource abundance include authoritarianism and conflicts. Natural resource wealth will be useless and will really be a “curse” if the government is weak and if its sole thoughts are about is how to increase this wealth without sharing it with its people or investing in the state’s development.

A great many studies have highlighted this issue in response to the severe consequences posed to the stability and security of people and nations. Ross (2001) finds that oil has a negative impact on democracy, especially in poor states. This impact is not limited to the Middle East, but extends to states such as Indonesia, Malaysia, Mexico and Nigeria. Ross (2001) also argues that there are three mechanisms that link oil and authoritarianism. The first is the rentier effect by using low tax rates and high spending to mitigate pressures for democracy. The second is the repression effect by building up internal security forces to ward off democratic pressures. The third is the modernization effect that results in the failure of people to hold industrial and service sector jobs that make them less likely to call for democracy. These findings have been confirmed by many studies. Jenson and Wantchekon (2004) found a robust and negative correlation between natural resources and democracy in Africa. They stressed that resource-rich countries such as Nigeria and Gabon may have democracy as long as they have a strong vertical and horizontal accountability. Considering the issue from another perspective, Smith (2004) argues that the durability of regimes is increased with oil wealth, another confirmation of this argument came from Ulfelder (2007) who emphasized the existence of autocracy in countries with resource wealth.

A counter-argument comes from Oskarsson and Ottosen (2010) in their article “Does Oil Still Hinder Democracy”. Here they re-examined the Ross (2001) hypothesis that has been supported by many studies and they argue that “Ross” theory does not stand the test of time, and that a broader conceptual take on the notion of democracy has left the theory more inconclusive than in previous studies”.

Haber and Menaldo (2011) also find no relationship between resource reliance and authoritarianism. In support of this argument other studies such as Blanco et al. (2016) have found no strong long-term effect of oil abundance on democracy. In their case they used three indicators: polity, civil liberties and political rights. It is worth mentioning that Anderson and Ross (2015) re-evaluated the work of Haber and Menaldo (2011) regarding the negative impact of oil on democracy. They determined that the findings of Haber and Menaldo (2011) might be correct for the period before the 1970s, but they argue that, "…. oil wealth only became a hindrance to democratic transitions after the transformative events of the 1970s, which enabled developing country governments to capture the oil rents that were previously siphoned off by foreign-owned firms".

The resource curse theory has been intensively analyzed and studied by many scholars and economists. The debate around the consequences of resource curse is still wide and includes various opinions and argument and it depends on the way that resource-rich countries address this issue.

This is a quick overview of the theory of "Resource Curse", with a brief introduction to selected studies that address different aspects of this theory and different views. Regardless of the negative impact of natural resource abundance, we cannot generalize about this impact on all resource-rich countries. UAE is one of the few countries that has found success in escaping the resource curse by developing policies and regulations to govern the oil sector and the overall economy. I offer this brief summary in order to compare the ability of the UAE government in saving its economy from such severe consequences with other countries that have experienced the same abundance of natural resources.

This successful “escape” has allowed the UAE to be a pioneer in leading a rich-resource economy, besides allowing it to begin a new chapter in the development towards economic diversification.

2.3 Economic Diversification

Anderson and Hackbart (1975) defined diversification as an equalization of each sector’s share of total employment, and this should indicate reduced economic dependence on other regions. Nourse (1968) has stated that economic diversification is a strategy used to transform an economy from being dependent on a single source to multiple sources of income spread over primary, secondary and tertiary sectors. Hvidt (2013) gives a detailed explanation of diversification in a political economy. He divides diversification in horizontal and vertical dimensions, the horizontal signifying diversification within the same sector, e.g. mining, energy or agriculture, while vertical diversification means adding more stages in the processing of domestic or imported inputs. Vertical diversification has many advantages such as upgrading the value-added element of what is produced locally by encouraging forward and backward linkages in the economy and shifting from one sector to another, as mentioned above from the primary to the secondary and tertiary sectors.

Another important aspect to be mentioned and discussed in regard to economic diversification is how that diversification is to be measured, and there are many tools and methods used in this. In general, it can be measured by determining the share of a specific sector of the GDP or in exports, on which a country is dependent for the export of a specific good and the share of employment offered by that sector (UNFCCC).

Scholars set different theories in relation to the economic diversification measurement, and the UNFCCC technical paper represents various theories in this regard as the following:

a. Industrial Organization Theory. This theory assumes that the industrial sector of the country represents the level of economic diversification, which means the greater the number of sectors, the less the market concentration and the greater the diversification. The common empirical methods under this theory are the ogive index, the entropy index, the Herfindahl-Hirschmann index and the Gini index.
b. Economic Base Theory. Also known as export base theory, this assumes that economic growth is driven by export demand. The Hachman index used to measure economic diversification in this theory, which was developed by Frank Hacman. The index compares employment distribution with the nation as a whole.
c. Regional Business Cycle Theory. This theory assumes that export demand has a direct effect on economic instability. This instability can be measured by the difference between stable and unstable sectors, which used to measure to what extent the economy is diversified. In this theory the national average index is used.
d. Portfolio Theory. This theory is used to measure economic diversification and was originally applied to financial assets. In this case every sector is considered as an individual investment, so the group of sectors forms a portfolio of investments in the region or country. Every region has a limited number of resources, and the allocation of these limited resources to the

portfolio of sectors helps in reducing the instability of returns that include employment, products, exports and industries

e. Location Theory. This is related to the spatial distribution of economic activities. Hoover and Giarratani (1985) argue that the cost of production will be lower within industrial zones, which is an important element for specialization and regional competitive advantage.
f. Economic Development Theory. This theory argues that economic diversification is driven by simultaneous changes in production, consumption and trade patterns. An input-output matrix provides a comprehensive framework for the analysis of economic diversification.

Hvidt (2013) argues that good and accurate data is necessary to implement good measurement. He mentions several methods that can be used in the Gulf countries. Firstly, the contribution of oil revenues versus non-oil revenues to GDP can be used to indicate the structural change in society. Second, the contribution of oil revenues to total government revenues in order to know the level of dependency on oil. Thirdly, there is the contribution of non-oil exports to total earnings which is a direct indicator of diversification. Forth, the relative contribution of public and private sector to GDP must be considered. Finally, thre is the volatility of GDP and its relation to oil price volatility. Despite the existence of various theories which have been developed in order to measure economic diversification, and besides techniques stated by Hvidt (2013), difficulties still exist in regard to measurement because of the problem of a lack of accurate data, and changing oil prices provide another factor that affects the right process of measurement.

In this study, different opinions will be viewed in order to determine different aspects and perspectives of experts and government officials.

2.4 Research Design

In order to achieve the objectives of this research, qualitative methodology was utilized. This is because qualitative methodology has unique advantages and characteristics that can enrich the quality of research. According to Cary (1988), Qualitative research is a type of social science research that collects, interprets and analyzes as its primary data non-magnitude categories or attributes, it also deals with data that demonstrates kinds or types of variables and not their magnitudes. Miles and Huberman (1994, p. 1) argue that qualitative data produces fruitful explanation, and can lead to serendipitous and undeniable findings. They add that words have a concrete, vivid and meaningful flavor that are more convincing to the reader than numbers. Strauss and Corbin (1990) claim that qualitative methodology provides better understanding of a phenomenon, helps to gain new perspectives and delivers in-depth information.

As an additional consideration, scholars have defined an important concept related to qualitative methodology which is the “theoretical sensitivity” of the researcher. It evaluates the researcher’s skill and readiness to conduct a qualitative research. According to Strauss and Corbin (1990, p. 42) the concept refers to a personal quality of the researcher and indicates an awareness of the subtleties of meaning of data. It also refers to the attribute of having insight, the ability to give meaning to data and the capacity to understand. So, the effectiveness of qualitative research depends mostly on the abilities and skills of researcher.

However, despite the qualities and characteristics of qualitative methodology, there are many limitations and disadvantages related to this methodology. The main limitation is that it is time consuming, the data collection process takes a long time and it becomes more difficult to gather information through a large number of details.

Subjectivity is another problem with qualitative research, which relies on individual perspectives and interpretations; and this leads to having findings that are unreliable and invalid. Due to the personal nature of data gathering in conducting qualitative research, data rigidity becomes more difficult. Moreover, if the researcher has biased opinions, the data collected will consequently include biased perspectives, which will affect the integrity of the research in general. Hoepfl (1997) summarizes these concerns by saying that, "qualitative research can be emotionally taxing and extraordinarily time consuming. At the same time, it can yield rich information not obtainable through statistical sampling techniques".

2.5 Data Collection Technique

In the utilization of qualitative methodology for this research, in-depth interviews were used because it is the best technique to collect data and a due to the nature of the issue the research seeks to address. Revealing the details of the post-oil strategies of the United Arab Emirates requires various points of view from different people who have knowledge and expertise with regard to the economic diversification policies of the United Arab Emirates. As a result, this research conducted elite level interviews with a wide range of Emirati government officials and Academics/Scholars as well as United Arab Emirates-based expatriate political and economic analysts, academics and scholars (Richards, 1996).

In total, 15 people were interviewed for this research. Elite interviews were conducted for the following reasons: the need to interpret documents and reports and to provide new information that is not available elsewhere. In addition, there is the snowball effect which means providing access to other individuals and establishing networks (Richards, 1996). Boyce and Neale (2006) argue that in-depth interviews offer a qualitative research technique particularly suitable for conducting intensive individual interviews with a large number of people as well as exploring opinions on a specific issue or idea. This kind of interview technique is distinguished by providing much more detailed information than what is available from other data resources. In addition to that, Queirós et al. (2017) add that in-depth interviews provide the opportunity to ask follow-up questions, explain and justify previous answers, and establish a comfortable atmosphere that helps in extended discussions.

All the interviews were recorded and transcribed, and the interviewees were informed of the procedure ahead of time. In addition, all participants signed a confidentiality agreement whereby they were assured of anonymity if that is what they wished. This was offered in order to encourage interviewees to speak up freely without any fear of future repercussions. In addition, prior to the interviews and as part of the research proposal approval process, the United Arab Emirates University's Research Ethics Board approved the research proposal and research methodology in order to ensure ethics compliance with regard to dealing with human subjects. Complying with ethical norms in conducting research is a very important aspect; considered as a key driver for research quality, and Resnik (2011) indicates several reasons for the importance of ethics in research. First, the aims of research are enhanced; for example, truth, knowledge and the avoidance of errors.

Second, there is the promotion of values needed in collaborative work such as accountability, trust and mutual respect; where most researches involve cooperation between different individuals in different institutes. Third, ethics assure that a researcher can be held accountable to the public. And finally, ethical compliance can contribute in obtaining public support: once people trust the integrity of research, they start funding it. In the course of analysis, the data attained is supplemented with other primary and secondary data about the United Arab Emirates' economy from the United Arab Emirates government as well as from international financial/economic sources.

2.6 Sampling

There are several sampling strategies that are used in qualitative research, unlike quantitative research which is based on a random selection of large numbers. In this research, a snowball or chain sampling strategy was used to identify suitable interview candidates for the in-depth interviews and data collection. According to Pattom (1990, p. 176) the snow ball sampling approach is useful for gathering rich-detailed information from experts and people with intensive experience and knowledge. He adds that the process begins by asking well-situated people about questions related to who knows a lot about a particular phenomenon under study and who is the most suitable person to talk to. The goal of following this kind of strategy is similar to the idea of the snowball technique whereby the number of interviewees/participants get bigger and bigger as the researcher gains more information and details. Hence, this research targeted people with knowledge on the subject and asked for recommendations from prior interviewees who later on recommended suitable candidates to be interviewed.

2.7 Selection Bias

This research was cognizant of selection bias and therefore targeted a diverse pool of experts/professionals with knowledge of the United Arab Emirates' economy. Therefore, not only were Emirati government officials, business leaders, scholars and academics from different universities and research centers interviewed but so too were United Arab Emirates based expatriate businessmen, academics and scholars from similar institutions and businesses. This approach ensures and maintains the integrity and credibility of the researcher, besides providing reliable findings. It is very important to avoid bias in selecting samples, since bias has a great impact in the accuracy of the findings. According to Pannucci and Wilkins (2011), bias can affect the estimates to vary them more or less towards the true or actual association. Even though the bias is independent of the statistical significance, it can affect the actual association, so in order to reduce the interview bias, the interaction of the interviewer must be standardized.

2.8 Validation

After all the interviews were conducted and transcribed, individually transcribed responses were emailed to interviewees to seek confirmation of their responses. As part of this process, 15 transcribed responses were randomly selected and emailed out and 8 interviewees responded with their confirmation validating the responses of the 15 interviewed. According to Maite et al. (2019), the validation is crucial to ensure the research outcomes are assessed and that measurements used in the instrument have contributed in providing its research impact correctly.

Chapter 3: Findings

3.1 Overview

This chapter will explain the main themes, ideas and aspects that emerged in the in-depth interviews conducted with government officials, academics and experts with regard to the economic diversification of the United Arab Emirates. The first section discusses the state of economic diversification in the United Arab Emirates, the second section discusses specific diversification strategies adopted and the third section discusses the challenges associated with the country's economic diversification.

3.2 The State of the United Arab Emirates Diversification Strategy

As an oil-rich country, the United Arab Emirates has experienced several oil crises since its establishment as a state. Because of the wise action of the leadership during crises economic growth has been maintained and a future vision has been developed to decrease dependency on oil revenue, improve and create new sectors and industries. The United Arab Emirates government had an early desire for economic openness and diversification; in line with the global growing attention to diversify income, regardless of the type of commodity that economy depends on. As a result, the government managed to achieve an increasing rate of diversification in different economic activities such as industry, trade, tourism, air transport and airports, real estate, health services, financial services, and renewable energy.

According to the Annual Economic Report, 2018, released by the United Arab Emirates Ministry of Economy, GDP estimates at current prices of the non-oil sectors amounted to about AED 1092 billion, a growth rate of 3.2% (at current

prices) and at a rate of 2.5% at real (constant) prices by the end of 2017 compared to its value by the end of 2016.

According to the report, the oil sector achieved a negative growth rate of 3%, due to the government's policy of reducing production and stimulating other economic activities (Ministry of Economy, 2018). This confirms the right implementation of strategy of diversification and a reduced dependence on oil. The following table shows the increased contribution of non-oil sectors in the GDP for 2017 at real prices of 2010 (Table 1).

Table 1: Contribution of the economic sectors in the GDP of the United Arab Emirates for 2017 at real prices of 2010

Economic sector	**Sector contribution to the GDP for 2017 (as a percentage)**
(Extractive Industries (including Crude Oil and Natural Gas	29.50%
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	11.70%
Financial and Insurance Activities	8.60%
Construction and Building	8.40%
Transformative Industries	8.30%
Public Administration and Defense; Compulsory Social Security	5.80%
Real Estate Activities	5.70%
Transport and Storage	5.40%
Electricity, Gas and Water	3.20%
Information and Communications	2.90%
Professional, Scientific and Technical Activities	2.60%
Accommodation and Food Services Activities	2.20%
Administrative and Support Services Activities	1.90%
Other sectors	3.90%

Soruce: UAE Government (2019)

The United Arab Emirates government launched their Strategy for the Fourth Industrial Revolution, 4IR in 2017. The strategy aims to enhance and advance the above-mentioned sectors; and to get effective and efficient performance in general. According to WAM (2017), the 4IR strategy focuses on many key areas such as innovative education, artificial intelligence, and robotic healthcare. It also aims to adopt a digital economy and block chain technologies to enhance economic security, to utilize satellite data for the planning of future cities and to develop national industries such as defense by using robotics and autonomous vehicle technologies (WAM, 2017).

3.3 Economic Diversification Regulations & Incentives

The clear vision of the United Arab Emirates towards economic diversification creates a solid foundation that consists of efficient policies, regulations, initiatives and plans that are appropriate to the different sectors and industries. Integration and coordination between public and private sector led to the establishment of a creative and attractive environment to implement such a vision effectively and to cope with the global crisis. An economic expert from economic studies center (Interviewee 1) stated that there is need to make tangible modifications to legislations of investment and to attract foreign capital, in addition to the importance of activating non-oil sectors. Regarding this point, Abu Dhabi announced new measures to increase the role of the private sector in economic growth (Gulf News, 2019).

Those measures include finding more ways for business to handle administration processes online, a government-backed credit scheme administered through a local bank, a 30-day policy on payments to contractors, a Dh4 billion fund

for research and development, reduced power costs, and the increased digitalization of business licensing (Gulf News, 2019). A report published by the Organization for Economic Co-operation and Development (OECD) stressed three key areas affecting the diversification framework: i) business regulation and investment policy; ii) trade policy; and iii) competition policy. Business regulations must be clear, predictable and transparent. According to the OECD (2011), successful diversification requires several factors. These include policy reforms, institutional building, investment in skills, infrastructure and governance quality (transparency, accountability, etc.).

According to World Trade Organization (2016), it was due to the successful diversification strategy that the United Arab Emirates maintained its economic growth and levels of investment despite the oil crisis that had affected United Arab Emirates since 2014. The report added that the United Arab Emirates may need to speed up efforts and reforms such as an easing of restrictions on foreign investment and the full implementation of the Competition Policy Law. In order to enhance its diversification strategy and to improve regulations and policies regarding different areas, the United Arab Emirate government launched initiatives such as the United Arab Emirates Vision 2021, the National Innovation Strategy, and the National Agenda. By 2021, the United Arab Emirates will benefit from a diversified and sustainable economy, the flexible adoption of new economic models, and the ability to capitalize on global economic partnerships for long-term prosperity (UAE Government, 2019).

Furthermore, the National Agenda focuses on a knowledge-based economy, the promotion of R&D, innovation, strengthening the regulatory framework for key sectors and improving high value-adding sectors (Vision 2021, 2019).

The United Arab Emirates government has made noticeable efforts to enhance the business environment and to mitigate restrictions or difficulties that may complicate policies for investors or the development of new sectors. For example, the United Arab Emirates Cabinet has approved 100% ownership for a number of sectors, including renewable energy, space, agriculture, manufacturing, transport, logistics, hospitality, food services, information and communications, and a host of others (The National, 2019). Other reforms include the issuing of long-term residency visas and special "gold card" permanent visas for investors and expatriates who have made substantial contributions to the United Arab Emirates economy. Moreover, Reforms include the lowering of business registration fees to grow the non-oil private sector, and the introduction of a 5% VAT in 2018 (The National, 2019).

Economic diversification requires legislative and regulative system to provide attractive environment to establish business activities in all sectors. The United Arab Emirates government has developed economic policies and strategies to ensure sustainable growth for the post-oil era and to enhance the country’s position as a global business hub. This is embodied in the high ranks achieved in the global competitiveness reports. According to the Federal Competitiveness and Statistics Authority, the United Arab Emirates is ranked 25th globally in the Global Competiveness Report 2019 and is leading Arab region. It has achieved high performance in different pillars such as 1st globally in stable macroeconomic environment, 4th in sound product market and 12th in the infrastructure. The United Arab Emirates ranked in the top 10 in 34 indicators out of 103 (FCSA, 2019).

There are many laws and regulations issued by the United Arab Emirates to govern business activities and increase investors' confidence in the UAE. These include the Commercial Companies Law, Commercial Transactions Law and Bankruptcy Law (UAE government, 2019). The Federal Bankruptcy Law is one of the most important laws enacted in recent times to ensure business stability in the United Arab Emirates. It was enacted in 2016 and aims to offer businesses multiple options to file for bankruptcy and the liquidation of debtors' assets. Available options offered by the new laws incudes consensual out-of-court financial restructuring, composition procedures and the potential to secure new loans under terms determined by the law (Ministry of Finance, 2019).

The Insolvency Law enacted in 2019 is another important law that will contribute in stabilizing the investment environment and ease of doing business in the country. The law will support individuals who are facing financial difficulties and will help individuals who are unable to pay their debts from bankruptcy by rescheduling their debts through new concessional loans (Gulf News, 2019). Such laws are essential in establishing a competitive business environment that keeps pace with the local, regional and global economic standards.

The United Arab Emirates has succeeded in establishing a strong infrastructure that provides high quality services to accelerate and attract investments and business from all over the world, besides other factors such as geographical location, political stability and advanced economic legislative foundations.

Financial regulatory authorities are essential part of the strong financial infrastructure in the United Arab Emirates. Abu Dhabi Global Market (ADGM) is a financial free zone that plays a pivotal role in positioning Abu Dhabi as a global

business and finance center. ADGM consists of three independent authorities which are the Registration Authority, the Financial Services Regulatory Authority and ADGM Courts. The three authorities are working collaboratively to ensure international best practices. ADGM provides many advantages for entities in the market such as 100% foreign ownership, ability to transact business within a zero percent personal and corporate income tax environment and operation within an international regulatory framework (Abu Dhabi Global Market, 2019).

Dubai Financial Services Authority (DFSA) is another entity that plays a significant role in the Dubai economy and the United Arab Emirates' economy in general. The authority receives high international assessments regarding financial stability. According to the IMF (2007), DFSA has shown a commitment to bringing action against companies and individuals in violation of its laws and rules. It has also established a robust licensing process.

The diversification policies and regulations of the United Arab Emirates are constantly developed and updated in line with all local, regional and global circumstances, and the government seeks to meet the needs of the local market and economy by establishing measures in order to attain and hold higher global ranking. This, in turn, has helped the United Arab Emirates to become a leading business and tourism hub in the region.

3.4 Economic Diversification Strategies

3.4.1 Research & Development (R&D)

There is no doubt that research is a critical element in the development of countries at all levels. For that diversification of economies which leads to economic

growth countries need to have a good level of research and development (R&D). When Aghion and Howitt (1992) presented a model of economic growth by including the role of Research and Development they stated that, “growth results exclusively from technological progress, which in turn results from competition among research firms that generate innovations”. R&D has been discussed in various literature in order to emphasize its importance in economic growth, and when the government injects more effort and subsidies into R&D to increase innovations this will help the economy to be more diversified instead of relying on one resource. This is especially so when depending on a natural resource such as oil, where the revenue is continually being affected by global crises.

Khan (2015), reviewed theoretical and empirical studies in the 1990s and 2000s and emphasized the significant role of R&D in the economic growth of different countries around the world. He concluded that developing countries need to focus on R&D in order to develop their economies.

R&D expenditure is one very important aspect that should be discussed and reviewed in order to be able to determine the efforts of the United Arab Emirates towards improving the R&D sector which has an important role in its economic diversification strategy. This point has been strongly stressed by an economic expert from research and studies center (Interviewee 2), that R&D is the main important ingredient when moving towards economic diversification and it’s the gate to develop and improve other sectors and industries.

He also emphasized the strong relationship between R&D expenses and economic growth (Interview 2). In this regard and according to the World Bank, the United Arab Emirates expenditure on R&D increased from 0.69% of GDP in 2014 to

0.96% of GDP in 2016. R&D investment is a leading indicator for long term economic growth and becomes a very important indicator at the international and regional level, because it predicts the long-term development of countries and determines to what extent countries invest for a diversified and growing economy. According to the UNESCO Institute for Statistics (UIS), "Global spending on R&D has reached a record high of almost US$ 1.7 trillion. About 10 countries account for 80% of spending". As this paper is discussing the United Arab Emirates post-oil strategy and economic diversification, it's important to review R&D expenditure of some oil-producing countries and compare them with the spending by the United Arab Emirates. The following chart shows the R&D expense of a number of oil-producing countries in 2017 (Figure 1).

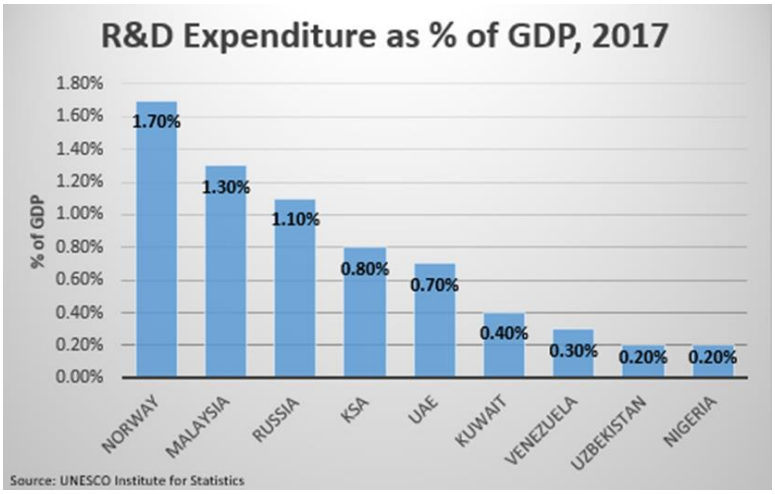

Figure 1: R&D expenditure (2017)
Source: UNESCO Institute for Statistics

UIS reviews detailed R&D spending by sector of performance (business, government, universities, private non-profit). We find from this that United Arab Emirates R&D spending is 0.7% of GDP, and in PPS (Purchasing Power Parity) is $4,238.0M. This can be broken down as follows: Business spending on R&D is $3,148.2M, while government spending is $1,089.8M. Universities spend about

$721,708.8k; and finally, spending by non-profit entities is $59,180.1k (UNESCO Institute for Statistics, 2019).

From the above chart we can see that all selected countries have the same level of investment in R&D. This reflects how oil-producing countries working on economic diversification focus on research to produce innovations and technologies that would help in establishing new sectors and in increasing the number of revenue sources.

A selected group of oil-producing countries have a lower level of R&D spending of GDP compared with the highly developed countries that have the highest rate of R&D spending, although this does not mean that those less developed countries performed less well in R&D or were at a lower level of growth. Countries with low R&D intensity are less developed in general than countries with the highest spending, although some of those countries with lower spending had high growth rates. It must be acknowledged that the relationship between R&D spending and economic growth is highly variable (Blanco et al., 2016). These writers identified three factors behind this considerable, apparent heterogeneity. First, there is the long-term relationship between R&D and economic growth. Second, R&D spending is an investment in knowledge, which needs time for benefit to be seen.

Finally, the general level of economic development and attitudes to risk-taking have a great effect on the relationships between R&D, innovation and growth. From what has been mentioned above, the United Arab Emirates government is performing well towards economic diversification, judged by its spending on R&D in comparison with other oil-producing countries.

In this regard, it's important to mention one of the most successful cases of R&D in the world, which is that of the Republic of Korea. In the 1980s, R&D expenditure as a percentage of GDP increased 16 times, where it was less than 0.44% in the 1970s. In 2017, Korea's expenditure on R&D was 4.3% of GDP, making it the highest level of expenditure among developing countries. Jung (2013) discusses this model and summarized the lessons for developing countries. First, the Korean government considered human resources as a main factor in R&D. Second, the government established research institutes, to enable scientists and engineers to conduct their own research. Attracting foreign scholars is not enough. The third consideration was the efficient collaboration between government and the private sector, and fourth, it was recognized that financial benefits are necessary in order to encourage institutions to invest in R&D and take risks (ie, there must be incentives for R&D activities). Finally, it's very important for the developing countries to understand that comparative advantages do not stay constant but are changing and to direct the attention of R&D policies to be one step ahead.

Despite the low R&D expenditure rate of the United Arab Emirates compared to developed countries such as US, Korea etc, the government has launched many distinguished initiatives to enhance R&D sector. First, the National Advanced Sciences Agenda 2031 which lunched in 2018 and aims to exploit advanced sciences in the development and address future challenges. It also seeks to develop four enablers as the following, economic information services, a supportive technology, a coherent scientific community and an entrepreneurship in science and technology (UAE government, 2019). In the same year, Open labs platform was lunched including the major research institutes in the United Arab Emirates. It aims to connect all laboratories in the country with the scientists and experts, reduce the cost

of research activities by 30%, ensure the continuity of research activities and share knowledge across institutions. The platform will establish infrastructure to develop scientific fields and will provide the scientists with all research equipment and more than 150 research devices (UAE government, 2019). There are other important initiatives to improve R&D activities in the country such as Mohammed bin Rashid Centre for Accelerated Research, Emirates Scientists Council and Abu Dhabi Research & Development Authority. Much more incentives and initiatives will be established to confirm the United Arab Emirates vision towards development and innovation, which will contribute in enhancing the country role in this sector.

3.4.2 Foreign Direct Investment

The political, economic and social stability of the United Arab Emirates plays a significant role in earning the confidence of foreign investors and creating a very attractive investment environment.

In this regard the United Arab Emirates government has sought to develop and update investment laws and policies in order to meet overall development requirements and needs. Furthermore, the government has established different initiatives and activities to attract foreign investment, including free zones, modern infrastructure and facilities, and flexible legislations and regulations (Afridi & Angell, 2019). Many critical laws have been issued concerning foreign direct investment (FDI). These include the Foreign Direct Investment Law, the Commercial Companies Law, the Commercial Agency Law, the Competition Law, The Property Law and the Bankruptcy Law (Afridi & Angell, 2019).

According to Entrepreneur Magazine, the United Arab Emirates has become one of the favored countries for international companies to establish their business in the region. The magazine mentioned some of the main reasons for the creation of this ideal business environment in the United Arab Emirates. First, there is the geographical location that connects international markets. Second, the top-class infrastructure which facilitates the process of starting business. And third, the possibility of full foreign ownership in companies and long-term visas for selected investors and professionals (Entrepreneur Magazine, 2018). In 2019, the World Bank ranked the United Arab Emirates as number 16 in terms of the ease of doing business (World Bank, 2019).

In July 2019, the United Arab Emirates Cabinet announced the economic sectors eligible for up to 100% foreign ownership under the FDI Law issued in 2018. These sectors include renewable energy, transport, space, manufacturing, agriculture, hospitality, logistics, food services, information and communications, educational activities, arts, health care and entertainment (The National, 2019).

Figures 2 and 3 illustrates the growth in the respective sectors underlining the economic activities in the United Arab Emirates.

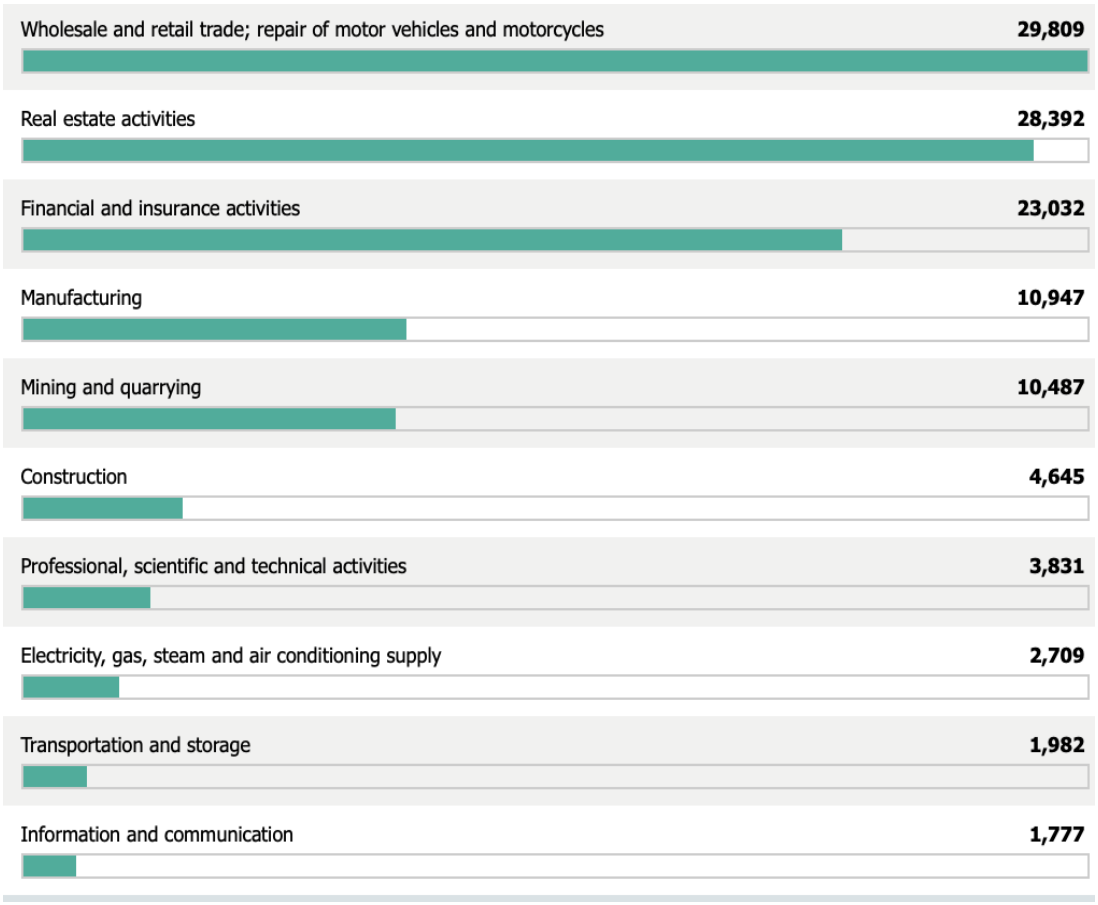

Figure 2: FDI top 10 economic activities by value (in Dollars) in United Arab Emirates (2016)
Source: Ministry of Economy (2018)

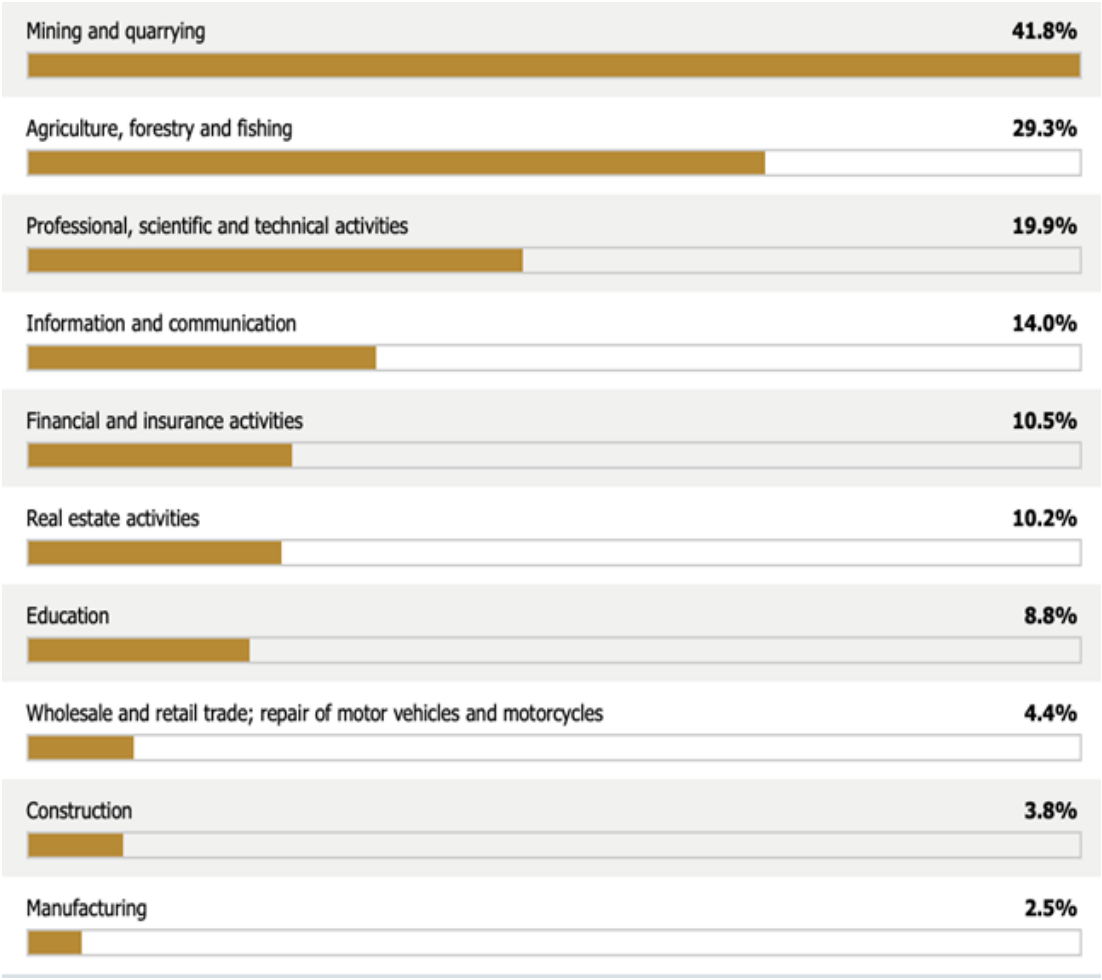

Figure 3: FDI top 10 economic activities by growth rate in United Arab Emirates (2016)
Source: Ministry of Economy (2018)

From the two charts shown in Figures 2 and 3, we can notice that the economic activities differ in value and growth rate, which means it is not necessary to have the activities with a higher FDI value in order to achieve a higher growth rate. Wholesale and retail trade, real estate activities, financial and insurance activities, manufacturing and mining were respectively the top economic activities by value in 2016. In terms of growth rate, mining, agriculture, professional, scientific and technical activities, information and communication and financial and insurance activities delivered the highest growth rate.

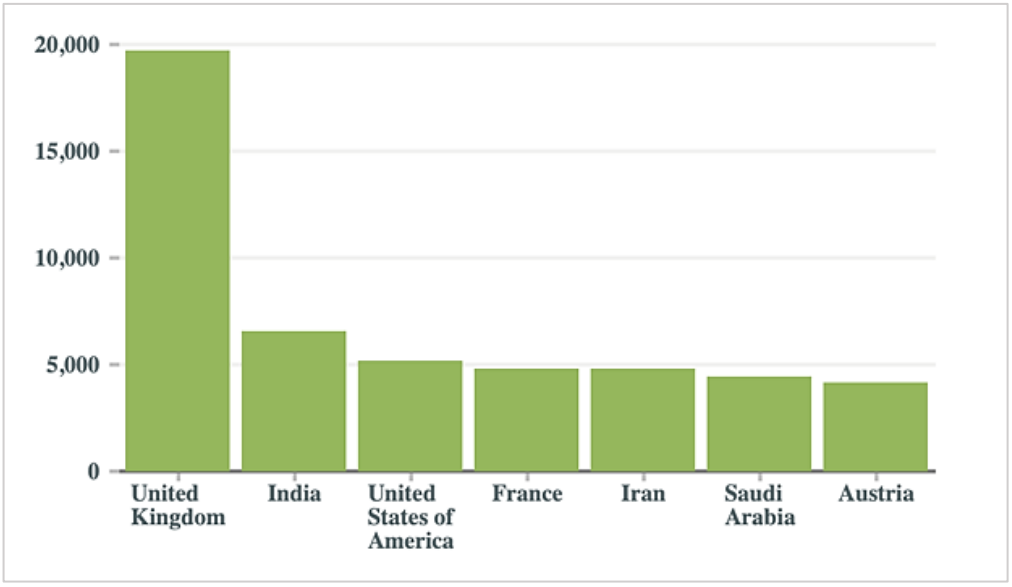

Figure 4: Top countries in FDI value (in Dollars) in United Arab Emirates (2016)
Source: Ministry of Economy (2018)

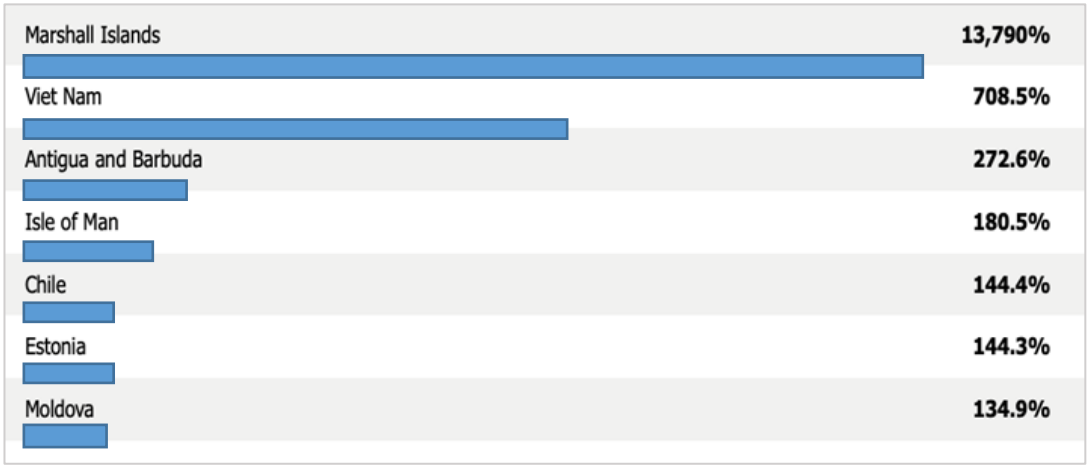

Figure 5: FDI top countries in FDI growth rate in United Arab Emirates (2016)
Source: Ministry of Economy (2018)

In terms of the countries with the highest level of investment in United Arab Emirates, the first chart presents the top countries in FDI value in 2016 (Figure 4). The UK, India, the USA and France have the highest value, yet the Marshall Islands, Vietnam, Antigua and Barbuda, the Isle of Man and Chile possess higher growth rates. This leads to the very important confirmation of the success of the United Arab

Emirates government in attracting investment from different countries worldwide (Figure 5).

3.4.3 Diversification into Petrochemicals

However, while addressing diversification strategies and the efforts of the United Arab Emirates to achieve a better diversified economy, the oil industry cannot be ignored where it is the pillar of our economy. Investing in the oil and gas industry receives worldwide attention due to different reasons. The decision makers of the United Arab Emirates consider diversification into petrochemicals as a significant factor and the key towards economic diversification in general.

A statistics expert in oil and gas affairs from Ministry of Energy (petrochemicals section) (Interviewee 3), said in 2019 that diversification should start from the oil sector itself to maximize revenues before looking for other revenue sources or establishing new sectors. He added that in the United Arab Emirates advances in technologies in oil industry should be made, just as in the USA, and refineries should be improved in order to be able to export for all major markets, and in order to get higher margins. These are the differences in value between the products produced by a refinery and the value of the crude oil used to produce them, (ie, advanced refineries to process all kinds of crude to achieve the international specifications for the product) (Interviewee 3). The petrochemicals industry therefore becomes one of the most promising industries for the economy of the United Arab Emirates to rely on, being within the key players of this industry at both the regional and international level. Globally, there is growing awareness among big oil companies towards threats that may affect their business in the long term, such as from electric vehicles and renewable energy.

According to the Miramar Global (2018), there are two main factors for beginning to diversify the petrochemicals industry. First, many countries have turned their attention to renewable energy solutions, as 195 countries commit themselves to reducing greenhouse gas emissions through the Paris Agreement. Second, it is expected that electric vehicles will provide the majority of new car sales worldwide by 2040, which means eight million transport fuel barrels will be displaced each and every day. Companies such as Aramco, ExxonMobil, Shell and Total have significant petrochemical operations in different countries.

As discussed previously, R&D investment plays an important role in economic growth and diversification, and diversification into petrochemicals needs advanced technology and knowledge. Changes, reforms and innovations in the oil sector are essential for a more productive and sustainable economy. According to Gould & Al-Saffar (2018), many oil producers such as those in the Gulf and in Russia are working to capture additional value from hydrocarbon resources. This includes co-locating new facilities with refineries in order to capture operational synergies. There is an increasing demand for petrochemical products even with the growing attention regarding climate change, reducing the use of plastics and increasing recycling. Gould & Al-Saffar (2018) have commented that most of the increase in Middle East oil production will go into refining or petrochemicals by 2040.

Diversification into petrochemicals required integrated work between different actors including governments, research institutes, universities, the private sector and foreign firms or investors, in order to establish a strong and effective

innovation system that support the economic diversification strategy and enhances the role of the United Arab Emirates in the petrochemicals industry.

There is literature that has addressed the concept of an innovation system intensively and that provides us with many different definitions. Gregersen and Johnson (1997) summarize the concept in the idea that the total economy innovation performance depends on the ability of firms to utilize the experience and knowledge of other actors and mix it with internal capabilities. So it is not only related to the research institutes and universities, but also extends to cover a wider range of activities that affect the way of learning and the gaining of knowledge and experience.

As we have mentioned earlier, one of the oil-rich countries that has shown a successful experience in adapting a strong innovation system is Norway. Saether et al. (2011) argue that Norway can claim an effective management of natural resources due to the formation of a well-functioning national innovation system. The system consists of many important actors: major oil companies, their suppliers and downstream industries, universities, research institutes and policy measures. To this we must add that the Norwegian government developed and implemented a master plan that has resulted in a strong innovation system, which would be impossible without active state policy. The self-organized process between industry and knowledge organizations plays a significant role in evolving such system. In sum, policy tools and decisions are very important factors in the management of the oil industry and petrochemicals and, crucially, government serves as the main actor in this process and develops the fundamentals and principles for other actors to follow. Government is responsible for creating an integrated and innovative environment for

all parties and to attract more partners and investors in order to have a growing oil sector that contributes effectively towards the diversification strategy.

At the local level, The Abu Dhabi National Oil Company (ADNOC) considered as one of the main parts of the United Arab Emirates economy. The company has strategic partnerships with the major worldwide companies in refining and trading, in order to enhance its vision for transformation and value creation, and to benefit from all opportunities in the market. “We will stretch the margin from every barrel we produce, and by taking full advantage of our geography, at the pivot point between East and West, we will capitalize on the world’s fastest growing markets, including Asia, where oil demand is expected to increase 15 per cent and the market for petrochemicals is set to double by 2030”, said Sultan Al Jaber, Minister of State and ADNOC group CEO.

In addition, ADNOC announced a new integrated gas strategy and plans to increase its oil production capacity to four million barrels per day at the end of 2020 and five million barrels per day by 2030, and to triple petrochemicals production to 14.4 million tons per annum by 2025. The company also unveiled its plan to create the world’s largest integrated refining and petrochemicals complex in Ruwais (WAM, 2018). By announcing its 2019-2023 business plan, ADNOC emphasizes its important role in the prosperity of the United Arab Emirates, and drives domestic growth and diversification. In addition, it offers other significant advantages such as creating new job opportunities, maximizing the use of local products, manufacturing and assembly facilities, services and infrastructures (WAM, 2018). Finally, all organizations, regardless of the sector in which they operate, must diversify and

develop their operations and start adding innovation to their practices and activities, and finally, change in response to demands for what they provide.

3.4.4 Manufacturing

The United Arab Emirates has considered the important role of the manufacturing sector in its economic diversification strategy. Large institutions such as Senaat and Mubadala have enriched the government efforts towards economic diversification through major initiatives and industries. A report issued by the U.S and U.A.E Business Council in 2018, shows that the main manufacturing sectors of the UAE are metals, building materials, chemicals, pharmaceuticals, food and beverages and aerospace and defense equipment. The report identified the factors behind achieving good manufacturing growth. These includes strategic location, world-class transportation, industrial infrastructure, low taxes, business friendly regulations and availability of energy, goods and labor (U.S and U.A.E Business Council, 2018).

According to WAM (2019), the manufacturing sector's contribution to the United Arab Emirates non-oil GDP is 2.5% and AED122 bn in real prices in 2018 which is an increase from AED119.7 bn in 2017. In addition to that, the sector has maintained steady growth with its gross output growing 5% in 2017, compared to 4.8% in 2016 (WAM, 2019).

3.4.5 Tourism

Tourism is considered as a key driver for the United Arab Emirates economy and as a core component of the diversification strategy. Sultan Bin Saeed Al Mansouri, Minister of Economy, has said that the tourism industry will prove even

more reliable in a post-oil economy. It serves currently as one of the important tributaries of national income and its role will be enhanced in the near future (UAE Cabinet, 2019). In addition, tourism contributed 11.1% of the economy of the United Arab in 2018, and supported 612,000 jobs, or 9.6% of total employment, according to the World Travel & Tourism Council (WTTC, 2019**).**

According to the report published by the World Travel and Tourism Council in 2017, United Arab Emirates spending in the travel and tourism sector was AED 26.2 billion (7% of the total investment spending). This number will be rise to AED 74.5 billion in 2027 by an 11% annual increment. (WTTC, 2017).

The report stated that the impact of travel and tourism sector on total GDP is larger than that of chemicals, automotive manufacturing and the agriculture sector. (WTTC, 2017).

There are several initiatives have been launched in each emirate to enhance the tourism sector. Abu Dhabi is working on sustainable tourism development to develop the sector in the emirate. Dubai is considered as the pioneer tourism destination in the region and launched the Dubai Tourism Strategy 2020. Sharjah also has a Sharjah Tourism Vision 2021, and finally there is the Ajman Strategic Plan for Tourism 2015-2021 that aims to become the destination for all types of tourists. (UAE government, 2019).

In this regard in 2019, an expert from academic field of tourism from UAEU mentioned that the United Arab Emirates has diversified its economy in many sectors but the most important of them is the sector of tourism and in this respect, the United

Arab Emirates has become very successful in developing the tourism sector and has attracted many tourists from Europe and Russia (Interviewee 4).

Another aspect of how tourism has been addressed can be seen the announcement by the United Arab Emirates cabinet of a number of visa facilitations for visitors like the exemption of transit passengers from all entry fees for the first 48 hours; an exemption that can be extended to 96 hours for only AED 50. The cabinet also adopted a new agreement with many countries regarding the mutual exemption of visa requirements. Moreover, the exemption includes accompanying dependents of foreign tourists under 18 from visa fees, during the period from 15th July to 15th September of each year (UAE Cabinet, 2018). All these facilities enhance the ability of the United Arab Emirates to become the premier tourist destination for visitors from all over the world.

3.4.6 Aviation

It is undeniable that the aviation sector has made a significant impact on the economic diversification of United Arab Emirates, since it contributes in boosting the United Arab Emirates to become an international hub connecting the world. The aviation industry has witnessed huge development that has allowed it to become one of the most important and vital contributors to the national economy. According to the study published by the International Air Transport Association (IATA), the aviation industry contributes USD 47.4 billion to the economy of the United Arab Emirates, accounting for 13.3% of the GDP, whilst supporting 800,000 jobs in 2018 and this is expected to grow 170% by 2037 (IATA, 2019).

In the aviation sector the United Arab Emirates has a leading position at the international level as figures show that the national carriers of the United Arab Emirates: Emirates Airline, Etihad Airways, Air Arabia and Flydubai fly to 108 countries and 224 cities around the world with approximately 498 aircraft. This is not just a matter of numbers and fleet size. There are more significant issues, including that the United Arab Emirates has been ranked first globally in aviation safety, aviation security standards, air transport infrastructure and air transport services agreements. The United Arab Emirates is amongst the leading countries in regard to the number of passengers, accounting for 134 million passengers in 2018 (Gulf news, 2019). This has been confirmed by Sultan Bin Saeed Al Mansouri, Minister of Economy and Chairman of the Board of Director of the General Civil Aviation Authority, where he said that the country's civil aviation sector has achieved many successes in all areas, including infrastructure, air carriers, safety and security, smart solutions, air surveillance and shipping, which reflects the country's leading position in the sector. At the international level, Emirates Airline is among the world's top five airlines, ranked by total scheduled passenger kilometers flown last year, according to data released by the International Air Transport Association (IATA) (Khaleej Times, 2019).

3.4.7 Logistic Hub

The logistics sector is another key component of the United Arab Emirates' Economy. There are many factors contributing to the growth of the logistics sector in the UAE. Geographically, the country's location in the center of international trade has enabled it to become an important transshipment point. The UAE has also invested massively in infrastructural projects such as ports backed with advanced

technology and equipment and this has enabled the country to become a logistics hub in the region and all over the world. Other factors such as integrated free zones and fast growing e-commerce are playing significant roles in driving the logistics industry in the country (Logistics Middle East, 2019).

The logistics sector is expected to contribute 8% to the United Arab Emirates' economy by 2021, compared with 5.4% in 2017, with gross output amounting to AED219 billion in 2018. The development of a strong logistics sector is considered as an important goal for a sustainable economy (Logistics Middle East, 2019).

According to Khaleej Times (2019), logistics markets in the United Arab Emirates is the third-best market globally and first regionally among top 55 logistics emerging markets. Moreover, the vast investment in physical infrastructure with industry estimates putting its size at $30 billion. The big-ticket infrastructure projects that the UAE is investing in, such as Al Mafraq-Al Ghuwaifat road upgrade and the creation of a 1,200km rail network, besides the expansions at main air and sea ports are also important steps towards positioning the country as a logistics hub. Jabal Ali is a clear example of a multi -model hub and free zone that facilitates trade flows and connects the United Arab Emirates with 140 ports worldwide (Abbas, 2019).

Abu Dhabi airport handles around 850,000 tons of cargo annually, while Dubai International Airport manages over 2million tons of cargo annually. The investment in Jabal Ali port reached $1.6 billion with the goal of boosting total capacity of the port to 22.1 million containers. From 2017 to 2022, Sharjah port is expected to register a CAGR of more than 3%, at the same time, Khalifa port will grow by 13% (Anirban, 2018).

3.4.8 Real Estate

Real estate in another key driver of the United Arab Emirates economy, although the growth of this sector is heavily dependent on the development of other sectors, such as the huge development in infrastructure, foreign investment, and tourism in addition to the policies and laws that ease investing in this sector.

The United Arab Emirates is the region's largest projects' market with the value of work awarded reaching $44.5 billion in 2018. There are many factors that combine to make the properties market of the United Arab Emirates one of the most attractive in the GCC, including the strategic location, well-developed financial market, large consumer base and localized drivers (Export government, 2019).

Factors driving the construction and real estate sector in the UAE include the growing expatriate population, friendly regulatory environment, ample liquidity, and increasing investments in regional hub and free zones. (Kumar et al., 2010). Abu Dhabi and Dubai witnessed a massive development in the construction sector by establishing mega real estate projects. The United Arab Emirates has launched numerous construction projects that have become iconic in the region. Kumar et al. (2010), stated some of such projects that reflect the rapid developments of construction sector in the country as: Jumeirah Palm, one of the world's largest manmade islands, Jumeirah Beach Residences, one of the largest synchronized real estate developments, Burj Khalifa, Shiekh Zayed Grand Mosque, Al Maktoum International Airport, Dubai Lands, Saadiyat Island and Jabel Ali Palm. The authors also identified the main real estate companies behind this rapid growth being experienced by the real estate sector in the country. First, Emaar Properties PJSC was established in 1997 and is considered as one of the world's largest real estate

companies. Its business spans the markets of North America, Europe, North Africa, pan-Asia and the Middle East. Second, Nakheel PJSC which is well known in waterfront projects such as the Palm Islands and the World Islands. It's founded under the guidance of the Ruler of Dubai in order to achieve Dubai's vision as a world-class city. The last company is Aldar Properties PJSC which was established in 2004 and is one of the largest real estate developers in Abu Dhabi and recognized as the second largest real estate company in terms of assets in the Gulf region (Kumar et al., 2010).

3.4.9 Banking and Financial Services Hub

The UAE Central Bank, established in 1980, directs monetary, credit and banking policy and supervises its implementation in a way that supports the United Arab Emirates economic stability. There are four categories for banks in the United Arab Emirates: commercial, merchant or investment, Islamic and industrial (Expert.gov, 2018). The banking industry in the United Arab Emirates enjoys strong economic performance. The independence from international financial institutions makes the industry more popular among foreign investors. In addition, the absence of currency exchange control by the state, a stable and robust economy and modern banking system are the key advantages of the banks in the United Arab Emirates (Dubai Freezone, 2019). The banking industry has witnessed huge developments and become one of the key sectors in the economic diversification strategy of the United Arab Emirates. Financial and insurance activities contributed about 8.6% to the GDP of the UAE in 2017 (UAE Government, 2017). According to Khaleej Times (2019), UAE Banks Federations announced that the combined assets of all banks grew about 6.5% to the tune of Dh2.87 trillion in 2018 as the amount of credit extended grew 5%

to Dh1.66 trillion. The UAE's banking industry maintained its positions as the largest in the Arab world (John, 2019).

Islamic banking is another main part in the banking industry of the United Arab Emirates. In 2013, Dubai launched its strategic plan for the Islamic economy sector, with the goal of positioning Dubai as the capital of the Islamic economy. H.H. Shaikh Mohammed bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, said: "Our firm principle in the UAE is not to rely on one single economic resource or sector. The Islamic economy is not new to us. In fact, we have accumulated considerable expertise in this field and our aim is the global arena" (WAM, 2013). Islamic banking is continuing to achieve increasing market share to over 20%. It has registered growth rates of 7% compared to 4-4.5% growth rates of the conventional banks (Augustine, 2019).

Financial technology (FinTech) is another promising area in the financial industry in the United Arab Emirates. One third of FinTech startups in the Middle East and North Africa are in the United Arab Emirates, and Dubai ranks as one of the world's top ten FinTech hubs (D'Mello, 2019). The United Arab Emirates achieved the largest share of total funding by 62% in 2019. FinTech sector is actively being developed by different financial authorities such as Dubai International Financial Center, Abu Dhabi Global Market and Central Bank. According to Gulf News (2019), the UAE accounted for 47% of all FinTech deals made in 2019 and ranked 1st in overall funding for fintech start-ups (Zaatari, 2019).

3.4.10 Digital Economy

The Deloitte network has defined the digital economy as the economic activities resulting from billions of daily online connections between people, businesses, devices, data and processes. The backbone of the digital economy is hyper-connectivity which means the growing interconnectedness of people, organizations, and machines that results from the Internet, mobile technology and the Internet of Things (IoT) (Cassar et al., 2019). According to the World Economic Forum, The Fourth Industrial Revolution is rapidly driving transformational disruption across every sector and by 2022, over 60% of global GDP will be digitized. An estimated 70% of new value created in the economy over the next decade will be based on digitally enabled platforms (WEF, 2015).

The United Arab Emirates government has adopted the digital economy by its launch of the United Arab Emirates Strategy for the Fourth Industrial Revolution, as one of its aims is to enhance economic security by adopting the digital economy and blockchain technologies in financial transactions and services (UAE Government, 2019).

At the time of writing the digital economy of the United Arab Emirates contributes 4.3 per cent to the GDP, with expectations that this rate will significantly increase in the coming period (UAE Government, 2019).

Nearly, 40 per cent of the United Arab Emirates population use government digital services more than once a week and on the retail front, eCommerce in the United Arab Emirates is growing rapidly and is playing a major role in expanding sales, while traditional retail sales in the country are slowing down (UAE Government, 2019). There are many important factors that support and enhance the

digital economy of the United Arab Emirates, such as the increased use of smartphones and online services, the developing technology infrastructure and the important role of e-commerce. The value of e-commerce in the country is expected to reach AED100 billion by 2020, which is double the figure for 2016, according to recent reports by the World Economic Forum (2019). According to the Entrepreneur, online transactions increased by 21% in 2018, that value exceeding the combined capital needed to build Dubai Media City, Dubai Internet City, and Dubai Marina (Entrepreneur Magazine, 2018).

3.4.11 Knowledge Economy

No nation can be developed without improving knowledge and aspects of innovation and the government of the United Arab Emirates has highlighted the significant role of knowledge as a key factor for economic diversification and sustainable development. The World Band has identified four pillars of the knowledge economy: education and training, information infrastructure, economic incentives and institutional regime, and innovation systems (World Bank, 2013). These pillars are embodied in the Emirates Science, Technology and Innovation Higher Policy announced in 2015, which launched 100 initiatives with major investments in education, health, energy, transport, space and water. This includes fields such as robotics, solar power, developing intellectual property, stem cell research and biotechnology (WAM, 2015).

The policy includes the establishment of funds for science, research and innovation in the United Arab Emirates in addition to refocusing investment legislation to encourage technology transfer, support innovation and establish global contractual industrial partnerships. It also includes targets for a threefold increase in

investment on research and development (R&D) in the United Arab Emirates and for an increase in the percentage of knowledge workers in the country to 40 per cent by 2021 (WAM, 2015). A knowledge-based economy is one of the cornerstones of the United Arab Emirates Vision 2021 National Agenda that aims to transform to a new economy based on innovation and new technologies. As a result of the significant improvements and huge efforts that have been made to promote a knowledge-based economy, the United Arab Emirates has been ranked among the top three innovation economies in the Northern Africa and Western Asia region and has jumped two spots to 36th globally, and is ranked 24th and 58th on the innovation input and output during the year 2015.

3.5 Economic Diversification Models

Oil-rich countries are similar in possessing vast natural resource, but they are varied in terms of their political stability, economic policies and regulations, government quality, human capital, geographical location, dependency on oil revenue, development rank and other variations. When considering the international awareness of the call for economic diversification, a noticeable disparity can be found among those countries and regions that have achieved economic sustainability and growth. Norway, Kazakhstan, Venezuela, KSA, Nigeria, the province of Alberta in Canada, and the state of Texas in the USA all provide examples of diversification strategies, both those that have succeeded and those that have failed.

Based on global ranks and national measures, the United Arab Emirates is on the right track in implementing its post-oil strategy, but it is important to take advantage of other successful stories and to avoid mistakes that may occur due to a lack of knowledge or experience. An economic analyst from Ministry of Economy of

the UAE (Interviewee 5) has argued that there are common features between the United Arab Emirates and Norway in their economic diversification strategies and the fundamentals of their economies. Norway is the largest oil exporter in Europe and its economy is based on four main aspects: a diversification of income sources, the ongoing development of human capital by spending on the quality of education and by supporting a competitive private sector. Oil contributes about 20% of the Norwegian GDP, while in United Arab Emirates, oil contributes about 29.5% of the GDP at constant prices and is aimed to reach 20.0% in 2021, he added. Norway invests its oil revenue in a sovereign fund, the Norwegian Pension Fund, which is the world's biggest sovereign fund. The United Arab Emirates has several such funds, the most important being the Abu Dhabi Investment Fund, the world's second largest sovereign fund after the Norwegian Fund, with assets estimated by international institutions to be 773 billion dollars of oil resources**.** He concluded by mentioning a difference between the two countries which is their respective stages in terms of industrial development, where Norway started at an earlier time, and this may play a role in the investment of oil revenue. Hence, Norway is a good example for the United Arab Emirates to follow in terms of a diversification strategy (Interviewee 5).

According to Alameen (2016), "Norway has headed in a different direction from the rest of the oil-producing countries by taking the decision not to rely on oil to finance its budget except to a small percentage and has kept the oil revenue separate, taking only 4% annually to support the general budget.

The Norwegian government has focused on fighting inflation, and devolving educational, technical and industrial planning. He added that the oil industry in Norway consists of four policies: consultation, protection, knowledge and

diversification. As a result, government policies and regulation to manage and control oil industry are the main significant factor behind taking the full advantage of oil revenue and protecting the economy from the resource curse as happened in many oil-rich countries.

Despite the huge pension fund and strong policies, Norway is still thinking about diversification, as Norway's prime minister, Erna Solberg, said: "We have to prepare Norway for an economy that has less oil income, directly, and less oil activity … That's a 20-year perspective, not a four-month perspective" **(**The National, 2017**).** The government of Norway plans to withdraw money for a second consecutive year from its US$880 billion wealth fund and spend 226bn krone (Dh97.64bn) of its oil revenue, equal to almost eight per cent of the economy. General government spending is already topping 50 per cent of GDP, a level not reached in 20 years (The National, 2017). From what is mentioned above, each country has different characteristics that characterize its diversification strategy. We cannot simply copy the model to be implemented in another country without taking into consideration the political, economic, and social features for a specific country.

On the other hand, many countries suffer from political tensions and conflicts, a lack of regulations and the absence of important qualities such as accountability and transparency and are still exposed to the oil crisis and the fluctuations in prices. For example, the economy of Venezuela is overwhelmingly dependent on the oil industry, which accounts for around 30% of GDP, more than 80% of all exports and some 90% of government export earnings; which means the economy is highly reliant on the oil income and this makes it especially vulnerable to any fluctuation in the price of oil (European Commission, 2007).

The Kingdom of Saudi Arabia is another example of an oil-rich country and is similar to United Arab Emirates in many respects. According to the Atlantic Council (2018), the only sector that can successfully diversify is the energy sector because it has the financial means for that, so developing the petrochemicals industry is an essential part of Vision 2030. Thus, the energy sector needs to be diversified to use its revenue for investment in other sectors. As a result, the diversification strategy of KSA seems to be similar to the strategy of the United Arab Emirates, while the tourism sector in the United Arab Emirates contributes significantly to the economic growth and diversification. In addition to that, the United Arab Emirates focuses more on innovation and advanced technologies (Atlantic Council, 2018).

Chapter 4: Challenges of Economic Diversification and Recommendations

4.1 Economic Challenges

4.1.1 Global Economic Challenges

Under unstable and uncertain global economic conditions, the growth of any economy might be affected by several issues between leading international economic powers and the economy of the United Arab Emirates, just like any other economy, may face challenges regarding implementing its economic diversification strategy. According to the UN Department of Economic and Social Affairs report issued in September 2019, the escalating trade conflict between China and US causes a threat to global economic growth and the developments between two countries in imposing further tariffs on imports caused sharp movements in global equity markets, a decline in global oil prices and higher capital outflows from the emerging economies (UN DESA, 2019). An article issued by the World Economic Forum in collaboration with Project Syndicate stated that because of the widespread sense of uncertainty, the global economy is weakening and the ongoing China US “trade war” is a major source of the uncertainty (Weforum, 2019). The United Arab Emirates has become an international trade hub with huge foreign investments and mega projects such as Dubai EXPO 2020, so its economy will be affected by global tensions and risks. This will contribute to decreasing revenues from non-oil sectors as a result of a slowdown in the economy, which is basically needed in the economic diversification strategy. The government achieved very significant development in major sectors such as aviation, real estate, tourism and foreign investment but all of these are reliant on foreign expenditures that are affected directly by the global economic conditions.

In response and in anticipation, the United Arab Emirates government has taken measures to mitigate the potential effects of the uncertain global economic conditions. Abdulaziz Al Ghurair, chairman of United Arab Emirates Banks Federation, has said that the United Arab Emirates economy and all key sectors have been fully prepared for some slowdown in the economy resulting from external, geopolitical and domestic factors. (Gulf News, 2019). In that regard the structure of the economy of the United Arab Emirates and the planning for its development is a result of a clear vision to diversify income and to move away from a high dependence on oil revenues.

One further consideration is that as oil prices are unlikely to return in the near future to the levels they were at before the 2014 crisis, and as the oil industry, internationally, updates itself, the United Arab Emirates may face challenges regarding a decrease in oil revenues that are needed to fund other non-oil sectors. According to a risk management report published by Coface, the volatility in oil prices still presents a significant risk because the government spending depends on those prices. Although the economy has been diversified, oil revenues are still the main source to fund economic activity (Coface, 2019). This challenge might be easily addressed because of the efforts of the government to diversify into petrochemicals, where ADNOC has significant initiatives in place with different companies worldwide to develop the petrochemical sector. Added to this, the economy of the United Arab Emirates has been able to overcome the oil crisis by developing those industries and sectors mentioned previously: airlines, tourism, and mega projects, properties, etc.

As the United Arab Emirates has progressively diversified its income and has been blessed with political stability and can claim an international financial hub and business friendly environment, all of these together are the main factors that help the economy to avoid oil price volatility as far as possible.

4.1.2 United Arab Emirates Dirham Exchange Rate Regime

The exchange rate regime has two types: fixity or flexibility. According to a report published in Gulf News (2008), many studies concerned with the choice between these regimes have summarized the following: first, that inflation has been lower and less volatile in countries with pegged exchange rates. Second, there is no clear relationship between the exchange rate regime and economic growth. Third, economic growth can be satisfactorily high and inflation desirably low under either exchange rate regime, provided that appropriate macro-economic policies are in place. Fourth, countries with fixed exchange rates are more exposed to currency and banking crises. Fifth, the number of countries with flexible exchange rates has increased during past decades and the number is expected to increase still further due to the degree of globalization of the financial markets. Sixth, there is no optimal regime to achieve macroeconomic stability; each one has its own advantages. Finally, Arab countries with flexible exchange rate regimes recorded higher inflation rates than Arab countries with fixed exchange rate regimes (Gulf News, 2008).

There are different features that are important in determining which exchange rate regime is better for an economy. Countries with high levels of inflation, small-size economy, openness, nominal domestic shocks and a degree of dollarization are recommended to adopt a fixed exchange rate (Gulf News, 2008).

On the other hand, flexible exchange rate require features such as the following: high inflation, a large external imbalance, a low level of international reserves, fiscal inflexibility, financial runs, a low flexibility of labor market, the internationalization of their own currency, a degree of financial development, external nominal shocks, and real external or domestic shocks (Gulf News, 2008). In the case of the United Arab Emirates the economy is small, with openness and a nominal level of domestic shocks. Therefore, a fixed exchange rate regime is better for the United Arab Emirates dirham. (Gulf News, 2008). The question now, is whether the United Arab Emirates is ready to shift from a fixed exchange rate to a flexible one? Has the government prepared the appropriate infrastructure for this transaction?

In the United Arab Emirates, oil prices are denominated in US dollars, and because of the dependency on oil, the government decided to peg the dirham to the US dollar. But this may have a negative impact on the government strategy and growth. When oil price collapsed, as happened in 2015, revenues were reduced for GCC countries and many countries toyed with the idea of devaluing their currency against the US dollar, which would boost local revenue and US dollars collected from oil sales could be repatriated for more dirhams (Chen, 2019). The economic diversification strategy of the United Arab Emirates boosted different sectors that shift to more global markets and industries away from oil industry in order to decrease the dependency on oil. This created another challenge embodied in the fixed exchange rate and dirham being pegged to the US dollar. An expert in economics with experience in the field of exchange rate (Interviewee 6) said that there is an issue when the exchange rate is pegged to the US dollar in that it does not give a huge amount of flexibility in terms of managing policy. She added_if you need to

diversify the economy it is important to diversify exchange rate policy as well (Interviewee 6).

In addition to that, she stressed that this issue needs to be addressed in future as the United Arab Emirates has important partnerships with significant global market players such as China (Interviewee 6).

In this respect, Saidi (2018) states that in the past, the US dollar provided a power for GCC currencies, imposed monetary discipline and led to moderate inflation rates. However, this policy is no longer appropriate to maintain economic diversification and macroeconomic stability. He argues that a fixed exchange rate and the dirham being pegged to the US dollar is counterproductive and has become inappropriate for the United Arab Emirates and GCC countries for two reasons. First, a flexible exchange rate regime is required to address the real economic shock of "the new oil normal", which mean a regression in trade and lower real incomes. Second, it is not reflected in the deep structural economic changes in GCC countries and the increased shift towards China and Asian markets. (The National, 2018). So, the suggestion is to unpeg the dirham from the US dollar in order to give UAE monetary policy more flexibility and to stop following monetary decisions in the USA. Furthermore, this will add more flexibility to control interest rates without having to pay attention to the peg. These reforms are very important at this stage of economic diversification as the country is attracting more foreign investments and tourists from all over the world. But this is depending on the political will of the government, where no desire or plan has been announced to stop pegging the dirham to the US dollar.

This has been confirmed by Mubarak Rashid Al Mansouri, the Central Bank Governor. He said that the United Arab Emirates government will keep the dirham tied to the US dollar, and added that, “The dirham is pegged to the US dollar because oil exports are traded in US dollars, which makes the dirham peg to the greenback convenient for oil transactions and helps stabilize the United Arab Emirates economy” (Gulf News, 2018).

4.2 Geopolitical Challenges

The United Arab Emirates is located in a region surrounded by tensions and conflicts with unstable political conditions in some countries. Continuous conflicts and the interventions of external actors and other countries in the region inevitably affect the political, economic and social conditions of the states in the region. According to The Economist Intelligence Unit (EIU) “Geopolitical uncertainty is on the rise and will remain a source of significant risk” (EIU, 2019). The war in Yemen and tensions between the USA, Iran and Saudi Arabia could affect investor confidence in the region and especially the business environment of the United Arab Emirates, which might have a negative impact on the size of investment in the country. A local expert in international relations working the government of foreign affairs of UAE (Interviewee 7) has said that the United Arab Emirates government follows a wise policy in dealing with such tensions and geopolitical risk: its soft power strategy and diplomatic efforts to solve conflicts between neighbors in the region help it to maintain its position as the perfect destination for visitors and investors. In addition to that, the United Arab Emirates is keen to provide investors with all the facilities that are necessary to establish their business in a good environment (Interviewee 7).

4.3 Social and Cultural Challenge

4.3.1 Demographic Imbalance

Since its establishment, the United Arab Emirates has witnessed a huge level of development in all aspects. This development has required a labor force and skilled expertise in order to improve education, health, infrastructure and other important sectors in the new state. At the outset the population of the United Arab Emirates was small and lacking in all the skills that were needed for specific fields, so this dramatic development was followed by a significant growth in population with more job opportunities emerging for foreigners from Arab countries and other countries beyond the Arab region. In 1971 the country's population was 277,471, eventually reaching 9,771,000 in number in less than fifty years (World Bank, 2019). The problem of population imbalance came as a result of the remarkable growth in the private sector, which attracts more foreigners, especially since the locals are more focused on working in the public sector for many reasons. According to the Global Media Insight, expatriates and immigrants account for 88.52%, where Emiratis account for 11.48% in 2018 (GMI, 2019).

People from South Asia such as India, Bangladesh, Pakistan and other nations in that region, compose more than half of the foreigners with a percentage of 59.48% of the population. The rest of the expatriate population is comprised of Egyptians at 4.23% and others at 17.94% (GMI, 2019).

In 2019, a local policy analysist working in government authority of UAE (Interviewee 8) said that there is a gap between the number of locals and residents in our country, but despite that we are all living in harmony and know the important role of this foreign labor in the development of the country. Whilst this is the case,

the government is still trying to develop policies and initiatives to increase the local number and enhance the national identity, so that we are working to make nationals as the majority or to increase the number up to 40% by 2021 (Interviewee 8).

As mentioned previously, a diversification strategy introduces different activities and industries that are mostly related to the private sector. Mansour, 2015 identified the main characteristics of the United Arab Emirates that led to the issue of population imbalance as the fact that we are a very oil-rich country with a very small population. He adds that nation building required hiring more expatriate labor in specific fields such as services, construction, health and education, thus expanding the gap between nationals and residents. This development in the economy and the accompanying increased revenues contributes in raising the standard of living, which is another factor affecting the population imbalance. This has led to bringing in a large element of house labor as maids, drivers and cooks, estimated at 500,000 in 2015 (Mansour, 2015).

Another very important point mentioned by Mansour (2015) is that the main challenge in addressing such an issue is the tradeoff between the high living standards and economic development and maintaining the national identity. Finally, he identified three policies adopted by the government to address the imbalance of population. These are encouraging national childbirth, an “Emiratization” of jobs, and stringent emigration policies.

4.3.2 Low Private Sector Workforce Participation by Emiratis

There is one more, significant issue that has resulted in an increased number of residents working in private sector, and that is that locals are not more interested

to work in such a sector. The challenge facing government is how to encourage the national labor force to enter the private sector, which offers job opportunities in line with the diversification strategy that will increase the rate of investment and will activate more trade activities. Statistics shows that fewer than half of Emiratis participating in the labor market, where more than 80% of them are working in the federal or local government compared with fewer than one in ten are working in the private sector in 2017 (Sanderson, 2019). Statistics explain the reason why locals are avoiding the private sector. The main reasons include long working hours, low rate of salaries and lack of privileges.

Mishrif (2018) discusses the challenges of economic diversification in the GCC by focusing on the challenges of human capital development. He said that the GCC faces challenges in the participation of nationals in the private sector. He argues that nationalization policies may have succeeded in the public sector due to the job security, social status, financial incentives and shorter working hours. On the other hand, it has failed in the private sector because of the differences in wages and benefits where the nationals gain a wage that is three or four times higher than what foreigners would obtain (Mishrif, 2018).

In this regard, an expert working as Human Resources in private company in the UAE assigned in economic diversification strategies (Interviewee 9) has said that one of the main challenges for economic diversification is ensuring that the national labor force is willing to work in different sectors. She stressed that improving the education system is a key factor to achieve such goals. It should focus on generic skills and prepare the new generation to be able to work in new sectors that require advanced skills and new knowledge (Interviewee 9).

Finally, the population imbalance might be expanded by the economic diversification strategy that drives more investors and sectors; in return, the United Arab Emirates government has developed several policies and initiatives to enhance and maintain the local identity. Furthermore, although the government has introduced several tangible policies under the umbrella of Emiratization to boost Emirati participation in the private sector, the outcome has been mixed.

In conclusion, the main challenges of the economic diversification of the United Arab Emirates are: first, global economic challenges such as the global oil crisis which will have a negative impact on oil revenues that are needed for the diversification strategies, and other financial crises which may affect sectors such as real estate and tourism which are key sectors in the diversification strategy. Second, we must consider the geopolitical challenges embodied in the conflicts and unstable conditions of the region that could affect investor confidence, and therefore decrease the level of investments. Third, there are social and cultural challenges such as the population imbalance and low private sector labor force patronage by Emiratis which could lead to a range of significant consequences. This also creates another challenge concerning the need to establish a strong education system and to enhance R&D initiatives in order to enable locals to work in the private sector and to provide them with all the skills and capacities required in the new, diversified economy. Finally, the United Arab Emirates dirham exchange rate regime is a very critical challenge because of the different opinions and views which are either for, or against, the pegging of the dirham to the US dollar; and to what extent this really will affect the strategies for diversification.

4.4 Recommendations

1. Efficient and effective implementation of Emiratization strategies

The rapid economic growth and modernization of the United Arab Emirates has created a problem of workforce imbalance between local workers and expatriates, and this is especially true in the private sector. For local people, it has becomes less attractive to work in the private sector due to a range of reasons such as long working hours and fewer benefits. In response, the government announced various policies besides established initiatives such as the Abu Dhabi Tawteen Council. Unfortunately, there are no tangible results in increasing the number of locals who are working in the private sector and this has required the effective implementation of Emiratization strategies. The government should enforce laws to give local people priority in employment. In addition, closing the gap between the public and private sectors in terms of the huge differences in salaries and benefits is an essential move to solve this issue. The government should also provide incentives to the private sector based on their rate of local employment. At the same time, there should be specific actions taken in the case of exceeding a limit of hiring expatriates. On the local level, His Highness Dr. Sheikh Sultan Bin Mohammed Al Qasimi, Supreme Council Member and Ruler of Sharjah, has launched the Sultan Al Qasimi Emiratization Project. The project will ensure that locals receive the same salary as the government sector and the same job level. The Sharjah government will pay the costs and of salary differences between the private and public sectors, and the private sector local employees in the emirate will receive the health insurance of the Sharjah government and they will be under the umbrella of the Sharjah Social Security Fund (Gulf News, 2019).

Another good example of encouraging nationals to work in the private sector is in the Kingdom of Saudi Arabia, where the Saudi government announced in 2019, that it will provide cash incentives to private sector employers who hire Saudis. It will also give support for Saudis who are earning between SAR4, 000 and SAR10, 000 per month. Moreover, the Saudi government has imposed restrictions on the recruitment of expatriates in some sectors and has set higher fees on foreign nationals. Since 2012, the government there has charged SAR200 a month for each foreign employee in the private sector, in cases where the number of expatriates exceeds the number of Saudis. In 2018, this fee increased to SAR300-400 per foreign employee and it will reach SAR700-800 by 2020 (Gulf Business, 2019). Such incentives may make a significant change in the desire of locals to work in the private sector and increase the participation of the local workforce in leading vital private sector roles.

2. Skill development and vocational education

The evolved economy of the United Arab Emirates needs a more qualified and skilled local workforce to fill the gaps that has been highlighted earlier. The Emiratization strategy should be supported with strong skill development programs and vocational education policies. There are many successful experiences from countries all over the world implementing strategies to provide a workforce with the required skills and knowledge based on the economic needs. First, the European Union established the Memorandum of lifelong Learning after the Lisbon Treaty in 2000. The EU lifelong policy focuses on promoting active citizenship and promoting employability, which are dependent on having sufficient and up-to-date skills and knowledge, in order to enhance the economy and social life (CEC, 2000).

Second, Singapore launched the Continuing Education and Training Masterplan 2020 (CET) in 2008 to develop a future ready and career-resilient work force. According to Tan (2015), the Singapore government works on developing and strengthening the collaboration between employers, training organizations and industry associations. The initiatives consist of the main themes such as increasing the participation of employers in building and valuing skills, improving the quality of education, providing career guidance, and training and developing vital CET ecosystem by providing high quality learning opportunities (Tan, 2015). The third example comes from Switzerland which has one of the strongest training systems in the world and a key contributor to the country's economy. This is Switzerland's Vocational Education and Training System (VET). According to a report written by Hoffman and Schwartz (2015), the Swiss VET system includes participation from 70% of young people. It prepares students from different fields and specialties through a robust apprenticeship system for wide range of occupations such as advanced manufacturing, information technology, health care and traditional trades and crafts. The VET system successes in producing high skilled and ready-to-work employees due to several reasons such as allowing young people to interact with adults and be given more responsibility, the learning is "hands-on", applied and contextualized. Students are paid while learning and the students have the choice at the end of the apprenticeship to move directly into a full-time job with a nationally recognized qualification or continue to higher education (Hoffman & Schwartz, 2015). Switzerland has achieved an outstanding performance in many aspects related to human capital development.

According to the World Economic Forum (2019), the country was ranked the best in the world for vocational training, on-the-job training and the employability of

its graduates. In sum, and looking to these examples, building a highly skilled workforce is a priority for the United Arab Emirates to meet the growing demands of the new skills for the new growth industries. The education and training system should be continuously updated and developed, and the examples just cited offer a good opportunity to take their advantages and to study to what extent we can gain benefit from them.

3. Develop targeted policies to increase national fertility

As mentioned previously, the population imbalance in the United Arab Emirates is one of the serious issues which needs urgent solutions. There are many policies recommended to increase the size of the population and to balance the mix between local and expatriates. Such policies include increasing incentives to encourage families to have more children; and increasing the period of maternity leave and supporting working mothers by increasing nursing hours in order to enable mothers to take care of those children. Other recommendations - seemingly small but still to be considered - include increasing the awareness amongst Emiratis of the disadvantages of lavish wedding parties with a high cost. Yet, having said this, population dynamics are now a very critical issue worldwide. In this situation developed countries experience rapid population ageing while the poor countries witness rapid population growth. Germany is a clear example of a country in which the birth rate has, for decades, been low. According to Deutsche Welle, Germany's international broadcaster, the German government have announced significant family-friendly policies in the last decade since 2016 to solve this issue.

The policies include raising the parental leave allowance to two-thirds of income for the first year, providing parents with the legal rights to a nursery place

when the child turns one year, and allowing parents to work part-time and receive child allowances at the same time. In 2016, Germany recorded the highest fertility rate in 43 years (DW, 2019). The recommendations identified earlier have common impacts and they are affected by each other. Preparing a high-skilled, local workforce can play an important role in balancing the demographic mix between locals and expatriates by dispensing with the need for a large number of foreign workers, especially the unskilled. Furthermore, the United Arab Emirates has adopted a policy of employing Artificial Intelligence and Digital Economy where many jobs will be replaced with machines and robots in the high-tech sectors.

4. Enhance soft power tools and strategic partnerships

Establishing strong political and economic partnership with different countries all over the world is essential to protect the economy from global economic crisis. It's very important to create partnerships with the most powerful and effective economies worldwide and develop collaborations with the largest companies that are major plyers in different global industries. On the other hand, soft power tools are strongly suggested to utilize efficiently, in order to encounter the potential political conflicts in the region. Soft Power defines as a nation's ability to persuade other nations to agree with it or to desire the outcomes it wants (PSD, 2013). Enhancing soft power tools via the promotion of the United Arab Emirates' reputation as a modern and tolerant country that attracts people from all over the world and boosting the position of the country as an international connective hub would be great for foreign investment (UAE Government, 2019).

There are many promising sectors that should be highlighted in implementing a soft power strategy. Potential avenues exist in humanitarian initiatives, culture, art,

science, economy and tourism. Singapore is a good example for successful global soft power. It strengthens its soft power through its humanitarian efforts, peacekeeping missions overseas, disaster relief missions, investing in new museums and exhibition venues. Other practices such as investing in emerging markets, providing full scholarships for talented foreign students and hosting some international sports events all contribute in creating a positive global image for Singapore's (PSD, 2013). In sum, UAE needs to sharpen its soft power tools by focusing on hosting headquarters of international organizations, organizing global sports events and investing in different markets across the world, in order to be one of the major soft power drivers in the region that full of conflicts. Increase partnerships and collaboration with GCC countries; to enhance GCC economies integration and competitiveness.

Chapter 5: Conclusion

Economic diversification is one of the most highly recommended strategies for oil-based economies as well as a panacea for avoiding the resource-curse syndrome. Most oil rich countries such as Norway which have averted the resource-curse phenomenon did so via successful diversification strategies aimed at developing a diversified and sustainable economic structure that is less dependent on oil. The UAE is one of such countries which had earlier on paid attention towards decreasing its dependency on oil revenues by establishing a strong and diversified economy.

Thus, this thesis examined the economic diversification strategy of the United Arab Emirates and highlighted the main strategies and potential challenges. The thesis followed the qualitative methodology and conducted in-depth interviews with experts and officials in different related sectors. The methodology was effective in answering the research questions and identifying unexpected insights.

In this thesis, different economic diversification regulations and incentives have been discussed. The UAE government recognized the critical conditions of the oil market and the price volatility, which may cause oil crisis at any time. This presented the urgent need to boost and activate other sectors and industries. The diversification strategies put in place to reduce oil dependency and to accelerate the economic development and sustainability of the country, have resulted in decreasing contribution of the oil sector towards the GDP progressively. Tourism promotion is one of the pivotal strategies at the forefront of UAE's economic diversification strategy. It contributes in enhancing the UAE's position as a regional and international destination for different tourists from all over the world. It provides also

large number of job opportunities. As well as, the aviation industry has achieved remarkable development on the national, regional and international level. There are four national carriers with very modern air transport infrastructure that are designed for increased number of passengers. The thesis also highlighted the significant role that foreign direct investment from different countries places in stimulating various industries and economic activities in the country.

Furthermore, the digital economy strategy has been introduced in line with the international transformation to the digital system and data. As the data is called the oil of the new era, it seems that this strategy will be one of the core themes of the new post-oil economy of the United Arab Emirates. One the other hand, knowledge-based economy was discussed to show the importance of knowledge and innovation in the economic diversification strategy of the United Arab Emirates. The strategy includes establishing funds for science and research, developing global partnerships and investing in research and development activities.

Research and Development activities are intensively discussed in this thesis, due to the fundamental role of R&D in developing advanced technologies to be utilized in different areas. The UAE's expenditures in the R&D activities is still low compared with most developed countries. The government has introduced many initiatives to increase the share of R&D activities in the economy. This includes: a National Advanced Sciences Agenda, Open labs platform, Mohammed bin Rashid Centre for Accelerated Research and Emirates Scientists Council. The thesis discussed a very attractive model for R&D activities, which is the Korean example. This model is based mainly on establishing research institutes, focusing on human

resource capacity building and enhanced collaboration between government and the private sector.

Another very promising economic diversification strategy is diversification into petrochemicals. Developing such an industry is considered as a primary step towards economic diversification. ADNOC achieved pioneering position in petrochemical industry by developing strategic partnership with global oil and gas companies and building advanced refining and a petrochemical complex. Once more, innovation and R&D are crucial elements in such an industry where it has gained more world attention, due to its considerable influence in transforming economies.

The thesis identified the Norwegian model as one of the most successful economic diversification strategies. The main idea of the Norway's economic diversification strategy is not to depend on the oil revenue in funding the budget, except small amount. Consultation, protection, knowledge and diversification are the major fundamental policies of the oil industry in Norway. These policies provide valuable insights about the management of the sector. Moreover, Norway uses effective policy tools to control and manage oil sector in general. Its innovative system, which includes the major oil companies, their suppliers and downstream industries, universities, research institutes and policy measures, contributed immensely toward the success ofits economic diversification strategy.

Other important strategies have been discussed such as manufacturing, where the country established manufacturing facilities for metals, building materials, chemicals, pharmaceuticals, food and beverages and aerospace and defense equipment. Financial and banking sector is considered a key part in the economic diversification strategy of the United Arab Emirates. This sector enjoys several

advantages such as no currency exchange control by the state, stable and robust economy and modern banking system. Islamic economy and FinTech initiatives are contributing strongly in boosting such sector. In addition to that, United Arab Emirates become a logistics hub in the region and the world due to the geographic locations, advanced infrastructure and ports, integrated free zones and fast growing of e-commerce.

There are major economic, political, social and cultural challenges that have been presented in the thesis. First, the UAE's economic diversification strategy may face economic challenges related to the existing trade tensions between the global great powers, US and China. This could adversely impact global economic growth. In return, vital economic sectors that depend on the foreign expenditures could be affected.

The uncertainty surrounding the oil market and price instability still threatens the economic growth of the United Arab Emirates. As long as these threats persist, funding other industries via oil revenues would be challenging. Another economic challenge is related to how the exchange rate and dirham are pegged to the US dollar. There are different views regarding this issue. Many analysts and experts argue that economic diversification strategies need more flexibility nowadays in order to succeed instead of being too tied to uncontrollable external variables such as the volatility of a foreign currency.

Second, geopolitical challenges cause severe risks to the United Arab Emirates economic diversification strategy. The region is full of political conflicts and tensions and this allows different international interferences. These interferences

may cause a real obstacle to attracting foreign investors and businesses, due to the lack of confidence about an unstable region.

Third, cultural and social challenges are divided into two parts. The first part is related to the demographic imbalance created due to the influx of foreigners attracted by the rapid economic growth of the country since the formation of the country. This rapid growth attracted large number of expatriates to work and settle in the United Arab Emirates. The low local population compared to foreigners is still one of the main challenges in the implementation of the economic diversification. This is because the new diversified economic sectors are too dependent on the increasing number of skilled workforces, which can be provided easily from other counties to meet the needs of economic diversification. This foreign labor dependency is not sustainable in the long-run as future events could cause them to leave the UAE unceremoniously and thus expose the country to economic ruin. The second part of the demographic imbalance challenge is associated with the low percentage of Emiratis employed in the private sector and this does not bode well for the economy if the private sector meets the objective as the main driver of the United Arab Emirates' economic diversification.

There are many reasons behind the absence of nationals in such an essential sector. This includes low salaries and incentives and long working hours compared with the privileges of the government sector. The government aims to encourage more nationals to work in the private sector, especially with the more job opportunities that will be offered in line with introducing new industries and activates.

The thesis concludes with recommendations to address the challenges of the UAE's economic diversification strategy. Recommendations include enhancing soft power tools and strategic partnerships, establishing qualification programs to equip Emiratis with the required skills and knowledge that are necessary for the economic diversification strategy, effective implementation of the Emiratization strategy and developing specific policies to increase the national birth rate.

5.1 Theoretical and Practical Implications

The thesis makes significant contribution in diverse ways in the field of post-oil strategy and avoiding the resource curse syndrome. First, the thesis has provided a comprehensive examination of the United Arab Emirates' economic diversification strategies, regulations and incentives. Second, the thesis has empirically enriched the literature related to oil-based economies and the extent to which the UAE's economy has been affected by such theories. Third, the thesis has made a solid contribution towards policy by discussing challenges facing economic diversification while offering policy prescriptions to overcome identified challenges.

5.2 Future research

For further research, it would be beneficial to explore more aspects related to the UAE's economic diversification strategies and implications. The following questions/suggestions would enrich further understanding of the economic diversification of the UAE.

First, to what extent are the current policies and strategies of the economic diversification strategies of the UAE effective? Second, what future challenges would the UAE face in implementing its post-oil strategy? Third, to what extent is

the current fiscal policy appropriate for the new post-oil era? Fourth, how can the UAE become an international model in economic diversification of an oil rich country? Fifth, what is the most promising industry that could replace the oil industry as the cornerstone for the post-oil era?

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Appendix

Consent Form

Social Sciences Research Ethics Committee

- Consent to Participate in a Research Study-

Please read carefully before signing the Consent Form!

United Arab Emirates Post Oil Strategy: An Examination of Diversification Strategies and Challenges

You will be asked to provide or deny consent after reading this form.

You have been invited to take part in a study to investigate "United Arab Emirates Post Oil Strategy: An Examination of Diversification Strategies and Challenges"

This study will be conducted by Noura Hamad Al Jaberi, Political Science Department, UNITED ARAB EMIRATES U. The interview will take around "one hour" and the location will be deicide as per the participant preferences.

I appreciate your approval to conduct interview as a part of the mentioned research. Ethical procedures for academic research undertaken from University require that interviewees explicitly agree to being interviewed and how the information contained in their interview will be used.

This consent form is necessary for us to ensure that you understand the purpose of your involvement and that you agree to the conditions of your participation. Would you therefore read the accompanying information sheet and then sign this form to certify your approval.

- The interview will be recorded and the transcript will be produced.
- You will be sent the transcript and given the opportunity to correct any factual errors.
- The transcript of the interview will be analyzed by the researcher.

Confidentiality and Privacy Information

- Access to the interview transcript will be limited to (Noura Al Jaberi) and academic colleagues and researchers with whom she might collaborate as part of the research process
- Any summary interview content, or direct quotations from the interview, that are made available through academic publication or other academic outlets will be anonymized so that you cannot be identified, and care will be taken to ensure that other information in the interview that could identify yourself is not revealed.
- The actual recording will be (kept or destroyed state what will happen).
- Any variation of the conditions above will only occur with your further explicit approval

Right to Withdraw

- We do not anticipate that there are any risks associated with your participation, but you have the right to stop the interview or withdraw from the research at any time.

Benefit of the research

- You will receive no direct benefits from this study, this research may/will help us better understand of United Arab Emirates post oil era, diversification strategies and challenges.

All or part of the content of your interview may be used

- In academic papers, policy papers or news articles.
- On our website and in other media that we may produce such as spoken presentations
- On other feedback events
- In an archive of the project as noted above.

Informed Consent

1. I confirm that I have read and understood the above information sheet and have had the opportunity to ask questions.
2. I understand that my participation is voluntary and that I am free to withdraw.
3. I understand that my data will be kept confidential and if published, the data will not be identifiable as mine.

I agree to take part in this study:

(Name and signature of participant)	(Date)
(Name and signature of person taking consent)	(Date)
(Name and signature of witness (if participant unable to read/write)	(Date)
(Name and signature of parent/guardian/next of kin (when participant unable to give consent due to age or incapacity)	(Date)

Interview Questions

1. What are the structural issues related to oil-based economies that may affect economic diversification strategies?
2. Why is the United Arab Emirates diversifying its economy in spite of its vast energy resources?
3. What are the objectives/goals of United Arab Emirates oil diversification strategy?
4. What specific economic sectors have the United Arab Emirates diversified into and how has been the results?
5. To what extent are current diversification policies appropriate for post-oil era?
6. Has the United Arab Emirates really succeeded in preventing the risk of resource curse? Will diversification be a way to prevent resource curse?
7. What are the future scenarios of the United Arab Emirates economy?
8. What are the economic features required for a successful diversification strategy in the United Arab Emirates?
9. How can the United Arab Emirates maintain its generous social welfare by reducing oil dependency and diversifying income sources?
10. Is the Norway Model a good example to follow by United Arab Emirates towards economic diversification?
11. What are the most important factors behind United Arab Emirates' successful attempts to diversify until now; especially after oil price crisis in 2014?
12. To what extent can United Arab Emirates post-oil strategy adapt to different global economic and political shocks?
13. What are the main challenges facing United Arab Emirates in economic diversification?
14. How can the United Arab Emirates overcome any potential challenges to its diversification strategy?
15. Are there any untapped opportunities/sectors for United Arab Emirates economy diversification?