



**Modelling the Economic and Political Factors of Optimum Currency
Area Theory for the Adoption of the Single Currency Project in Gulf
Cooperation Council**

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ABSTRACT

The Gulf Cooperation Council (GCC) is an organisation that has for a long time had a regional policy to create an economic as well as a political bloc. The theory of optimum currency areas provides the economic foundation for this research. Previous studies focused largely on the eight prerequisites of an optimum currency area. Political events in the Gulf region for the decade up to 2016 have underscored the importance of political factors in delaying the commencement of a single currency area in the GGC member nations. Therefore, this research looks at the political and historic factors affecting greater economic integration. To achieve a better understanding of the economic and political context and relationships the research uses a mixed research methodology. The qualitative research aspect uses an interview instrument for data collection, with content analysis as the technique for data analysis. The quantitative research segment relies on secondary data from the GCC and international financial agencies, and tests for cointegration. Cointegration tests are an econometric technique, which allows the testing of hypotheses, and the cointegration of economic relationships contained in a model involving non-stationary stochastic variables. The cointegration test is able to determine a stable long-term relationship among multiple economic series/variables (Shin, 1994); it is valuable for testing and estimating macroeconomic model where long-run relationships among variables affect present/future observed values.

As a contribution to optimum currency theory and economic integration, the research proposes a politico-economic framework (PEF) as the ideal framework for understanding the dynamics of the common currency agenda in the Arab Gulf Region with specific reference to the GCC. The research contributes to an existing body of knowledge on a GCC single currency region by providing the empirical evidences for delay in implementing a single currency. The delay of a single currency is mainly due to political factors. Regarding the economic factors the study found that there are indications of cointegration among the factors; while the political factor has a complex dynamic linked to fear of losing autonomy over monetary and fiscal policy measures and fear of surrendering sovereignty to supra-national institutions on the one hand compared to security concerns. On the other hand, the finding indicates that there is a strong historical pressure supporting the concept of a single currency system in the Gulf States because of its religious and cultural connection to Muslim countries based on the Dinar currency. The research concludes with far reaching recommendations on the circumstances needed to carry forward the GCC single currency. The main finding in this thesis is that the delay in achieving the single currency is purely due to lack of political will not the economic convergence in the GCC countries.

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LIST OF ACRONYMS

AFRODAD	African Forum on Debt and Development
AMU	Arab Maghreb Union
AU	African Union
CEMAC	Communaute Economique et Monetaire de l'Afrique Centrale
CFA	Central Franc African
CU	Currency Union
EA	Economic Agreement
ECOWAS	Economic Community of West African States
EMU	Economic Monetary Union
EU	European Union
FCFA	Fédération des Communautés Francophones et Acadienne
FDI	Foreign Direct Investment
GAFTA	Greater Arab Free Trade Area
GCC	Gulf Cooperation Council
IMF	International Monetary Fund
MENA	Middle-East and North Africa
MFTA	Mediterranean Free Trade Area
NAFTA	North American Free Trade Agreement
OCA	Optimum Currency Area
OIC	Organization of Islamic Cooperation
PEF	Politico-economic framework
PMG	Pooled Mean Group
RER	Real Exchange Rate
SC	Single Currency
SVAR	Structural Vector Auto Regression
TSI	Theory of Superpower Influence
UAE	United Arab Emirates
UNCTAD	United Nations Conference On Trade And Development
US	United States
VAR	Vector Auto Regression

Chapter One

Introduction

1.0. Background of the Study

Economic integrations through the formation of economic blocs are a growing phenomenon as a result of the wave of globalisation. Economic blocs exist in Europe, East Asia, North America and Africa. In the Middle East the Gulf Cooperation Council (GCC) was originally founded as a security organization with the intention to counter the threats from Islamic Revolutionary Iran, Baathist socialist Iraq, and the Soviet incursion into Afghanistan. However, as new economic and political events unfolded in the region, the scope of the GCC was broadened and the charter of GCC was amended to form an economic bloc. The GCC embraced the economic integration as a regional policy to create an economical and a political bloc.

The GCC includes six independent countries in the Gulf region, namely: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates. The GCC adopted an economic integration to create a strategic move towards an optimum currency area (OCA), which may transform the region faster and better in terms of economic openness and competitiveness (Aljadani, Mear and Raimi, 2015a). The GCC countries possess huge natural resources in the form of oil, gas and other still untapped mineral resources (Al-Rawashdeh, Al-Nawafleh and Al-Shboul, 2013). The region has witnessed long impressive social and economic developments, mainly driven by huge revenue (large resources per capita income) obtained from the crude oil exploration and sale (Krane, 2012).

The process of economic integration usually takes a very long time to be implemented as the policymakers often follow systematic procedure in achieving the required integration. This appears in the pace of economic integration among the

GCC countries. There are five stages of economic integration to be implemented, namely: free trade zone, custom union, common market, economic union and political union (Mutasa, 2003). The GCC has reached the fourth stage (i.e. economic union), which includes a common monetary policy, a single currency, budgetary and fiscal policies as well as socio-cultural policies that may result in boosting the integration process (Laabas and Limam, 2002; Patrick, 2011; Aljadani, Mear and Raimi, 2014). The idea to have a single currency has been conceived across the region to unite GCC countries in the fields of finance and economic development. This will enhance the efforts of the GCC countries to overcome the economic issues and achieving an optimum stability and better development in the region (Al Tayer, 2011). These benefits motivated GCC to consider the optimum currency area (OCA) as a result of their economic integration. A common currency usually promotes the cooperation and the development, especially for small and medium sized enterprises. The OCA becomes an important stage as it may resolve the difficulties that the governments face in trading and international investment policies (Willett and Auerbach, 2009). This makes many research studies to focus on analysing the economic factors that affect achieving the single currency while neglecting the political factors. This was the real motivation behind this research to investigate both the political and the economic factors.

1.1. Problem Statement

The monetary integration of the GCC has remained in debate for a very long time (since the 1980s) due to the internal and the external challenges. The implementation of a common currency was initially proposed to be implemented in 1999, however, it was delayed due to political concerns and precautions (Lawson, 2012). In 2006, Oman rejected the idea and the UAE withdrew in 2009, the decision

was linked to the relocation of the monetary council in Saudi Arabia. Kuwait is the only country that still prefers not to peg its currency to the U.S. dollar while the rest members of GCC countries decided to announce fresh commitments to a single currency to be effective in 2010 (Lawson, 2012).

However, the 2010 kick-off date was missed. The major reasons that caused the delay in adopting a single currency within GCC are the mutual precautions and fear of domination by Saudi Arabia (Lohade, 2013). Also there were disagreements between the members on the name of the new currency, the convertible exchange, the launch date, and the autonomy of regional banks, base rates and independency. More importantly, on March 4, 2014, the political crisis between Qatar on one side and Bahrain, Saudi Arabia and the UAE on the other side deepened. This leads to withdrawing the ambassadors of these three countries to show objection on Qatar's support to Muslim Brotherhood and the Iranian-sponsored Hizbullah (World Tribune, 2014a).

Based on the literature review (discussed in chapter two), the economic integration among the GCC countries showed that many challenges face the adoption of a single currency. The work of Baldwin and Wyplosz (2006) pointed out that even though the economic integration can be very difficult, however, when the medium and small scale of economies combined with free trade zone may generate forces that encourage the geographic clustering of economic activities. Based on the highlighted issues discussed above, the main issues facing GCC counties in achieving the OCA, which this research will study and investigate. On the top of that this research will investigate the historical and cultural factors, which may accelerate the formation of single currency project of GCC. Previous studies on a single currency agenda in the GCC region looked at the issue from either economic or political lenses. However, in

this study we investigated the effect of both economic and political factors on achieving the single currency project of GCC.

Furthermore, there was no study investigated the link between the single currency and the history of the regions as most of these regions have no such kind of this relation. The present study explored the historical connection between the Dinar currency system and the contemporary move by the GCC to embrace a single currency for the first time. Since the first Islamic state up to 1924 the Dinar served as the unifying medium of exchange across Muslim world. Colonisation of the Muslim world and subsequent splitting of the region into small independent states made these nations adopt their own national currencies within the last 90 years. These gaps in the literature, motivated us in this research to propose a politico-economic framework (PEF) as the ideal framework for understanding the dynamics of the common currency agenda in the GCC. These issues motivated the current study to model the relationship between the eight prerequisites of an optimum currency area in the GCC countries using mixed research methods. Based on this motivation the following three measurable objectives are listed in next section.

1.2. Research Objectives

Based on the reviewed literature and the defined problem statement, the following objectives of this research are listed below:

- 1) Evaluating the effect of the historical factors on achieving a single currency in GCC bloc.
- 2) Evaluating the appropriateness of the economic integration of GCC to form an optimum currency area using a quantitative study.; and
- 3) Investigating the political factors, which effect the adoption of the OCA in GCC bloc through a qualitative study.

1.3. Research Questions

The above stated research objectives have led the research to ask the following four research questions:

- 1) The GCC countries have a common culture, language and history, to what extent these factors affect the achieving of the single currency in GCC?
- 2) Is the GCC bloc appropriate medium for establishing economic integration?
- 3) Does the GCC meet the economic criteria for a single currency to be introduced?
- 4) What are the political factors that affected the adoption of a single currency in the GCC?

1.4. Research Propositions

- 1) The Islamic culture and the history of GCC countries have a significant impact in supporting the idea of achieving the single currency project, (new dimension added to OCA).
- 2) There is economic convergence (in the six quantitative prerequisites factors of OCA) in the GCC countries.
- 3) The GCC meets the criteria set for an Optimum Currency Area.
- 4) Political factors are responsible for the delay in the adoption of a single currency in the GCC bloc (two qualitative prerequisites factors of OCA).

1.5. Scope of the Study

This research provides an updated concept for OCAs in the GCC bloc for utilisation within a practical and academic environment. As a contribution to optimum currency theory and economic integration, the research proposes a politico-economic

framework (PEF) for understanding the dynamics of the common currency agenda in the Arab Gulf Region, with specific reference to the GCC. In other words, the research develops a framework to encapsulate the economic, political and social factors that are grounded in the beliefs and traditions of the Gulf region. The framework is expected to assist policymaking in the GCC bloc.

The research contributes to an existing body of knowledge on a GCC single currency region by providing the empirical evidence for the reason behind the delay in implementing a single currency. The delay of a single currency is a combination of economic and political factors. The economic reason is an absence of cointegration in some factors; while the political factor has a complex dynamic linked to fear of losing autonomy over monetary and fiscal policy measures and fear of surrendering sovereignty to supra-national institutions on the one hand compared to security concerns. Historical and cultural factors are also investigated and explored in the light of single currency theory. The research concludes with recommendations to be taken into consideration, which will assist the GCC to move forward towards the single currency agenda.

1.6. Areas of Novelty and Originality

There has been considerable research on the GCC and single currencies, but none of them have examined the inter relationships of Politics, Economics and cultural contexts. The primary goal of this research was to bring together that rich variety of factors to develop more realistic model that can be applied to achieve single currency project in the GCC. This research investigated the effect of the historical factor on the formation of single currency project of GCC by modifying the OCA theory. The areas of original work within this research are listed below:

- 1) In this research the historical factor has been critically reviewed in the light of its effectiveness on achieving the single currency.
- 2) Based on the study in point 1, the historical factor has been added to the theory of OCA as a new qualitative dimension.
- 3) A new descriptive analysis study was used to model the OCA quantitative factors using the Johansen's cointegration method.
- 4) In this research, for the first time, the relation between the economic activities and the political factor has been investigated in order to identify the main reasons that cause the delay in achieving the single currency in the GCC.
- 5) In this study high ranked people were interviewed in order to assess and evaluate the current situation of achieving the single currency.

1.7. Organisation of the Work

There are eight chapters in this thesis. Chapter two reviews the relevant literature on the economic, political and historical factors affecting the single currency in the GCC bloc. The previous studies, which investigated the Socio economic and the current political issues in GCC were discussed. The fundamentals of OCA and the economic benefits and cost of OCA were presented. Furthermore the empirical studies of OCA in both cases before and after the 2008 financial crises were critically reviewed followed by the introducing the GCC bloc political formation.

Chapter three discusses the theoretical framework for OCA based on the works of Mundell (1961), McKinnon (1963) and Kenen (1969) also the theoretical framework of political integration. The adopted theory of this research discussed and scientifically described. Also a critical discussion on the OCA theory and its factors were presented. Furthermore OCA prerequisite and its modelling was introduced followed by the preformed empirical studies on the OCA.

Chapter four explains the research methodology. For the avoidance of ambiguity, methodological issues of ontology, epistemology, research paradigm, research approach, research methods and techniques are explained.

Chapter five extends the discussion further with a discussion on the historical antecedent of a single currency in the Gulf States dating back to the periods of Islamic caliphacy up to the present time. The chapter also explains the Gold Currency System, the Dinar Currency System in Period of the first Islamic State while the history of Dinar during the Period of the four Caliphs (Khaliph's) and Kings is also explored. The recent calls for adopting the Gold Dinar as monetary system were also reviewed. Finally, the chapter concludes with the main findings that have been reached regarding the single currency agenda in the Islamic history.

Chapter six focuses on the quantitative aspects. The outcomes of the Johansen's cointegration method on the quantitative prerequisites of OCA were presented.

Like chapter six above, chapter seven focuses on the qualitative aspects of the study. Here the outcomes of the interviews granted by thirteen professionals, economists and experts on GCC affairs are presented. The concluding chapter provides a summary, recommendations and conclusions.

Chapter Two

Literature Review

2.0. Introduction

The current research aimed to investigate the economic and political factors, which affect achieving the single currency agenda in the GCC bloc. This chapter provides a comprehensive discussion and a critical review of previous studies (especially empirical and theoretical works). This leads to a clear understanding of the research problem from several dimensions such as economic integration, political integration, optimum currency area (OCA) and associated economic benefits and costs compared with European Union and other Economic Blocs. This chapter looks at the GCC bloc formation taking into consideration its environmental and political undercurrents in Gulf region as well as the conceptual definitions of economic integration and typologies on integration. It further explicates the benefits and costs of economic integration. In sections 2.1 and 2.2 the Socio economic and the current political issues in GCC are discussed, respectively. In sections 2.3 and 2.4 the concept of OCA and the economic benefits and cost of OCA are presented. The empirical studies of OCA both before and after the 2008 financial crises are critically reviewed in sections 2.5 and 2.6 followed by the introducing the GCC political formation in section 2.7. Section 2.8 concludes the main findings and presents a brief summary of this chapter.

2.1. Socio-Economic and Political Profiles

The Arab Gulf is located in a shallow basin and holds two-thirds of the proven oil reserves in the world. By supplying the world with required energy resources, the Arab Gulf has become a region of growing international importance and relevance.

The Strait of Hormuz is the gateway to the Arab Gulf and is one of the most important international waterways with more than a hundred oil-carrying vessels passing through it daily (Fattouh, 2007). The Arab Gulf is bordered by a semi-enclosed sea and controls the shipping routes that can influence the international economy, given that the Arab Gulf region location connects the three continents Asia, Europe and Africa. The proximity of the GCC countries countries is depicted in Figure 2.1 below.



Figure 2.1: The Proximity of the GCC Countries (World Tribune, 2014b)

The global dependence on oil reveals the strategic growing value of oil resources in the international community. The international importance of oil became apparent when the commander of the British Navy, Winston Churchill, made the decision in 1910 to adopt oil instead of coal as fuel for the British naval fleet. At that point, oil became a source of cash earnings and has since become a huge industry for the giant international companies. Furthermore, oil gives the largest economic returns and affects the balance of payments for all countries around the world. The bulk of foreign currency reserves of GCC countries are denominated by US dollars.

There is a potential area of cooperation between the GCC countries that has been grossly under-exploited, which is the stock market trading. There is a prospect for more foreign direct investments (FDIs), which can be enhanced by increasing the number of quoted companies through a greater monetary and financial cooperation under a single currency.

To enhance the diversity in the economies of the GCC countries, Rutledge (2006) prescribes a currency union to optimise a number of indirect economic benefits such as reducing the transaction costs and eliminating the exchange rate risk, greater budgetary transparency, increased fiscal discipline and deeper economic diversity.

Based on the key role of stock markets in the economic integration process, Bley (2011) examined the predictability of GCC stock markets to provide a justification for the importance of a single currency. The study used daily, weekly, and monthly stock market index for the 10-year period 2000–2009. The study found an evidence of nonlinear dependence for the daily data, but there was no evidence of nonlinear dependence for stock markets using weekly and monthly data.

2.2. Current Central Bank Institutional Arrangements for GCC countries

Coordinating macroeconomic policies is a pre-requisite to a successful launch of the common currency in the GCC countries; hence the Central Bank put in place institutional arrangements for all the GCC countries. These institutional arrangements show a clear coordination of monetary policy, fiscal policy, government consumption, and openness across the GCC member countries (Kamar and Ben Naceur, 2007). Currently, the other GCC countries have informal mechanisms for coordination among the regulators in each of the six member countries. However, each country has effective institutional arrangement for implementation of the financial stability objective. In other words, the central banks in Bahrain, Oman, Kuwait, Qatar and the

UAE have set up a separate financial stability office and publish financial stability reports. However, the regulatory structure in several GCC countries needs to be strengthened through creation of a formal framework for coordination and information-sharing across regulatory agencies to close the loopholes for regulatory arbitrage. The financial system in the GCC countries is regulated and supervised by several regulators, with the banking system in all these countries under the regulation and supervision of the central bank (Al-Jasser and Al-Hamidy, 2003). Highlight of the institutional arrangements for all the GCC countries are discussed below:

In Bahrain, the Central Bank of Bahrain is the single regulator for the financial system in line with the country's central bank law. In Kuwait, the legal framework, the regulation and the supervision of the banking sector are coordinated by the Central Bank of Kuwait (CBK), while the country's Capital Markets Authority (CMA) regulates capital market institutions and investment companies. However, the Central Bank of Oman is the single integrated regulator of Oman's financial services industry, with the exception of capital markets, which are regulated and supervised by a Capital Markets Authority. For Saudi Arabia, the Saudi Arabian Monetary Agency (SAMA) is vested with the responsibility for regulating commercial banks, insurance companies and exchange dealers, and mortgage, leasing and finance companies. However, the Capital Markets Authority exercises supervision strictly over the capital markets. In Qatar, the Qatar pistachio (QCB) regulates the banking system and insurance sector, while the Qatar Financial Markets Authority regulates the securities market. The Qatar Financial Center Regulatory Authority regulates the institutions licensed by the Qatar Financial Center. However, the QCB is responsible for ensuring financial stability, and the recommendations made by the Financial Stability Committee (chaired by the governor of the QCB) are implemented by the respective

regulators, consistent with the legal and regulatory mandates under their respective laws. Whereas, UAE has multiple regulators of the financial system in the financial system. The Central Bank of the UAE regulates the banking system. Of the three stock exchanges in the country, the Dubai Financial Market and the Abu Dhabi Securities Exchange are both governed and regulated by the Securities and Commodities Authority. Nasdaq Dubai, located in the Dubai International Financial Centre, is governed by an independent regulator called the Dubai Financial Services Authority, but the country's insurance sector is regulated by the Insurance Authority (Al-Jasser and Al-Hamidy, 2003).

Table 2-1: GCC Countries, Currency and Exchange Rate

SN	COUNTRY	CURRENCY	CENTRAL BANKS	Currency Peg
1	Oman	Omani Riyal	Central Bank of Oman	1 Rial = \$2.6008 USD
2	Saudi Arabia	Saudi Riyal	Saudi Arabian Monetary Authority	\$1 USD = 3.75 SR
3	UAE	UAE Dirham	Central Bank of the UAE	1 USD = 3.6725 AED
4	Qatar	Qatari riyal	Qatar Central Bank	\$1 USD = 3.64 QR
5.	Bahrain	Bahraini dinar	Central Bank of Bahrain	\$1 USD = 0.376 BD
6	Kuwait	Kuwaiti Dinar	Central Bank of Kuwait	\$1 USD = 0.29963 KD

Source: The World Factbook (2011)

2.3 Exchange Rate Alternatives to GCC Countries

There are four exchange Rate alternatives with regards to a single currency from, which the GCC could hinge its exchange rate system. These four exchange Rate alternatives include: (a) Pegging to the Dollar, (b) Managed Floating, (c) Basket peg and (d) Pegging to the Export Price of Oil. Each of these exchange rate alternatives is discussed below.

A) Pegging to the Dollar: It has been reported that in pursuance of the goal of monetary integration, the GCC countries, excluding Kuwait, pegged their national currencies to the US dollar and it was effective from January 1st, 2003. The rationale for this pegging alternative was to strengthen the confidence in their economies and maintain stability for the purpose of improving the possibility of having a successful monetary union. The region's pegging to the dollar has been beneficial for mitigating nominal shocks associated with geo-political risks (Wafa, 2014). The study of Rosmy, and Mohammad confirmed that GCC countries have smoother demand shocks after pegging to the dollar (AlKholifey and Alreshan, 2010). The pegging has also provided certainty about future exchange rates, as money and capital markets show confidence in the dollar peg. More importantly, the various oil exporting nations to which the GCC nations belong are familiar with dollars and therefore have confidence in trading in currencies that are pegged to another currency; an instance is that 18 out of the 26 oil exporting countries have mutually pegged currencies (Khan, et al., 2008).

B) Managed Floating: It has been argued that a managed floating exchange rate has the potential of accelerating the economic diversification of the private non-oil sector of the GCC economies because it elicits confidence and endorsement of the private non-oil sector. It also allows for a unified currency float against other currencies thereby making monetary policy very effective in stabilizing the inflation as well as boosting the none-oil national production outputs. The managed floating exchange rate has a major disadvantage in the GCC because the current economic structure of the member countries has many difficulties to achieve internal and external stability. By adopting a currency float against other currencies, GCC countries face sudden uncertainties in its international trade relations with other countries, which further complicates budgetary accounting and business in member

countries. It is also too risky for undeveloped financial markets in the GCC to hedge against exchange rate risk (Khan, et al., 2008; Wafa, 2014).

C) Basket pegging: This tactic could help the GCC countries achieve an exchange rate with better flexibility, where a basket peg such as the SDR would result in lesser volatility oil export receipts than those pegged to the dollar. By implementing the basket peg, the exchange rate will become gradually flexible, thus it will give the participants in the private market the opportunity not only to adapt the living with foreign exchange risk but to manage it as well. The major drawback of basket pegging is that dealers have to bear the exchange rate risk. Also basket pegging is less transparent; it is operationally difficult to comprehend by the public because the process of managing the weights assigned to the basket of pegged currencies are difficult; and finally basket peg often could lead to speculative behavior as evident in the case of Kuwait, the only country in GCC that adopted basket peg. Reference needed

D) Pegging to the Export Price of Oil: This approach implies an exchange rate system where countries peg their national currencies to the Price of Export Product (PEP) especially minerals or agricultural products. The main advantage of this approach is that it integrates the benefits of pegging to the dollar and the floating exchange rates where it enhances the credibility of the dollar. The nominal anchor would automatically accommodate terms-of-trade shocks, thereby helping the real exchange rate of a country or countries using it to move in line with the real price of the exporter's main commodity whether minerals or agricultural resources. This approach was suggested for countries that have small and open economies that rely mainly on the export of minerals and/or agricultural products. The basic difficulties with Pegging to the Export Price of Oil are: (a) The GCC countries is mega economy

when they integrated not a small economy hence it cannot be implemented; (b) Even though, oil plays a significant role in the global economy, but the approach of pegging to export price of oil cannot be considered as the oil cannot be considered exogenous or a replacement for a currency itself, when each country within the region export differently; (c) The pegging to export price of oil would lead to serious drawbacks in the GCC countries in their oil production capacity and extraction limits are regulated by the OPEC quota system; (d) The exports in the GCC are dependent on inputs of hydrocarbon products, hence the exports of these countries are not 100% dependent on the oil sector alone; and (e) Pegging exchange rate to export price of oil would make prices of the imported products volatile and unpredictable with negative effect on other sectors of the economy if not managed transparently and with credibility by the policymakers (Khan, et al., 2008; Wafa, 2014).

2.4. Environmental and Political Undercurrents in GCC

In the second half of the twentieth century, economic integration, regional cooperation and political integration are critical issues that occupy the centre stage of politics and academic discourse. The issues are often discussed in economics, international relations and political science literature (Al-Saud, 1997; Raimi and Mobolaji, 2008; Patrick, 2011). Economic integration in particular, which is the focus of this research, shifted attention of different regions of the world towards enhanced cultural, economic and political blocs (Raimi and Mobolaji, 2008). The prominent continental blocs include North American free Trade Agreement (NAFTA), European Union (EU), Economic Community of West African States (ECOWAS), African Union (AU) and host of others (Poldermans and Philippe, 2008; Raimi and Mobolaji, 2008). From historical perspective, Pinfari (2009) argues that two critical political reasons led to the formation of GCC bloc. The first reason was the threat raised by

Iraq and Iran competition as regional powers in the gulf area; and the second political reason was the fear of the spreading of Iran's Islamic revolution within the region as mentioned in section (2.7).

From the above discussion, it can be argued that the economic integration may emerge naturally for mutual benefits and may also emerge as a response to the economic and the political threats from other blocs or nations. In the case of GCC bloc, the literature has established two undercurrent reasons: a genuine need for economic integration and the need for self-preservation from powerful nations (Iran and Iraq) (Aljadani, Mear and Raimi, 2014). Al-Saud (1997) argued that GCC represents purely an economic relationship among member states built and nurtured on the three principles, namely, coordination, integration and interdependence.

Having discussed the principals of formation of the GCC bloc, it is important to examine the GCC charter for better understanding of the objectives behind economic integration among GCC countries. For the avoidance of doubt, Article 4 of the Charter states the aims and objectives of the GCC as follow:

- 1) *“To effect co-ordination, integration and inter-connection between member states in all fields in order to achieve unity between them.*
- 2) *To deepen and strengthen relations, links and areas of cooperation now prevailing between their peoples in various fields.*
- 3) *To formulate similar regulations in various fields including the following:*
 - a) *Economic and financial affairs.*
 - b) *Commerce, customs and communications.*
 - c) *Education and culture.*
 - d) *Social and health affairs.*
 - e) *Information and tourism.*
 - f) *Legislative and administrative affairs.*
- 4) *To stimulate scientific and technological progress in the fields of industry, mining, agriculture, water and animal resources: to establish scientific*

research: to establish joint ventures and encourage cooperation by the private sector for the good of their peoples” (GCC, 2016, online).

Furthermore, it was formed to establish joint ventures and encourage cooperation within the private sector for the good of their citizens (Cooperation Council for the Arab States of the Gulf, 2012). Al-Saud in 1997 explained that the aims and objectives of the GCC charter is built on the need for an effective coordination of the administrative system within the GCC bloc; promotion of cooperation in different fields for sustainable unity in economic, social, cultural, commercial, legislative, custom and financial markets. It can be seen from the aims and objectives of GCC, that they were related to the economic integration not the political. The members have already well developed their national identities and the loyalties of their own citizens to their governments. For a political integration, the leaders of these six states backed by their citizens to sacrifice some of their internal political structures and institutions for the sake of the formation of a new powerful nation (Haokip, 2011).

2.5. Benefits and Costs of Economic Integration/Adoption of OCA

The term OCA emerged and provided a useful explanation for adoption of a single currency by several countries co-existing in the same region. In economics, there are benefits and costs in all policy issues and development models. The benefits are the economic advantages/merits accruable from financial and non-financial decisions, while the costs are the negative effects/demerits arising from the decisions. With regard to the adoption of OCA, scholars and analysts have identified several benefits.

First and foremost, OCA encourages competition among the member states of a single currency region (like the GCC bloc) by creating collaborative mechanisms for

enhancing the potentials of these member states and their capacities to improve the wellbeing of their citizens and to cut down the indebtedness. At present, the GCC countries states have not established strong economic system yet. Official report in 2001 indicated that crude oil dominates exports from the GCC bloc, accounting for almost 88% of the total exports in 2000, while the region depends heavily on the import of basic machinery and transport equipment (39.5%), manufactured commodities (17%), food and livestock (15%) and industrial chemicals (9%) (The Secretariat General – Economic Affairs Division, 2001). Another report in 2002 indicated that the oil sector provides one-third of the area's GDP and three-fourths of its government revenues and export earnings (Fasano and Iqbal, 2002). By adopting more openness in the GCC countries, through centralised monetary and trade policy, they will be able to access international markets more efficiently for exporting oil and oil-related industries, in which they have a comparative advantage over the rest of the world. Openness would further enhance the private sector competitiveness and improve its productivity and efficiency through better access to state-of-the-art technology and to other capital goods that would allow for the production of quality products for international markets (The World Bank, 2003).

Secondly, economic integration through OCA provides the benefits of openness and wider trade relations among member states and their citizens. This openness often covers travelling visas, transportation and other immigration-related issues (Cooperation Council for the Arab States of the Gulf, 2012). Openness also encourages capital inflow through foreign direct investment (FDI), a phenomenon that has been identified as a catalyst for economic development, when combined with sound monetary policy measures, expertise, quality training and the availability of advanced technology for enabling markets (Borensztein, De Gregorio and Lee, 1998).

On the strength of the above, OCA would also allow for massive capital inflows through regional investments from capital-abundant countries in the GCC into the capital-deficient countries. This stands in contrast to the present arrangement, in which massive oil wealth of the GCC countries is invested abroad. Several years ago, Henry and Springborg (2001) noted that GCC countries had over \$500 billion in foreign assets in developed countries. Inter-regional restriction of capital inflows accounts for this situation, which needs to be changed in favour of regional development within the GCC bloc.

Thirdly, the free movement of factors of production – and, especially, labour and capital – has numerous benefits, as it would allow for mutual beneficial relationships among GCC countries. It has been recorded that migrant workers moving in and out of the GCC bloc contribute over 72% of the total manpower requirements (labour force) and account for 95% of employment in the private sector (Al-Najar, 2001 cited in Al-Yousif, 2004). To aid the process of actualising stages four and five of the economic integration process in the GCC, there is an urgent need for a joint immigration policy.

Fourthly, economic integration engenders unity in monetary and financial policies across member states. The use of a single currency requires a single central bank above all the national central banks in the region and for the implementation of uniform monetary policy measures, which would be formulated by the central bank within the currency area (as in the EU model). A single currency area needs a single control authority for monetary policy.

The GCC Document (2013) states that the gains of single currency and monetary union are many and diverse as it will deepen economic integration and promote custom union while leading the GCC bloc to a common market. These gains

will impact positively on regional trade, tourism, institutional investment, capital market, financial market and other economic sectors thereby accelerating economic growth and development in the GCC countries.

Despite the benefits of OCA, there are some costs associated with its implementation. The major cost of OCA is the loss of independence by the monetary authorities of member states and the associated powers of monetary policies, exchange rate policy, trade policies and fiscal issues (McKinnon, 2004).

Similarly, Laabas and Limam (2002) noted that the fundamental costs of adopting a single currency include the loss of autonomy to a regional body and the acceptance of monetary policy measures developed by the union. However, Horvath and Komarek (2002) identified five costs that countries must contend with under an OCA.

The loss of autonomy over the issuance and control of a national money supply is the first of the costs to be borne by country seeking membership in an economic monetary union (EMU) under a single currency. This loss is compounded by the reality of heeding to one monetary policy directive, since member countries lose the ability to use exchange rates for the stabilisation of their economies. Consequently, member countries under a single currency achieve an effective trade-off, or policy mix, of unemployment and inflation.

Secondly, individual member countries have to bear the impact of independent fiscal policy measures left under the control of each country, which may conflict with the centralised monetary policy measures in each country's quest to control economic shocks.

Thirdly, embracing economic integration under an OCA implies a loss of seigniorage, which is the "revenue the government obtains by financing its budget

deficit through printing money rather than selling debt” (Horvath and Komarek, 2002, p14).

The fourth is that the fixed exchange rate regime that exists under an OCA implies costs for investment will be reduced because the transaction costs arising from multiple currencies are removed (Ricci, 2008). However, uncertainties and risks may drive up the costs on investment, thereby reducing the returns on investment.

The fifth cost relates to the socio-economic hardships that member country suffers after the complying with the policy environment of a single currency, one central bank and a fixed exchange rate regime.

Further arguments regarding costs indicate that the adoption of an OCA would heighten the possible risk of a crisis within the GCC bloc, such as the one, which was experienced by the European Union. Therefore, rather than fostering economic prosperity, an OCA can become an economic trap, leaving the GCC bloc as a collection of squabbling nations (Krugman, 2013). In practical terms, the adoption of the Euro as a single currency by member countries and the implementation of uniform monetary policy measures by the European Central Bank were at huge costs. This caused serious inconvenience for member nations because their respective monetary authorities/government could not formulate and implement national fiscal and structural policies to resolve the economic shocks that threaten financial stability in EU. A single currency area therefore implies loss of national monetary policy measures for central monetary policy measures (Cour-Thimann and Winkler, 2013).

The second classic example of a loss of autonomy over currency and monetary policy as happened in the Central Africa, in which six nations (Cameroon, Gabon, Congo, Equatorial Guinea, the Central African Republic and Chad), under the *Communaute Economique et Monetaire de l'Afrique Centrale (CEMAC)*, agreed to a

single currency called the Franc CFA with a fixed exchange rate of FCFA 656: 1 Euro (Mutasa, 2003).

From the foregoing arguments, it is clearly essential for aspiring countries seeking EMU to weigh the benefits, costs and risks before rushing into a single-currency zone. These considerations might be the reasons, which made the GCC countries to drag their feet from full economic integration with a single currency.

2.6. Issues Around Common Fiscal Policy With A Monetary Union

Ideally, a fiscal policy within a common monetary union is expected to control business cycle shock and a monetary policy shock. There are three forms of fiscal shock bring about the changes in fiscal policy measures of deficit-spending, deficit-financed tax cuts and a balanced budget spending expansion (Mountford and Uhlig, 2009). Fiscal policy is the use of government spending and taxation, which reflect a nation's economy. Discussion of fiscal policy focuses on the impact of changes in the government budget on the overall economy. Fiscal policy is said to be tight or contractionary when revenue is higher than spending, that is, the government budget is in surplus and loose or expansionary when spending is higher than revenue, that is, the budget is in deficit (Minarik, 2008). Fiscal policy within the GCC is a front-burner issue that would strengthen or weaken the actualisation of the objective of the regional block. Hanna (2006) reported that GCC Ministers of Finance, and the Committee of Monetary Agencies and Central Bank Governors met under that platform of the GCC Committee for Financial and Economic Cooperation to discuss the issues around common fiscal policy under a monetary union as well as agreeing on a set of convergence criteria for monetary union. The criteria were intended to be used as a barometer for measuring the readiness of member states for monetary union. At the end of the meeting, the GCC Secretariat asserted that the Eurozone's entry

criteria, or what is popularly called the Maastricht criteria represented that basis for deliberations among the GCC member countries.

The GCC member countries met in 2007 and agreed to five convergence criteria. The basic elements of the new convergence criteria are as follows: (a) Inflation rate shall not exceed the weighted average inflation rate of the member countries (weighted by GDP) by more than 2%; (b) Interest rate shall not exceed the average of the lowest three rates (3-month interbank rates) by more than 2%; (c) Foreign reserves shall be sufficient to cover at least 4 months of imports; (d) Public budget deficit–GDP ratio shall not exceed 3% as long as the average oil price is equal to or above US\$25, 12 5; and (e) Public debt–GDP ratio shall not exceed 60% for the general government and 70% for the central government (Khan, 2009). Comparing the five convergence criteria above with the EU’s Maastricht criteria discussed above, it would be observed that they look alike, except for an additional criteria called foreign reserve adequacy.

With regards to the fifth criterion on inflation was more problematic, as there was little evidence of inflationary convergence over the last decade. While for the fiscal policy harmonisation, the first two Maastricht criteria on fiscal sustainability assumed that the debts of the various GCC governments should stabilise at 60% of GDP. This was necessary, as it would serve a transparent process of avoiding interference with the monetary union’s macroeconomic stability in the region thereby avoiding negative spillover effects to other member countries. Furthermore, the GCC member countries set their respective budgets on a conservative oil price assumption that would generate surpluses for these six countries that will provide bailout in the periods of low oil prices. The implication of exclusive reliance on oil revenue for budget purposes is that, when oil reserves dwindle the GCC countries would be

seriously affected. Therefore in the long run, the six GCC governments must develop robust alternative sources for revenue. The projected depletion dates for oil reserves in the six countries is as listed: 2011 Bahrain, 2022 Oman, 2049 Qatar, 2077 Saudi Arabia, 2110 UAE, and 2121 Kuwait, while for the Gas reserves reduction in reserve is projected as follow: 2012 Bahrain, 2060 Oman, 2112 Saudi Arabia, 2139 UAE, 2191 Kuwait, and 2840 Qatar (Hanna, 2006; Hebous, 2006). For both oil and gas reserves, the Kingdom of Bahrain and Oman are at disadvantaged compared to others. Therefore, there is need for urgent economic diversification.

The GCC countries have also established public investment authorities with task of managing a proportion of proceeds for surplus thereby meeting needs of future generations. Within a stable fiscal policy environment when the exports and external financial assets of the GCC converge, the GCC countries face no problem. But, when the GCC exports and external financial assets become more diversified, a more flexible exchange policy would be required for competitiveness and stability. Pegging the prospective common GCC currency to a dollar-euro basket obviously would give a conservative transitional strategy toward a more flexible exchange rate policy (Abed, Erbas and Guerami, 2003). Therefore, the above addressed issues should be carefully investigated and clear plane should in place in the case of any economic shocks.

2.7. Literature Review on OCA in the GCC

The literature gives credit for developing the OCA theoretical construct to the Nobel Prize winner in Economics, Mundell (Coy, 1999) for his remarkable work on OCA in 1961. He proposed the idea in the 1960s for nations that coexist within the same geographical area to unite and enhance the economic potentials adopting a single currency, rather than proliferation of currencies. Other researchers argued that

the credit for conceptualisation, development and articulation of OCA is to be shared by three Economists namely: Mundell (1961), McKinnon (1963) and Kenen (1969) (Bayoumi and Eichengreen, 1997; Dellas and Tavlas, 2009).

Krugman in 1993 asserted that the OCA is highly beneficial and should serve as the basis for international monetary economics. On contrary, (Coy, 1999; Buiters, 2000) argued that OCA is one of the defective theories that emerged in the field of monetary economics after the World War II; and that the OCA proponents placed significant emphasis on the supply-side of economics, which has had an effect on European Union.

The GCC Document (2013) states that a single currency in the region has several advantages, which include the benefits of Customs Union and GCC Common Market. The socio-economic impacts include Intra-GCC Trade, boosting of tourism and cross-country investments, enhanced financial services and expansion of the capital markets, which would increase economic growth and accelerated financial market development. The single currency eliminates the risks associated with exchange rates fluctuations; deepens the common market, contributes to the integration of capital markets (securities market) thereby improving the stock market fundamentals. In trying to provide answers to readiness of the GCC countries for a single currency area several studies have been undertaken with useful findings and recommendations. The literature review is divided into three subsections the first one considers the historical studies on OCA in the GCC bloc. The second subsection focuses on the empirical studies on OCA before and after the 2008 financial crises. In the third subsection the previous studies that have been investigated the political factor in the context of OCA in GCC bloc are reviewed.

2.7.1. Previous Studies on the Historical Factor

There are many studies that have investigated the history of the gulf area in terms of the development of the Islamic currencies. However, none of these studies considered the link between the history of the single currency in this particular area and the OCA theory. In this section, most of these related studies are critically reviewed. When gold was discovered at some point in human history, it became a precious metal, which coveted and hoarded by kings, emperors and affluent merchants in the medieval period (Mundell, 1997). At this period, the gold is co-existed with silver and both of them globally reckoned as precious metals used as means of exchange for business transaction in different parts of the world including the Muslim nations. This phenomenon is known as bimetallism in the economic literature (Chapra, 1996). When the monetary system advanced, the bimetallic currency system was abandoned and replaced by mono-metallic currency, which is an exclusive use of gold for financial exchange (Chown, 1994). The exclusive use of gold as a currency system, a medium of exchange, a unit of account, and a store of value was failed at some point in human history. With a sustained growth in human knowledge and technology, people developed different commodities for currencies to facilitate exchange, which were backed by gold (a phenomenon latter known as the gold standard).

From monetary and fiscal policy viewpoints, the adoption of Dinar and Dirham as the official currencies systems during the time the Prophet Muhammad was based on the fact that gold and silver currencies are assets money (i.e. not representative money). These currencies were adopted as a medium of exchange and they have guaranteed stability by the influence of the law of demand and supply (Lewis, 2007). Also, gold currency is free from the phenomenon of rise in the general

price level of inflation, or speculation leading to usury, doubt gambling and other speculative practices common in the conventional monetary system (Yaacob, Ahmad and Zabaria, 2011). It is very clear that GCC countries have a significant link to the Islamic culture and history. The monetary system in GCC countries is credit-based, which means the central bank practically has unlimited ability to expand the money supply in order to prevent a deflation in the economy. The central bank prevents deflationary situation by always inflating the money supply, in such a manner way that would not trigger and/or aggravate inflationary problem (Saville, 2008). Historically, the GCC, a regional trade bloc among Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE, announced in 2005 its commitment to create a single common currency by 2010. The need for a single current union is economically desirable for larger companies within an economic bloc with barriers/impediments to free trade. To boost and encourage increased integration in the region, the GCC announced its intention to embrace a common currency to facilitate trade among member countries in the region. In the same period, the Gulf Arab central bankers in the region agreed to pursue monetary union similar to the European Union. The Gulf central bank is designed to be independent from the governments of member countries (AME Info, 2005). As the process of common and monetary union progress, the global financial crisis impose new problems for the GCC initiative, as pressure the member countries were forced to drop their currency pegs as inflation accelerated above 10% in five out of the six countries. Consequently, all the member countries except Kuwait peg their currencies to the dollar follow the interest rate set by US Federal Reserve (Agencies, 2009). A monetary union is believed would be successful in the region because the member countries have uniting factors and it has been argued that GCC's monetary is the most homogenous across the globe (Khan, 2009).

Previous studies have not investigated this kind of link and the fact that the Caliphate, which included the area that includes the GCC countries had a single currency. The single currency project in GCC is therefore linked to the culture and the history of the region. This motivated the researcher to investigate this relation in the context of OCA in GCC single currency project.

There were several historic events, which extremely affect the move from single currency to many different currencies in the Islamic Stat. One of these historic moments is Armenian genocide, which considered to be an important part of Muslim history that effected the change to many currencies. It is recorded that Armenians in the Ottoman Empire suffered in the World War I, as the Ottoman strategically massacred the Armenians in what historian called Armenian genocide (Melson, 1992). In 1914, the Turks entered World War I on the side of Germany and the Austro-Hungarian Empire. Because of the activities of the Armenians, Turkey viewed as it against the interest of this Muslim-dominated nation. The Ottoman religious authorities declared holy war, against the Christian Armenians as they organized volunteer battalions to help the Russian army to fight against the Turks in the Caucasus region. In 1915, the Turkish government expelled and massacred Armenians living in the Ottoman Empire. Though reports vary, most sources agreed that there were about 2 million Armenians in the Ottoman Empire at the time of the massacre. By the early 1920s, when the massacres ended, some 1.5 million of Turkey's Armenians were reported dead. Today, most historians call this event a genocide premeditated to exterminate an entire people. However, the Turkish government does not acknowledge these events (Akçam, 2006). Although the Armenian genocide has not been given the same consideration and attention as the Jewish Holocaust, yet this dark side of human history still haunts the Western world

in the light of other genocidal killing such as those in Bosnia and Darfur (Dadrian, 2003).

After the World War I, the Allies defeated Turkey. It was made to sign two peace treaties – Treaty of Sèvres and Treaty of Lausanne. The Treaty of Sèvres, signed by the victorious European powers and the Ottoman state on 10 August 1920, prescribed the creation of an autonomous and independent Kurdish state as contained in Articles 62, 63, and 64 of Section II of the treaty (Ataman, 2002). The Treaty of Lausanne explicitly provides for renunciation by Turkey of all rights and title whatsoever over or respecting the territories situated outside the frontiers laid down in the present Treaty and the islands other than those over which her sovereignty is recognised by the said Treaty, the future of these territories and islands being settled or to be settled by the parties concerned. The renunciation by Turkey of all rights and titles over Egypt and over the Soudan will take effect as from 5th November; 1914. Turkey hereby recognises the annexation of Cyprus proclaimed by the British Government on the 5th November 1914. Without prejudice to the general stipulations of Article 27, Turkey hereby recognises the definite abolition of all rights and privileges whatsoever which she enjoyed in Libya under the Treaty of Lausanne of the 18th October, 1912, and the instruments connected therewith and the complete abolition of the Capitulations in Turkey (Treaties of Peace, 1023; Oran, 2007).

Arab revolt is a political agitation for regime change fuelled by frustration, poverty and hopelessness suffered by segments of the society, a phenomenon described as Arab Spring. The Arab Spring started in Tunisia on 18th December 2010 following Mohammed Bouazizi's self-burning due to molestation, dehumanisation and ill treatment from the nation's security agency (Raimi, 2013a). The revolt in Tunisia systematically brought down the regime of President Zine el Abidine Bin Ali

(Central Intelligence Agency, 2013). The unprecedented success achieved in Tunisia encouraged and motivated similar protests in the Middle-East and Arab Gulf countries such as Libya, Jordan, Egypt, Bahrain, Syria, Yemen (Raimi, Patel, Adelopo and Ajewole, 2013). Related revolt was the six-week bloody political standoff between the Muslim Brotherhood and the armed forces of Egypt sequel to coup that ousted President Mohammed Morsi (Taylor, 2013). The Arab revolt has sent a signal to the GCC countries in particular and Arab world in general to accelerate economic and social development in their respective countries in order to avert recurrence of revolt.

2.7.2. Previous Studies Before/After the 2008 Financial Crises

Laabas and Limam (2002) found that the GCC countries do not have the essential pre-conditions in place for sound embedment of a currency union (CU). Firstly, the two things that appeared to have favoured a common currency area are the commitment to a fixed exchange rate and political will to embrace economic integration. However, the rest fundamental pre-requisites had not been met yet. The production structure across the GCC countries is similar as oil wealth is the mainstay of all of them. Secondly, there is a very little intra-regional trade as they all produce the same commodities. Thirdly, there was some degree of convergence of the macroeconomic fundamentals of the GCC countries. For an enduring single currency area or currency union, they recommended immediate lifting of all restrictions to allow for free movement of goods and other factors, thereby promoting more intra-regional trade. For convergence of macroeconomic fundamentals, there was a need to create a GCC central bank and a related financial institution (supranational institution) that would formulate and implement fiscal and monetary policy measures for the region. Individual countries must surrender their national interests for greater regional interest.

Sturm and Siegfried (2005) assessed the single currency when it was planned for 2010 and the level of preparedness for a single currency, and found three key macroeconomic and institutional issues that required the urgent attention from the GCC countries. These included;

1) Need for a supranational GCC monetary institution to coordinate a single monetary and exchange rate policy within the monetary union towards the actualization of economic, monetary and financial stability in the region;

2) Need for fiscal convergence – a phenomenon where the fiscal policies of member countries are harmonised. This complement the gains of monetary convergence; and

3) Need for sound policy to promote structural diversification in GCC economies as members at present have high structural convergence in terms of products and services. The implication of the development is that countries with similar economic structures and tradable goods/patterns are unlikely to cope with asymmetric shocks, which is one of the key benefits of adopting a single currency area in the first place.

An earlier study by Badr-El-Din (2005) investigated the cost/benefits of a monetary union in GCC bloc by testing the degree of convergence. The study used five tests, which are Convergence test, Flexibility test, investment test, financial services test and Growth, stability and employment test using the guides of the United Kingdom's policy decision on the European Monetary Union. These five tests were selected because of its aligns with the GCC's policy objectives in a monetary union. The paper found elements and types of convergence, but for the future the GCC countries need to diversify and specialise on the basis of their endowment factor to wipe out the current convergence. Besides, the absence of fiscal policy flexibility,

there is limited labour market flexibility and FDI, but the financial market is most likely to benefit from the monetary union agenda.

Similarly, a study carried out by Hebous (2006) examined the main characteristics of GCC countries in readiness for the introduction of a single currency in 2010. Different aspects of the structures for readiness were examined ranging from pattern of trade, the monetary issues, and the fiscal arrangement. The study found that there are large similarities among the GCC countries, a situation that would help reduce the costs of introducing a single currency. Secondly, small trade relations take place among member countries possibly because of similarity in the production structure, which has a negative impact as low intraregional trade reduces the economic benefits of a single currency.

However, Buitre's (2006) studied questions the desirability of monetary union among the six members of the GCC. From the lenses of economics and political economy, the paper found that there are several benefits ranging from unrestricted movement of goods, services, financial capital, and human beings as labour. Apart from mobility, monetary union would forge political integration. The political argument of integration requires supranational political institutions including a central bank to coordinate the activities of the GCC countries. Political integration requires surrendering of national sovereignty, which at the moment is elusive in the GCC countries. The empirical study by Pattanaik (2007) investigated the closeness of the GCC countries to the process of full economic integration of a single currency in 2010. The paper found that it is important that the GCC countries collaborate and have a single currency rather than proliferation of national currencies even though the pre-condition still has not been met yet.

In view of the debates on the viability of GCC countries embracing a single currency area in 2010, Pattanaik (2007) assessed the degree to which the GCC has met the requirements of an optimum currency area. The study found that firstly, GCC countries have similar economic structures due to a high degree of oil dependence and somewhat convergent business cycles. Secondly, they show a high degree of openness, which is an indication that there is a strong case for a single currency, centralised monetary policy and a common exchange rate. However, monetary convergence criteria showed that there are differences observed yearly in inflation rates across GCC countries, but the inflation differentials converge over time. The conclusion, there is a strong case for adopting a common currency in the GCC bloc. The benefits include a larger common market, intense competition, and enhancement of monetary and financial stability in the region, which will create a business environment that is favourable to trade and investment promotion.

Similar, a study by Alturki (2007) examined the feasibility of GCC bloc to form a single currency area according to the framework of nine OCA prerequisites. The study found that the GCC bloc has satisfactorily met a six out of the nine criteria, these include: openness, similarity of production structures, similarity of inflation rates, financial market integration, fiscal policy coordination, political power. However, the three yet to be met are mobility, diversification of production and price wage flexibility.

Reviewing the activities of the GCC countries, Kamar and Ben Naceur (2007) noted that GCC countries have progressed substantially within the framework of economic integration by achieving a free trade zone in 1981; the introduction of a custom union in 2005 and official commencement of a single currency had been fixed for 2010. On the strength of this progress, they used the Pooled Mean Group (PMG)

estimator to examine the impact of money supply, budget deficit, government consumption and degree of openness in each country on Real Exchange Rate (RER). The result confirmed that all the factors have a similar impact. However, a test of equilibrium exchange to assess the degree of exchange rate misalignment in each country from 1991 to 2005 reveals that misalignment converges overtime in all the countries; an indication of substantial coordination by the present institutional framework and exchange policies, but needed to be harmonised and improved.

Similar to the previous empirical studies discussed above, Naser (2008) investigated the effectiveness of GCC economic integration. Using descriptive and comparative analyses, the paper measured the progression toward monetary union by using indicators/integrators such as trends of trade, FDI inflows, joint venture project activities and technology. The paper found that the progression of the GCC countries towards economic integration is progressive and encouraging, but leaves gaps for substantial improvement.

A situational assessment of the gains of GCC by Khan (2009) revealed that formation of a monetary union had always been the main goal since 1981. At present, substantial progress has been made based on unrestricted intraregional mobility of all factors of production (labour and capital included), ongoing harmonisation of financial regulation and the establishment of a common market in 2008. The study noted that all the convergence criteria required for sound monetary integration have been met except the exchange rate regime for a single currency. Khan cautioned against adoption of US dollars because of the spillover effect of inflation and negative business cycles in the US in recent times. The benefit of shielding the regional bloc from economic shocks or contagion prevention is a key reason why countries try to form economic unions. To investigate the impact of such shock or contagion in the

GCC bloc, Suliman (2011) examined contagion and crisis spillovers in the GCC countries from 1960 to 2002. The study found that contagion from the US stock market crash and the Thai devaluation affected Saudi Arabia and later triggered a spillover to smaller GCC countries.

In a similar study, Kim, Hammoudeh, and Aleisa (2012) examined the impacts of external shocks from the US, EU, Japan, the international oil market and regional shocks to the GCC countries. Using a quantitative technique, specifically structural vector auto regression (SVAR), the study found that the US dollar and the euro currencies are more impactful on external shocks in the GCC bloc and should be used in the common basket of currencies in the region. Further empirical studies by Kandil and Trabelsi (2012) tested the desirability and feasibility of the GCC forming a monetary union with a single currency for the region. Applying the multivariate structural Vector Autoregression Model (VAR) from 1980-2006, the study found that the GCC countries are yet to meet the pre-condition for a successful currency union. However, UAE, Saudi Arabia and Qatar show greater potential for setting up a common currency zone. The authors also found that the degree of labour mobility, trade openness and intra-regional mobility are still below expectation, there is a need for improving the labor mobility, the openness, and the intra-regional mobility for a sustainable currency union.

Further study by Louis, Balli, and Osman (2012) assessed the costs of forming a monetary union among the GCC countries and leveraging on the economic potentials of other countries like the US and major European countries such as France, Germany and Italy. Using a quantitative approach, the study used econometric analysis variables such as oil output, non-oil output, total output, nominal/real price of oil and overall price level. Their findings indicated that aggregate demand shocks are

symmetrical across the GCC countries with US. However, there was no symmetry with other European countries. Secondly, the non-oil aggregate supply shocks are asymmetric, but oil aggregate supply shocks are mostly symmetrical when the real price of oil is included. The implication of the study was that it aligns the presumption of some researchers that GCC countries have common oil shocks, which may make it easy for them to form a monetary union with single currency.

Recently, Aloui, Hkiri, Nguyen, and Hamida (2014) investigated if the GCC countries have fulfilled the basic requirements for creating a monetary union by examining the synchronization of real growth in the GCC countries with other non-member nations in the GCC bloc. The paper found that the real growth rates in the majority of the GCC countries co-move with one another over the short and medium terms. Besides, two major countries in the GCC bloc, Saudi Arabia and the UAE manifest similar growth cycles compared with other countries. Considering the controversy surrounding the over-delayed single currency of the GCC countries, Basher (2015) critiqued past efforts in terms of benefits and costs. The paper viewed the single currency is a viable option following the current systematic adoption of exchange rate regimes (pegged currencies). Although many studies investigated the economic factors, which effect the adoption of single currency in GCC bloc, most of these studies focused on only some factors and mostly are out of date, hence there is a need to investigate all factors that have a significant effect on the single currency with more updated data.

2.7.3. Previous Studies on the Political Factor

From a political economy perspective, Patrick (2011) appraised the current political situation is playing a big role against the formation of a monetary union and the adoption of a single currency by GCC countries. Ideally, the economic

consideration is the first process that is complemented by the political consideration. In the case of GCC bloc, the political consideration took a centre stage, which was out of their control. Patrick's analysis underscored the fact that although GCC countries agreed to have an economic alliance to counter the increasing security threats arising from Iraq and Iran. The study showed that specifically Saudi Arabia needed this alliance to curb the other Arab Gulf states from forging an alliance with Iran and Iraq. Secondly, although the alliance is political, the leaders emphasised the economic cooperation using coordination, integration and interdependence. Thirdly, the GCC countries have fear of surrendering their national sovereignty to a loose regional political cooperation. Finally, Patrick found that the process of monetary union formation in the GCC bloc was founded by ruling families, which lacks democratic tradition on devolution of power and authority with the implication that it became very difficult for them to surrender their national interests to supra-national institutions. Cooper (2003) made similar conclusions, that full economic integration in GCC was delayed because of its political formation, which was premised on the intention to limit the potential pressure from Iran and the Soviet Union in the Gulf region. From the previous discussion, it can be clearly seen that the political factor has not been integrated with the economic pressures by most of the researchers.

2.8. Evidences on Feasibility of a Single Currency Agenda

From the above discussion in section 2.6, the previous works on a single currency agenda confirmed the importance of adopting the single currency in the GCC bloc, but the six countries have not fulfilled all the pre-conditions in the open currency area (OCA) criteria. In clear terms, the literature review described the fulfilment of OCA criteria by the GCC bloc was varied depending on each member and ranges from poor fulfilment of OCA criteria up to satisfactory fulfilment.

At present many of the GCC countries have made modest attempts to fulfill the pre-conditions. Politically, the willingness to have a single currency is demonstrated in rhetoric, inter-ministerial meetings and regular release of communiqués re-stating commitments to the agenda. However, the literature review showed that there is mutual suspicion, fear of domination by stronger member countries (these two points were supported by the research discussed in chapter 7) and more importantly, the royal families ruling the GCC countries lack democratic tradition and find it very challengeable for them to surrender to supra-national institutions.

The political factors outweigh the economic factors with regards to delay in adopting a single currency. It can be argued that a single currency agenda has several benefits and of course a number of associated costs. For example, the adoption of the Euro as a single currency and implementation of a uniform monetary policy measures by the European Central Bank had huge costs, which “create disincentives for individual governments to properly tackle fiscal and structural policies as well as to safeguard financial stability” (Cour-Thimann and Winkler, 2013, p2).

2.9. Political Discourse on Formation of GCC

The regional blocs and other international organization usually are formed for the economic and/or political cooperation. However, Karns and Karen in 2004 argued that regional blocs formed by statutes, charters and treaties by more than three nations is a global governance and a conscious attempt to take politics beyond the national political contestation. The proposed adoption and the delay in the GCC are deeply due to a political issue rooted in the regional and the global events that defines the history of the GCC countries. The need to maintain regional security and sustain the military capability in the Gulf region influenced the formation of GCC in 1981. The six

member states intended to pursue unified economic, military, cultural and social policies in the Gulf region. Therefore, the GCC's economic objectives are intertwined with political exigencies. The above assertion is not only related to the history of the Gulf region but also continues with current geo-political tensions in the region.

According to Abdulla (2010) the historical turning points of the GCC countries passed through series of events. The first event commenced with the oil discovery of the 1950s. The second phase is the formation of new Arab states such as UAE in 1971. The third event is the emergence of oil boom of 1973. The fourth event is the turbulent years of the 1980s (the war between Iraq and Iran). The fifth phase is the establishment of the GCC in 1981 to promote political, financial and monetary integration in the region. The sixth event is Iraq's invasion of Kuwait in 1990 and its attendant consequences. The seventh event is the era of globalization in the 1990s. The eighth phase is the tragic events of 11 September 2001 (the hit of the twin trade towers), which exposed GCC countries to severe global scrutiny.

Therefore, discussing the desire to seek socio-economic change in the region without political factor is misleading and insufficient. In spite of the efforts and resources committed to the commencement of a single currency union, the idea has not been materialised, because the prevailing socio-political realities in the region still point towards the intent for continuity and preservation of the old tribal and conservative society even though there is willingness for change (Abdulla, 2010). Political unrest in the Middle East, which hit directly and indirectly GCC countries and tensions in Libya, Syria, and Yemen are still contributing to the delay of the starting the single currency.

Taking into account the above described status, the GCC bloc is the main bloc in the Gulf region, which has determination to achieve incrementally full economic

and monetary integration due to noticeable political stability, incredible engine of prosperity, moderate national ideology (O'Sullivan, Rassel and Berner, 2008). These events are reshaping the region's geo-economics, geo-politics and setting off the process of the Gulfanisation in the Arab world (Abdulla, 2010).

Another hidden political factor, which is underplayed by the policymakers who are in charge of GCC bloc is to maintain military and security capabilities. Prior to the formation of GCC bloc, Britain as a dominant super-power with sophisticated military capabilities used to provide the required security support and also served as the sole arbiter of boundaries in the Gulf region. Therefore, Britain's exit and the removal of its direct military presence in the Gulf in 1968 created a vulnerable power vacuum and left the GCC countries politically fragmented. The immediate task confronting the vulnerable oil rich GCC countries is to fill the gap left by Britain; they consequently formed the GCC to protect their socio-economic and political interests and deal with the political, social and economic intricacies with the world (Wilkinson, 1994; Crystal, 1995; Abdulla, 2010).

Pinfari (2009) stated that two political threats that necessitated the establishment of the GCC bloc. The first was the fear of the regional ambitions of Iran under Shah rule and Iraq after their dispute on the Shatt-el-Arab. The second threat was the spread of Iran's Islamic revolution to the region. To counter these political threats, the GCC integration charter was swiftly drafted and ratified by the GCC countries. With regards to Iran's ambition in the region, Iran occupied three UAE's Island of Abu Musa, the Greater and Lesser Tunbs. Despite diplomatic negotiation, the policymakers in Tehran consistently refused to relinquish the control over the three islands. UAE within the GCC explored the opportunity to restrain Iranian expansion in the southern Gulf through an integrated military effort with Iraq lured into the

Gulf military strategy for a balance of power as the UAE's and GCC military forces cannot counter the security threat of Iran (Foley, 1999)

With regards to Iraq's invasion of Kuwait on 2 August 1990, Abdulla (2010) explained that the incident confirmed the vulnerability of the Gulf region and the need for more cooperation. The invasion raised concerns about the territorial integrity and political viability of the GCC bloc, exposing its vulnerability and the need for proactivity to stop Iraq's ambition in the region. Therefore, the formation of GCC was politically motivated to counter the military adventurism of both Iran and Iraq in the region, but the economic consideration was much more obvious (Patrick, 2011).

The phenomenon of Arab spring, which started in Tunisia in December 2010 triggered a series of unprecedented demonstrations in Egypt, Libya, Yemen and Syria. The political impacts of Arab spring have shaken the foundations of a variety of Middle East regimes especially the monarchies in the GCC states (Berger *et al* 2012).

To conclude it is the hidden political factor that inhibits the actualisation of a unified common currency in the GCC bloc and the associated monetary and financial integration. This hidden factor needs to be taken into account when discussing why the uptake of the single currency agenda in the GCC has been prolonged. The political factor seeks to improve the military and security capabilities in the Gulf region and the entire Middle East. The events of the Arab Spring confirmed this reality as the GCC countries and non-member Arab states cooperated and collaborated to suppress the Arab spring in their determination for durability of their authoritarian regimes (Bellin, 2012).

The citizens' lives within GCC countries have been unevenly transformed, with some of these countries developing faster than others in strategic areas such as education, health, gender balance, population, agriculture, manufacturing, private

sector employment, and exports. The capitals and cities in the GCC countries have also seen improved infrastructural developments and advancement of small and medium enterprises and large multinational companies, which needed to be strengthened for the region to compete effectively at the level of international trade (Al-Rawashdeh, Al-Nawafleh and Al-Shboul, 2013).

Furthermore, the Gulf region faces political, economic, social and environmental challenges and these have raised a pertinent question on the desirability of OCA as well as its capability to redressing the above challenges. The World Economic Forum (2008) reports that Gulf countries were spending in excess of US \$1 billion a year in costs and charges to support the direct trade amongst them. The same report also mentioned that some Gulf countries are lagging behind in terms of economic development because of lack of price transparency and mutual suspicions. Therefore, the use of a common currency is expected to mitigate the highlighted challenges and facilitate more developments amongst GCC countries and assist to develop the vital role of prominent Arab financial and economic development.

A common currency is further expected to promote cooperation and development, especially of small and medium sized enterprises. The need for OCA becomes inevitable as the trade and the international investment policies are the main policy problems facing governments in the contemporary times (Willett and Auerbach, 2009). This could be better resolved by strategically uniting countries under a single currency and the centralisation of monetary policy among countries within the same region because the issue of “monetary policy is central for overall economic strategy in an economic and monetary union because of its control over the money stock” (Jovanović, 2005, p89).

2.10. Summary

This chapter reviewed the previous studies that have been carried out on the economic and the political factors, which affect the adoption of single currency agenda. The GCC countries located in a shallow basin and hold two thirds of the proven oil, which makes them have a growing international importance and relevance. This importance could make the GCC countries move forward toward economic integration process. There was a phenomenon of forming economic blocs around the world such as (NAFTA), (EU), (ECOWAS) and (AU). These kinds of unions inspired the Arab gulf countries to form the GCC bloc.

The GCC was formed aiming to achieve the economic integration, which make the countries come together for the mutual economic benefits and to protect their economic and political interests from incursion by other regions or blocs. In order to achieve the economic integration there are five stages should be implemented. Some of these stages are custom union, free trade area. The economic integration made the GCC counties to plan for a single currency through OCA. In the context of GCC bloc, the OCA allows the usage of a single currency for all GCC countries with maximum economic efficiency and minimum costs. Although the OCA has some impact cost on the interest of individuals in the bloc but the economic benefits of OCA overweigh the cost such as economic integration engenders unity in monetary and financial policies across member states. Furthermore, the four alternative exchange rate systems were examined, namely: (a) Pegging to the Dollar, (b) Managed Floating, (c) Basket peg and (d) Pegging to the Export Price of Oil.

In this chapter, also the empirical studies on OCA were critically reviewed before and after the 2008 financial crisis. The review revealed that some studies suggested that the before forming a single currency union there are some

preconditions should be met first. The main preconditions are political agreement and economic integration. Based on the critical review of previous studies there were clear evidences, which support the significant benefits from forming the single currency agenda. One of these evidences stated by The GCC Document (2013) states that a single currency in the region has several advantages, which include the benefits of Customs Union and GCC Common Market. The socio-economic impacts include Intra-GCC Trade, boosting of tourism and cross-country investments, enhanced financial services and expansion of the capital markets, which would increase economic growth and accelerated financial market development. The single currency eliminates the risks associated with exchange rates fluctuations; deepens the common market, contributes to the integration of capital markets (securities market) thereby improving the stock market fundamentals and another evidence stated by Hebous (2006) The study found that there are large similarities exist among the GCC countries, a situation that would help reduce the costs of introducing a single currency. Secondly, small trade relations take place among member countries possibly because of similarity in the production structure, which has a negative impact as low intraregional trade reduces the economic benefits of a single currency.

To sum up it is very clear from the critical review of the previous studies that there is clear evidence that OCA will benefit all the GCC countries economically. Hence GCC countries should carefully plan how to move forward toward the single currency union with maximum benefit if the political factors can be resolved. In next few chapters the OCA will be investigated and evaluated through quantitative and qualitative studies.

Chapter Three

History of a Single Currency in the Gulf States

3.0. Introduction

The previous chapter presented the literature review from two perspectives, namely, the empirical studies on OCA before and after the 2008 financial crises and political factor in the context of OCA in GCC bloc with a brief review on the historical factor. This chapter continues to explore the history of a single currency in the Gulf countries in more details. There is a widely held presumption that the national currencies of the GCC countries are strongly connected to Islamic cultural norms and values back to Prophet Muhammed era. This motivated us to explore further OCA theory and expand it to include a new factor, which is the history of the region with regard to single currency. This chapter provides critical historical study that supports or refutes this concept and clearly shows how the historical factor has been added to the OCA theory and its effect on the single currency project of GCC. Also the evidence that proves the single currency in the GCC countries is the normal, case whereas the multi currency is exceptional case is clearly presented.

The aim of this chapter is to evaluate the effect of the historical factors on achieving a single currency in GCC bloc. In section 3.1 the overall historical aspects of the single currency starting from early days of the first Islamic state up to the present days were addressed. The Gold Currency System, the Dinar Currency System in Period of the first Islamic State are discussed in section 5.2 while the history of Dinar during the Period of the four Caliphs (Khaliph's) and Kings is explored in section 3.3. The recent calls for adopting the Gold Dinar as monetary system was reviewed in section 3.4. Section 3.5 is about the OCA theory with Historical factor. Finally, section 3.6 concludes the main findings that have been reached regarding the

single currency agenda in the Islamic history. This places the historical and cultural context that is region specific and is missing from earlier studies as discussed in section (2.7.1).

3.1. The History of Single Currency

In the Muslim world, the use of an independent currency by each province or state is relatively new. The prevalent currencies in the first Islamic State (which was founded by prophet Muhammed in Madinah) were Dinar (gold) and Dirham (silver). Dinar is a gold coin used as official currency during the period of Islamic civilisation, whereas the Dirham is silver coin, which substitutes and complements the Dinar (Samad and Hassan, 1999; Siegfried, 2001; Raimi and Mobolaji, 2008). Since the first Islamic state in Madinah until the end of Ottoman Empire (during 1920s) the Dinar currency alongside with the Dirham were used. The Dinar that was in circulation during that period and it was a metallic round 24 carats gold coin, weighing 4.25 grams (Yaacob *et al* 2012).

After the balkanisation of Ottoman empires into smaller Muslim states during 1960s; these countries independently adopted different currencies, but some of them still making use of the Dinar and the Dirham as a currency name for their monetary due to religious, cultural and emotional imperatives effects. Some examples of Muslim countries that retained Dinar and Dirham for monetary imperative include: Kuwait (Kuwaiti Dinar), United Arab Emirates (UAE Dirham), Bahrain (Bahraini Dinar), Libya (Libyan Dinar), Morocco (Moroccan Dirham), Iraq (Iraqi Dinar), Algeria (Algerian Dinar) and Tunisia (Tunisian Dinar).

However, all independent Muslim countries tried to maintain their Islamic heritage in economic, religious, cultural and emotional relationships through the formation of different blocs such as the League of Arab States (Arab League), the

GCC, Mediterranean Free Trade Area (MFTA), the Arab Maghreb Union (AMU), and the Greater Arab Free Trade Area (GAFTA) (Al-Saud, 1997; Lawson, 2012).

In the Middle-East and North Africa (MENA), the Muslim countries faced a poor economic performance traceable to low quality of administration in the public sector and a very low public credibility. These poor performance dimensions compelled the MENA to rethink the need for more openness of its political and economic institutions (The World Bank, 2003). To forge better integration, the MENA and GCC opted for economic and political integration.

Gold has played a central role in Western and Islamic currency systems because of the Theory of Superpower Influence (TSI). According to Mundell (1997), whichever country adopted the TSI, the currency of such country will influence the international monetary system. Huntington (1999) further explained that the emergence of a superpower as a powerful nation unilaterally dominates the mandate of resolutions for important international matters, while less powerful states have to comply with these resolutions even if it was against their interests.

TSI therefore explains a connection between the currency and the international power (super power influence), although the relationships between the two constructs is not clear, but the deducible fact is that a currency will not be valued and used internationally, if the issuing state/nation does not have a significant measure of economic and political influence in the world (Cohen, 2010).

The theory unveiled the rationale behind the influence that the United States' dollars has on other world currencies. At present in the global international economy, the foremost superpower is the United States of America. It has a great influence on the other powerful nations due to the strength of dollars at the level of international trade relations and politics (Mundell, 1997). When the TSI is applied to the single

currency agenda in the Gulf region, it could be argued that the agreement to have a single currency across the GCC countries is based on the strong belief that with a single currency in the region (as opposed to several national currencies), the region would be in a better position to assert its influence economically, diplomatically and politically among the community of nations at the level of international trade relations.

With specific reference to the GCC bloc, which is the focus of this study, the six founding members that shared social, cultural and religious similarities and agreed to form the Gulf Cooperation Council in Abu Dhabi. The GCC was based on three tenets, namely: 1) coordination, 2) integration and 3) interdependence. The three tenets of the charter are applicable to economic and financial affairs, commerce, customs and communications, education and culture among member states (Al-Saud, 1997; Patrick, 2011; Aljadani, Mear and Raimi, 2015b). Another important motivation for the formation of the GCC was the need to forestall the threat of the dispute on the Shatt-el-Arab between Iran and Iraq and also the fear of the spread of Iran's Islamic revolution in the region (Pinfari, 2009). In view of the overarching issues raised above, their existence in the historical connection between the Dinar currency system and the single currency agenda in the Gulf States.

3.2. Dinar Currency System in Period of the First Islamic State:

During the formation of the first Islamic state (Madinah and Makkah combined) under the leadership of Prophet Muhammad, the two currency systems were the Dinar and Dirham. These two currencies belonged to the Roman Empire and the Persia Empire, respectively (Heidemann, 1998; Yaacob *et al* 2012). Affirming the preceding fact, Siegfried (2001, p320) stated "at the time of the Prophet, Muslims used raw metal or Byzantine coins as money. And that gold (Dinar), silver (Dirham),

and copper (fals) were the three sorts of metal used for economic transactions”. Furthermore, the leadership of first Islamic state was less concerned in developing its own currency system because the state was in the process of nation-building, faith consolidation and development of Islamic jurisprudence on socio-economic and political issues. Hence there was no need to change the inherited currency system and the state recognised the Roman Dinar and Persian Dirham as the official currencies (Salam, 2005; Yaacob *et al* 2012). The prevalent currency system allowed gold and silver coins to circulate simultaneously unhindered. Exclusive use of gold alone as a currency system is a short-lived idea. Therefor the Dinar was converted to Dirham based on rate 1:10, which remained stable throughout the period of the first four Caliphs of the Prophet (Chapra, 1996). In other words, the convertibility ratio of Dinar and Dirham for the payment of tithe (Zakat) was 20 Dinars to 200 Dirham (Raimi et al., 2013).

The first Islamic leadership made far-reaching currency reform and guidelines to strengthen the exchange rate and the convertibility of these two currencies in Makkah and Madinah. This reform was necessary because both communities under the control of Islamic leadership had different exchange rate systems. Makkah was using the weighing system and Madinah was using the counting system, which created some confusion for traders and the public (Samad and Hassan, 1999). Consequently, to ensure free flow of trade and exchange, the Prophet directed that the citizens of Makkah should conform to the weighing system whereas citizen of Madinah should conform to the counting tradition system (Anwar, 2002; Yaacob *et al* 2012). In other words, the Prophet did not mean to mint a new currency but only ensured the stability and harmonisation of conflicting exchange rate systems between Makkah and Madinah (Yaacob *et al* 2012). It is worth mentioning that the two

conflicting exchange rate came due to two reasons. Firstly, the old Persian Dirham and Byzantine Dinar coins have very rough shapes, hence the users weigh them instead of counting as expected of any medium of exchange. Secondly, the people prefer weighting not counting because these coins were commodity money made from precious metals, which undergo wear and tear. Thus losing weight over time as a result of continuous usage for commercial transactions (Siegfried, 2001).

The GCC countries considered having a single currency union is smooth achievable aim due to the historical link to Islam culture. The prevalent currencies inherited and retained were Dinar and Dirham. The Dinar is a gold coin in use during the period of Islamic civilisation as the official currency, while the Dirham is a silver coin, which substitutes and complements the Dinar (Siegfried, 2001; Raimi and Mobolaji, 2008).

3.3. Dinar in the Four Caliphs (Khaliph's) Era and Afterwards

The four Caliphs (Khaliph's) (Abu Bakr Al Siddiq, Umar Ibn Khattab, Uthman Ibn Affan and Ali Ibn Abi Talib) who came after Prophet Muhammad continued with the use of Dinar as the medium of exchange. However, In the year 639AD (18AH) when Persia was conquered by Muslim, Khaliph Umar Ibn Khattab minted a new currency for Islamic state using the mold of the Persian bearing the quote of 'al-Hamdulillah/ Muhammad Rasulullah/ La ila ha illallahuwahdah' and the picture of the emperor of the Persian and the image of place on the coins were kept (Yaacob, 2012). Khaliph Umar Ibn Khattab initiated a reform on exchange rate between Dinar and Dirham by declaring 10 Dirhams are equivalent to 7 Dinars, and a Dinar weigh 4.25 grams of pure gold value, while single Dirhams weigh 3 grams of pure silver. It was also documented that Umar's name was engraved on some Persian Dirhams (Samad and Hassan, 1999).

However, Yaacob *et al* (2012) noted that a study by Al-Maqrizi argued that, Khalid ibn al-Walid the one who initiated the first change in Muslim's currency by issuing a new one in 635AD (15AH) with his name engraved on it. Al-Maqrizi noted that Khalid ibn al-Walid retained the Greek emperor's picture and the cross symbol on the currency and added his own name 'Khalid written in Greek as 'XAVED' on the new currency. Several Khaliphs of the Umayyad Caliphate and the Abbasid Caliphate continued the use of Dinar as a single currency, which represents “a symbol of strength and a Muslim's identity during the time of the caliphates until the fall of the Ottoman Empire in 1924” (Yaacob *et al* 2012, p348).

Further historical sings revealed that during the period of stabilisation, the Roman Dinar and Persian Dirham were kept but the symbols were replaced to be Islamic-compliant. The first minted Islamic Dinar and Dirham in Islamic history occurred in 696AD (74H) and 697AD (75H), respectively. Khalifah Abdul Malik ibn Marwan minted the first Islamic Dirham currency as a replacement for the widely used Persian Dirham. Islamic Dirham was weighed 6 grams and on one side of the coin, the inscription of the verse of Qur'an called al-Ikhlās was written, while the other side bore the inscription of the word Tawhid. In order to distinguish Islamic Dirham from the Persian version the Islamic version was named Al-Dirham Al-Islami (Anwar, 2002).

Other historical evidence showed that the currency reform of minting gold for Islamic state was traced back to the leadership of Muawiya Ibn Abi Sufyan 661AD-682AD (41-60H) and Abd al-Malik Ibn Marwan in 696AD (74H) or 697AD (75H) even though the prevalent Byzantine coins were still being in use for commercial transactions (Siegfried, 2001). In this era, the Islamic state had Dinar (gold coin) and

Dirham (silver coin) with known values and convertible exchange rates (Yaacob *et al* 2012). Figure 5.1.A below shows a picture (taken from British Museum, 2016) of the first gold Dinar used during the period of Abdul Malik Ibn Marwan (696/74AD). Figure 5.1.B depicts the last gold Dinar used by the Ottoman Empire before collapsing in 1924.



A: First Gold Coin in Islamic State	B: Last Gold Coin in Islamic State
	
<p>Source: (The British Museum, 2016)</p>	<p>Source: (Yaacob et al., 2012).</p>

Figure 3.1: Coins used During Islamic History

3.4. Revival of Gold Dinar as a Monetary System

The use of Dinar as a single currency in Islamic world ended in 1924 sequel to the fall of the Ottoman Empire (Yaacob, 2009). Thereafter, several attempts were made for the reintroduction for Dinar without any success. The call for the adoption of the Dinar as an official currency was renewed by Abd al-Qadiral-Murabit, the leader of the Islamic Association of Murabitun (the Murabitun World Movement) in 1992 (Yaacob *et al* 2012). The second coordinated attempt was traced back to Tun Dr Mahathir Mohammad, a former Prime Minister of Malaysia who proposed the gold Dinar system to be adopted in Malaysia. At this period, Malaysia was heavily hit by

the 1997/98 Asian currency crisis; therefore the policymakers contemplated returning to the era of using Dinar (often called gold-based monetary system). It was viewed as more stable and reliable to encounter the economic shock compared with the conventional non-gold-based monetary system. This proposal attracted heated debates in the policy plans in Malaysia and outside. Undoubtedly, the Dinar was the first currency of the Muslims across the Islamic world and all related economic activities (Yaacob *et al* 2012). Later in 2003, Tun Dr Mahathir Mohammad recommended the adoption of Dinar currency system for the Organization of Islamic Cooperation (OIC), arguing that the Dinar has historically proved its relative stability, but the members of OIC had mixed reactions to the proposal (Yaacob *et al* 2012).

From the previous discussion on Dinar currency system, it can be concluded that the move of the GCC bloc for a single currency agenda in the modern times is based on cultural, religious and stability imperatives. The implication of the above discussion is that the modern calls to form an economic and political bloc in the Gulf region have religious and cultural connections with the Dinar currency system that collapsed in 1924. This new call was not a call for the adoption of a gold standard system but it was a call for a single currency in the Gulf region, which driven by the theory of OCA. Although, the proposal is a very complicated, which requires a lot of preconditions and imperatives but the historical factor can be considered as one of the keys to ease achieving this goal.

3.5. OCA Theory with Historical Factor in GCC bloc

OCA theory was developed and introduced in the 1960s by Mundell, McKinnon and Kenen (Bayoumi and Eichengreen, 1997; Dellas and Tavlas, 2009). Since the pronouncement and development of OCA theory, it has been applied in many economic blocs such as European Union and Central Africa to investigate their

suitability for a single currency. In order to assess the suitability of OCA for a given region, the scholars from Europe, America, Africa and GCC have granted serious consideration to the economic and political factors (Poldermans and Philippe, 2008; Raimi and Mobolaji, 2008). However, the historical factor has not previously been included in the OCA theory to investigate the suitability for a single currency in any economic bloc. Whilst in many regions it is a coming together of countries with different histories and traditions while the case of GCC is the opposite, which easing many of the problems of a single currency. However, in the case of GCC bloc the historical factor has a significant effect on the readiness of GCC to form a single currency. Furthermore, the historical factor is very important for the GCC countries as it shows the share of other Arab countries with languages, cultural and religious compatibility with the local populations.

The historical factor binds the GCC countries together firmly and was evident even during the colonisation period. The historical national identity that has been symbolic in driving the GCC nationalists and leaders is based on the four foundations, land, people, time, and will to live together (Al-Khoury, 2010). This research fills the observed gap by adding the historical factor as a new dimension to OCA, which can be applied in evaluating the readiness of GCC bloc to form the single currency. Specifically, the research investigated the historical factor to understand the cultural, language, religious and customs that historically bind the GCC countries together and makes to potential adoption of a single currency smoother than any other economic bloc. This common dimension of historical factor can help the GCC bloc accelerate the adoption of a single currency. These findings confirmed the Proposition 1 as stated the Islamic culture and the history of GCC countries have a significant impact

in supporting the idea of achieving the single currency project. The main conclusion from this study is that the historical factor is a new context added to the OCA.

3.6. Summary

Chapter three provided deep insight into the historical evidence that support the assertion for a single currency has cultural and religious link in the history of the Islamic State. For not less than 800 years a single currency called Dinar served as the unifying medium of exchange across Muslim world. Colonisation and balkanisation of the Muslim world into small independent states made these nations adopt different national currencies within the last 90 years. The historical evidence discussed in this chapter shows clearly that Muslim world naturally had a single currency usage. Therefore, one of the GCC's agenda was to adopt the idea of introducing the single currency project. From the historical analysis to two main findings were deducted. GCC countries have strong connections with Islamic culture and religion, this connection provide them with natural motivation toward a single currency project similar to what has been used in the past for Muslim world.

The study revealed that the adoption of Dinar as formal currency was used during the first Islamic state the Dinar was minted from gold and the Dirham, which also minted from silver and these currencies are considered to be real asset money. Further historical studies revealed that during the golden age of Islamic Khalifa, the prevalent Byzantine/Roman Dinar and Persian Dirham were replaced with Islamically-compliant Dinar. In the study, an authentic evidence was obtained, which confirms that Khalifah Abdul Malik Bn Marwan established the first minted Dinar and Dirham in Islamic history. From the historical study and in my point view that it is very obvious the single currency had very deep roots back to Prophet Muhammad era. This kind of feeling and the sympathy with the Islamic culture results in several

calls were made for the reintroduction of Dinar without much success. Finally, the project of having a single currency was initiated by the GCC countries. This significant project faces economic and political challenges and issues that needs an effective attention by the GCC countries, which will be examined and investigated in chapters six and seven.

Chapter Four

Theoretical Framework

4.0. Introduction

The theoretical framework provides a structure that logically supports the adopted theory in the research. The discussion of theoretical framework presents economic and political theories that are relevant to integration process and a single currency agenda in the GCC countries. The chapter focuses on the theoretical framework for OCA based on the works of (Mundell, 1961), (McKinnon, 1963) and (Kenen, 1969) and the prerequisite factors for applicability of OCA are introduced. The research framework was designed according to these prerequisite factors. Furthermore, this chapter presents some criticisms of OCA and also the main empirical studies on the OCA theory in other blocs in the world were examined. Section 4.1 explains the conceptual issues: Economic integration and OCA. Section 4.2 looks at the adopted theory of this research the OCA theory and its factors. Section 4.3 the OCA modelling is introduced followed by section 4.4, which looks into the political theory. Finally, this chapter is summarised in section 4.5.

4.1. Conceptual Issues: Economic Integration and Optimum Currency Area

In this section, the definition of economic integration and optimum currency area are explained and discussed.

4.1.1. Economic Integration

The term economic integration has many definitions and applications; hence, there is a need for the clarity. Economic integration is broadly defined as the deliberate removal of all obstacles and discriminatory barriers for free trade and the free movement of economic factors within the countries that inhabit the same region

under an agreement of cooperation and coordination (Mutasa, 2003; El-Agraa, 2011). Another definition of economic integration is the removal of all trade impediments among the participating nations and the establishment of cooperation and coordination between them (Patrick, 2011). According to Mutasa (2003), economic integration refers to a form of unification between the states in the same region with the ultimate goal of promoting free movement of labour, goods and services and financial resources (capital) guided by harmonised trade, customs, fiscal and monetary policies. Furthermore, Raimi and Mobolaji (2008) defined the economic integration as putting the countries together for mutual benefits and to defend the economic and political interests of their region from incursion by other regions or blocs. From the previous conceptual definitions, the definition adopted for this research is the one provided by Raimi and Mobolaji (2008). The reason behind selecting this definition was; the definition clearly defines the basis of uniting the nations within the region and the basis of economic and political interests. The GCC bloc ratified economic integration treaty to consolidate the region's economic interests, but the integration process was delayed because of divergent political interests of member states. Mutasa (2003) identified five stages, or taxonomies, of economic integration, namely, trade zone, custom union, common market, economic union and political union.

The free trade zone is often the first and most common stage of economic integration; it entails allowing unhindered trade and the free movement of goods and services among members by removing trade barriers such as taxes and levies. The second stage is the custom union, which allows free trade among members and maintains common external tariffs and other trade measures against non-member states outside the union. The third stage is the common market, in which all members allow the smooth movement of the capital inflow and human resource inflow, while

each member retains its own power over its monetary and fiscal policies. The fourth stage of economic integration is the economic union, which is the main demand of the members. The economic union encompasses all other stages, in addition to a common monetary policy, a single currency, budgetary and fiscal policies and socio-cultural policies, which can boost the move towards the regional integration. At present, the GCC bloc is still struggling with the economic integration, which is the stage four.

The fifth stage of economic integration that most nations escape away from is the political union, which required the total unification of political institutions, governmental organisations and institutions under a common central body and provides directions to all members on all matters. For meaningful economic integration process, the political interest is very important and should not be ignored. Political integration is distinct from economic integration. According to Haas (1958), political integration is a process where states agree to pursue collective political interests with bearing in mind that all nations concerned downplay their individual national interests, expectations and loyalties for the central authority with far more superior powers, institutions and jurisdiction connotes over the states. Furthermore, Haokip (2011) defines political integration as the deliberate process of unification of heterogeneous groups and states with diverse culture and political interest under a single territory for the purpose of creation a national identity of a nation.

From the foregoing conceptual discourse, one of the main benefits of economic integration in theory and practice is the creation of a collaborative mechanism to improve the quality of life of their citizens and to tackle poverty and indebtedness. Moreover, economic integration fosters accelerated development among member states based on mutual cooperation and coordination. Integration allows for common regulations of economic, industrial and financial matters, which

would strengthen the economic activities of all member states. More importantly, economic integration encompasses a major political issue in the form of informal cooperation on matters of internal security, defense and peacekeeping and the presentation of common voice on global issues at the General Assembly of United Nations, the UN Security Council and similar international organisations. From the above, it can be surmised that the economic integration is likely to be precipitated by economic and political exigencies, as well as interests.

4.1.2. Optimum Currency Area

The term optimum currency area (OCA) has many similar definitions as presented in many published researches. It has been well established that the theoretical discourse on OCA was articulated by Mundell's (1961) and seminal work by (Adams, 2005). The term OCA was simply defined by Mundell (1968) as a region or domain within which exchange rates are fixed based on exigency of monetary union.

However, Mongelli (2008, p2) defined an OCA "as the optimal geographical area for a single currency, or for several currencies, whose exchange rates are irrevocably pegged. The single currency, or the pegged currencies, fluctuate jointly vis-à-vis other currencies." Another viewpoint on OCA is that it is a region that allows the usage of a single currency for maximum economic efficiency and for political leverage over other regions outside the OCA (Coy, 1999).

Similarly, Frankel and Rose (1996, p14) define OCA as "a region for which it is optimal to have its own currency and its own monetary policy." While Laabas and Limam (2002), agreeing with previous definitions and add that OCA refers to area or region that agrees to form a common monetary and currency union for mutual benefit,

with several implications for the governance and economic structures of the member states. The various definitions above are aligned with the view of Mundell (1968).

4.2. Theoretical Framework

Theory provides the grounding that shapes the direction of academic enquiry and the basis for testing tentative propositions. The theories that provide the foundation for this research are two; namely:

1) Theory of optimum currency area (OCA) and

2) Theory of political integration. It is worth to mention that the optimum currency area provides the theoretical foundation for the quantitative aspect of the research, while the theory of political integration strongly supports the qualitative aspect.

4.2.1. Theory of Optimum Currency Area (OCA)

Historically, it has been mentioned that Milton Friedman's work in the early 1950s articulated the significance of monetary integration, a view that predates the OCA theory as defined today (Dellas and Tavlas, 2009). The theory of OCA could simply be summarised as an academic debate over the superiority of fixed exchange rate and floating exchange rate within a region with many countries (Ishiyama, 1975). Mongelli in 2008 defines OCA as distinct geographical area where a single currency is being used, or a region where several currencies are being used but the exchange rates are pegged. Consequently, the pegged currencies and the single currency fluctuate jointly relative to other currencies outside the region. Even though, all the GCC countries pegged their currencies to US dollar except Kuwait it does not automatically mean that this area is suitable for single currency. Another definition of OCA is a region or continental area, which allows usage of a single currency for

maximum economic efficiency and political leverage above other regions outside the OCA (Mundell, 1961; Coy, 1999). Quite similarly Frankel and Rose in 1996 defined OCA as a region where the economic and social structures dictate that the approach to have a single currency with a centralised monetary policy.

Horvath and Komarek (2002) stated that OCA theory attempts to provide answer to the raging question: what is the optimal number of currencies ideal for a region with similar social and economic structures? It could also be viewed as framework designed to lead a region to monetary integration. Even though Laabas and Limam in 2002 agreed with previous definitions, but they added that OCA refers to an area or region that agree to form a common monetary and currency union for mutual benefits with several implications on governance and economic structures of member states. These implications include:

- 1) Monetary integration, which presupposes one single currency and a coordinating central bank with power of monetary policy measures on liquidity, inflation, foreign exchange reserves and interest rates;
- 2) Fixed exchange rates (currency pegging), meaning convertibility of member states' currencies with non-members; and
- 3) A financial market integration, which entails openness and the free inflow of capital transactions and centralized financial regulations.

According to Coy (1999), Mundell's OCA can be adopted only for regions or areas with similar economies, which allow for an embodiment of a single monetary policy. Within the OCA framework, two types of currency areas could be identified:

- (a) A currency area with several countries with their own national currencies (Model A); and

(b) A currency area with many countries with a single currency (Model B) (Mundell, 1961). Mundell justified the preference for the former (that is, Model A) on the grounds that: For a currency area with several countries and their different currencies, there could be a form on cooperation if the countries with surplus rate of employment are willing to cooperate with deficit countries to absorb the excess workforce from the surplus countries. This is the mutually beneficial relation, which provides the formation of optimum currency area for cooperating nations. The choice of an optimum currency area depends largely on the size of the regional disturbances, the causal relationship among these disturbances, the costs of transactions across currencies, factor mobility in the region and the interrelationships between demands for different goods. On the strength of the observation of Mundell for Model A, it is evident that OCA raises the welfare across countries within the union, while it lowers welfare across countries outside OCA (Bayoumi and Eichengreen, 1994).

However, for a currency area with many countries and a single currency, the rate of inflation is better controlled based on the willingness of central authorities to allow unemployment in deficit countries (Mundell, 1961). However, these two Mundell models have not been applied in this research as it is out of the scope.

An OCA has some economic costs and benefits associated with it during the implementation. The OCA essentially enhances the benefits of economic integration. On the cost of OCA, Laabas and Limam in 2002 noted that the main demerit is the loss of autonomy on monetary policy and regional currency. The first example is the European Union member nations that adopted Euro as a single currency and implemented monetary policy measures of the European Central Bank. This became a cost as the arrangements created burdens for individual government within the Union to take charge of their fiscal and structural policies individually to maintain financial

stability in their respective countries (Cour-Thimann and Winkler, 2013). The second classic example of loss of autonomy over currency and monetary policy is the case of Central Africa, where six nations Cameroon, Gabon, Congo, Equatorial Guinea, the Central African Republic and Chad under the *Communauté Economique et Monétaire de l'Afrique Centrale* (CEMAC) agreed to a single currency called Franc CFA (Mutasa, 2003).

Furthermore, on the cost of OCA, McKinnon (2004) contended that OCA has several benefits, but the fundamental cost associated with the single currency agenda is abandonment and loss of power over monetary policy measures. By joining a single currency area, a nation maintains same currency controlled by a central monetary authority in the region, which consequently means automatic surrender of controlling its own monetary policy. When such economy is subject to an external shock, it has no choice but to follow the central monetary policy of the monetary union. Countries with similar economic structures can respond to a common economic shock with a common monetary policy, and the costs of giving up an independent monetary policy are relatively low. In contrast, countries with heterogeneous economic structures require different policy responses to common shocks, and the costs of sharing a common monetary policy are relatively high, which results in such kind of economies are not suitable for OCA.

In spite of the ideas contained in OCA, McKinnon (2004) criticised the theory on the grounds that the lead proponent Mundell was inconsistent and self-contradictory on two of his works. For tackling economic shocks, he proposed smaller and homogeneous currency area, which allows for exchange rate flexibility in his 1961 treatise. However, in his later work in 1973, he proposed larger and the heterogeneous currency area, which allows for upholding asset holding for

international risk sharing. The adoption of the OCA by European Union was described as the bane of its economic crisis, which rather than fostering economic prosperity became an economic trap leaving Europe with squabbling nations.

Brackemyre (2014) explained that with regards to the OCA theory, there are two perspectives, namely: the traditional approach of OCA theory, which was proposed by Robert Mundell, Ronald McKinnon and Peter Kenen during 1960s and the alternative modern approach by several scholars in 1970s. More importantly, the traditional approach argued in favour of singling out specific, determining economic variables and uses those criteria to decide where the borders of OCA should be set. This traditional approach is hinged largely on economic framework, as the bedrock of OCA theory.

Whereas, the alternative approach adopted by countries within a region of the currency union is a fundamental decision that has political and economic implications. Therefore, decision by countries to be in the same currency union requires a more holistic strategy that does not start and end with few economic criteria. The alternative approach advocates defining OCA as the point where the marginal costs and benefits of joining such a union intersect (with underlining mutually beneficial terms and conditions in place). These costs and benefits are not limited to a few economic criteria and instead extends to a wide range of social, political, and economic determinants. Despite the criticisms launched against the two versions of OCA, the conclusion is that economic integration through the adoption monetary union is reparable as it makes possible opportunity to rectify or repair the problem of isolationism that national governance is often operationally faced with. Monetary union is a multi-governance system with many benefits that outweigh the few inconvenient costs (Mongelli, 2008).

However for the GCC bloc, the GCC Document (2013) states that a single currency in the region has several advantages, which include the benefits of Customs Union and GCC Common Market. The socio-economic impacts include Intra-GCC Trade, boosting of tourism and cross-country investments, enhanced financial services and expansion of the capital markets, which would increase economic growth and accelerated financial market development. The single currency eliminates the risks associated with exchange rates fluctuations; enriching the common market, contributes to the integration of capital markets (securities market) thereby improving the stock market fundamentals.

4.2.2. Criticism of OCA Theory and its Prerequisites

Since the conceptualisation of OCA theory and its popularisation in academic circles, it has contributed to the theory of monetary integration and exchange rate adjustment under economic disequilibrium especially in the formation of the European Union and its Economic and Monetary Union (EMU). It also provides a standard point of departure in discussions of dollarization and the creation of new monetary unions (Horvath, 2003). Even though the significance of the theory, but it faces several criticisms from researchers. The first criticism against OCA is that, the concept of integration conceptualised is vague as it was not clear whether it is a geographical or a political integration. The concept of mobility of factor production, especially labour can only be applied to a small region and not a large region of the contemporary. Labour mobility of the contemporary requires that labour be viewed as homogeneous in order to allow for perfect inter-country labour mobility and occupational mobility (Kenen, 1969). If there were a perfect labour mobility, then OCA would be applicable to the region (Horvath, 2003).

Furthermore, Mundell's definition of region under the OCA theory received criticism. Mundell (1961) described the region as geographical areas, which allow mobility, factor on one hand (among member countries within a single currency area), and which equally allow immobility (among non-member countries outside the single currency area) on the other hand. Looking at the vagueness of the definition, Grubel (1970) described it as inappropriate, misleading and possesses little practical relevance in the contemporary times.

Thirdly, the arguments that capital mobility with a common currency area can help mitigate and aid adjustment to asymmetrical shocks are faulty and unacceptable. According to Salant and Krause (1973) capital mobility may be feasible only in the short-run, but in the long-run capital mobility cannot resolve the adjustment to shocks for two countries within a common currency area for two reasons. Firstly, no sensible nation would embark on endless borrowing of capital from other countries to sustain the economic shock it is facing. Secondly, borrowing increases a nation's indebtedness to other nations; therefore making a nation less credit-worthy among other nations, affecting interest rates and sustainability.

Another fundamental criticism of OCA theory is that the theory is rooted more in political factors than the often advanced economic criteria/prerequisites. In other words, some OCA literature argues that OCA is more about long-term political commitment than economic criteria (Horvath, 2003). Ingram (1962) noted that within the OCA construct the economic consideration is less important or at least passive when nations decide on exchange rate arrangements. Therefore, economic definitions of optimal currency area and characteristics are dependent on the government's commitment to a single currency agenda.

In conclusion, Mongelli (2002) summarized the inadequacies of OCA theory and its prerequisites as inability to rank the OCA properties in order of importance. In spite of the constraints, price and wage flexibility and mobility of factors of production have been widely identified and acknowledged as the commonest in the OCA debates. Financial market integration at present only complements the process of fine-tuning the adjustment process in the monetary integration process. Inflation has had very modest status until the emergence of oil shocks. Economic openness and the diversification have indirect effects observable only through product and labour markets. The political will factor is very important and broad such that its effect encompasses the economic policy variables (especially fiscal and monetary policies). Political will means the will to reform economic and financial structures for economic integration, but the term has taken different meanings within different national and international context. Political will presupposes that, the GCC countries need to know that transition to a single currency union requires that governments of member nations to surrender to supra-national economic and political institutions including a central bank (that needs to be established independent to nations) to coordinate all regional activities in order to increase the intensity of political will, it is necessary for member countries to play the special role for its realisation through a unified economic, political and foreign policy measures; while at the same time avoiding suspicion and rivalry among member countries.

4.2.3. Criteria/Prerequisite Factors for OCA

The viability of the formation of a monetary union and the application of an OCA is based on critical conditions, or prerequisites, criteria or characteristics. In the literature on exchange rate regimes the prerequisites are eight in all as stated below (Mongelli, 2008). The eight prerequisites of an OCA were identified by Laabas and

Limam (2002) and Mongelli (2008) as: 1) degree of economic openness, 2) mobility, 3) degree of commodity and diversification, 4) similarity of the structure of production, 5) price and wage flexibility, 6) similarity of inflation rates, 7) degree of policy integration and 8) political factors. For the purpose of this study the prerequisites have been categorized into six quantitative and two qualitative prerequisites.

However, other researchers have simply noted that the adoption of an OCA within a monetary union is predicated on some prerequisite factors that help to mitigate the fallout from asymmetric shocks. These factors are: 1) flexibility of prices and wages, 2) intra-regional factor mobility, 3) openness to trade, 4) product diversification, 5) fiscal integration, 6) strong political will and 7) public support (Masson and Taylor, 1993). The relationships among the eight prerequisites of the OCA prerequisite factors are discussed below.

- 1) **Degree of Economic Openness:** This factor explains the degree to which an economy is open to international trade. A better off country has a greater potential to survive international trade and exchange rate instability than another economic country. Therefore it is more desirable for smaller countries to join a monetary union, which can allow them to enjoy openness while still being protected against trade fluctuations and shocks (Ishiyama, 1975; Saunders, Lewis and Thornhill, 2012).
- 2) **Mobility:** This factor presupposes that a country that allows free movement of productions within and outside its economy will do better in an OCA than a rigid counterpart. Mobility allows for self-adjustment among nations within a monetary union; thus, a nation with labour abundance offsets another nation

with labour deficiency, and the same holds true for capital inflow and outflow (Raimi and Mobolaji, 2008).

- 3) **Degree of Commodity and Diversification:** The more diversified the economies within a region, the more effective to establish a monetary union, since the union would protect the economies from external shocks. Consequently, the adjustment of exchange rates to cope with shocks would be unnecessary (Mongelli, 2008). In other words, diversified countries are well suited to monetary and currency union (Laabas and Limam, 2002).
- 4) **Similarity of Structure of Production:** In OCA, when faced with external shocks from international trade, economies with homogeneous or similar production structures are more likely to share the same experiences (that is, they are symmetric). This presupposes that these countries are less likely to adjust their exchange rates to mitigate the shocks. Economies with these characteristics are qualified for monetary unions and single currencies (Laabas and Limam, 2002; Mongelli, 2008).
- 5) **Price and Wage Flexibility:** Countries willing for an OCA require flexible nominal prices and wages within the currency union and among countries. This condition enhances the union's response to the market shocks, which could cause unemployment and inflation in some members. Therefore, the union does not need to use the exchange rate as an adjustment mechanism (Laabas and Limam, 2002; Mongelli, 2008).
- 6) **Similarity of Inflation Rates:** With a symmetric production structure, countries with similar inflation trends or rates are more likely to utilise similar monetary and fiscal measures to correct their inflationary challenges. Moreover, the lower or higher inflation rates in these countries could stabilise

the terms of trade fairly overtime. Thus, it is in the best interests of such economies to embrace a monetary union with a single currency and centralised economic policies (Fleming, 1971; Laabas and Limam, 2002).

- 7) **Degree of Policy Integration:** The willingness of members and their positive attitudes towards harmonised fiscal policies and other commercial policies is a precondition for a currency union (Laabas and Limam, 2002). This precondition allows for better risk-sharing among members states in a monetary union when shocks occur (Mongelli, 2008).
- 8) **Political Factors:** In both the political and the economic literature on integration, an important precondition for its adoption and effectiveness is political will. For a monetary union adopting a single currency and economic policies, the willingness of political actors is crucial (Mintz, 1970; Laabas and Limam, 2002). The political factor cannot be downplayed as politics fosters compliance, commitments, and enhances cooperation on economic policies for the interest of members, as well as encourages integration of financial and non-financial institutions in the bloc (Mongelli, 2008).

4.3. Modelling the OCA Criteria

The empirical work of Frankel and Rose (1997) support OCA on the ground that an increased economic integration in its entire forms free trade zone, customs and monetary union, free movement of factors, especially labour. Also increases convergence between nations within the same region, thereby cutting drastically the costs of monetary union viewed in terms of loss of exchange rate control. Opposing the submission of Frankel and Rose (1997), Krugman (1993) argued on the basis of empirical evidences from North America that tendency towards economic integration is not a guarantee for convergence and could certainly result in divergence, thereby

increasing the costs of monetary union. Two further empirical studies of Krugman (1993) established that the higher the trade integration, the higher the correlation of business cycles among participating countries in a single currency area. The conclusion was that business cycles and trade integration are intertwined and are internal factors (endogenous variables) required for entering or forming a currency union.

Bayoumi and Eichengreen (1994) in their study found that there was a cointegration in the movements of real exchange rates among the three East African nations. Based on this finding, the author concluded that the three East African nations accommodate an optimal currency area based on G-PPP cointegration analysis.

The empirical work of Kydland and Prescott (1977) investigated the applicability of OCA in various economic situations, and highlighted its failures in the presence of rational economic agents who maintain and adjust their expectations for the future. When ‘rational expectations’ exist, a policy rule can result in an improved social outcome over the use of OCA as embodied in discretionary policy. Kydland and Prescott (1977) argued that OCA is only applicable where decisions are based on past and present information. In dynamic economic situations this is not the case since rational economic agents form, and act upon, expectations of future policy changes. Therefore, the current policy leads to a “game” between policy makers and agents, which can be either divergent or convergent in relation to a stable policy-outcome mix.

Apart from empirical studies, official report of GCC affirms progress on economic integration on the grounds that the Supreme Council observed satisfactory progress in the areas of Customs Union, Common Market, Monetary Union, and

infrastructure integration projects in the GCC states especially electricity grid project and the railways project (Final Communiqué of the 30th Session, 2009). Although the integration process among the GCC countries has increased since its formation, but the realisation of OCA in the GCC bloc is becoming a challengeable task as evidenced by the continued postponement of the commencement date and emerging political crisis among member countries. A single currency initially proposed to take-effect in 1999, but was extended for political reasons due to precautions and disagreements (Lawson, 2012). However, the common currency project of the GCC bloc has become elusive and delayed, the barriers and challenges could be broadly explained under micro-level and macro-level challenges. More importantly, the GCC official statement on the level of policy integration reads:

“The Ministerial Council perused the report of the Ministerial Committee concerned with the follow-up on the decisions pertaining to the joint process, and expressed satisfaction at the progress made with regard to implementing the decisions of the joint process, and looked forward to the implementation of the remaining decisions in this connection...”

The Supreme Council examined the progress report in the area of the Customs Union, the GCC Common Market, the Monetary Union, and the infrastructure integration projects in the GCC States, the most important among them being the electricity grid project, and the feasibility study for the GCC railways. The Supreme Council expressed satisfaction at the achievements made and issued directives pertaining to them” (Final Communiqué of the 30th Session, 2009, online)

The finding on political factors like the degree of policy integration is largely a political issue that cannot be measured quantitatively when linked to the theory OCA. Lack of political will largely explains the prolonged delay in starting the single currency project despite over 15 years of debate on the issue. There is mutual suspicion and fear of domination by some member countries, especially Saudi Arabia in the GCC (Lohade, 2013). The suspicion could be resolved if a necessary legal

framework and institutional building for a single currency in the region could be quickly put in place to strengthen commitment by member nations to the project of a single currency (Final Communiqué of the 30th Session, 2009).

To determine the fitness and suitability of countries within a particular region, there are several models and techniques for testing OCA criteria. Adams (2005) identified seven models and techniques of OCA criteria, namely: 1) Generalised-Purchasing Power Parity Analysis [mode], 2) the OCA Index [model], 3) Structural Vector Autoregression Regression (SVAR) [techniques], 4) Correlation and Cluster Analysis [technique], 5) the Gravity Trade [technique], 6) Macroeconomic Modelling [technique], and 7) the Cointegration Test. From these seven measurements, the research adopted the macroeconomic modelling the Cointegration method as the technique for modelling the six factors of the OCA criteria.

4.4. Theory of Political Integration

The theory of political integration places emphasis on the political structures, factors and processes, which affect policy relations among states, as it is a foundation for a multi-level governance approach. Multi-level governance conceptualises integration process as an extension of authority across jurisdictions at diverse scales (Hooghe and Marks, 2009).

The term political integration in a political sense could be better viewed as a sector-based concept with the underlying meaning of uniting, unifying and organizing a group of two or more dispersed units for the actualisation of a political community with mutually beneficial interests (Hoppe, 2007). The duty of national governance and its institutions are to provide an efficient, equitable and responsible functioning of a market economy, a sound financial system, prevention of anti-competitive behaviour, socially responsible corporate governance and a embedment of system for

property rights and contracts necessitated the development of concept of multi-level governance (Bekemans, 2008). The phenomenon of multi-level governance is strongly linked to the emergence of the European integration process, liberalization and decentralization in the nineties especially the Treaty of Maastricht and its subsidiarity principle and the concept of decentralization (Bekemans, 2008). In the field of political science, the multi-level governance is exemplified as decentralization - the shift of power from the central state toward multi governance levels. Hooghe and Marks (2003) identified two types of multi-level governance, namely: (a) Type I and (b) Type II systems. Type 1 or a multipurpose sub-central jurisdiction is multi-governance approach that allows overlapping memberships operating within the sub-central jurisdictions. It is governance with fixed number of levels of sub-central jurisdictions functioning as one uniform design for the whole system. Type II systems or task-specific jurisdictions are multi-governance approach with overlapping memberships operating within unlimited number of jurisdictional levels with flexible design.

On the theories of regional institution building. There are several strands, which are emerged from several different intellectual traditions. Neoclassical trade theory and growth theory provide the conceptual basis for understanding whether the regional economies will converge or diverge over time. For mutually beneficial relationships, the nations within a given region collaborate in building institutions and structures that would be beneficial to all (Dawkins, 2003).

A relevant theory of regional building is the Heckscher-Ohlin model, which explains how free trade and/or factor mobility equalizes prices of factors of production among regions in international trade relations. The model assumes that if region 1 specializes in the production of A (labour-intensive good), while region 2

specializes in the production of B (capital-intensive good). Regional institution building allows for excess factor of production in one nation to be absorbed by another nation that has shortage. With sustained trade relations between any two nations, the nation that has enhanced specialisation in production, the relative price of its labour in the labour-abundant tends to rise due to relative increases in the demand for labour from the other nation with shortage.

Conversely, the relative price of capital tends to rise in the capital-abundant nation due to relative increases in the demand for capital in the other nation with shortage. Even if capital and labour are immobile, the aggregate effect of these market forces is to equalize relative factor prices across regions (Dawkins, 2003; Raimi and Mobolaji, 2008).

Moreover, Ilievski (2015) added that political integration when viewed as the process of uniting and centralization of interest groups, the four pre-determined conditions and elements have always been the need to establish a unified legal framework; to create common institutions; to develop decision-making centre; and to promote and project the identity of the unifying units. From the above-stated pre-determined conditions and elements of political integration, it is has been argued there are strands of political integration theories, namely: social contract theory (Ilievski, 2015), theories of regional institution building (Katada, 2009) and theory of multi-level governance (Hooghe and Marks, 2009). These three strands of political integration theory emphasise the importance of political cooperation, common institution and political structures for the benefits of all parties involved a regional integration. However, the social contract theory is the adopted political integration theory for explaining the delay and apathy to adopt a single currency union in GCC countries. The choice of social contract theory as opposed to other is premised on the

fact that failure of national governance and its institutions to provide an efficient, equitable and responsible functioning of a market economy, a sound financial system, prevention of anti-competitive behaviour, socially responsible corporate governance and an embedment of system for property rights and contracts necessitated the agenda of a single currency union through the formation of the GCC and leveraging multi-level governance systems and institutions.

The origin of social contract theory has been well discussed by philosophers such as Thomas Hobbes (1651), John Locke (1689) and Jean Jacques Rousseau (1762) as a self-preservation concept. Before the development of social contract theory, the state of affairs in the society as well as social relations among people were characterised by lack of political authorities, lawlessness and anarchy leading to unending war among communities. The pragmatic political solution brokered to redress the unpleasant social and political relations in Europe at that auspicious period was the invention of the state in its purest sense. The invention of the state created a platform for political integration as individuals readily surrendered their personal liberty and freedom for preservation of human life, collective liberty and property to the political leadership (Ilievski, 2015). The move by the GCC countries to form an economic bloc is therefore a form of social contract. On the imperative of political integration through state formation, Thomas Hobbes (1651) asserted:

“When men live without other security than what their own strength and invention shall furnish them, ...the only way to erect such a common power as may be able to defend them from the invasion of foreigners and the injuries of one another... is to confer all their power and strength upon one man... or an assembly of men that may reduce their wills... unto one will” (Baum, 2004, p56).

Reinforcing the viewpoint above on political integration in a conflict-prone world, Herbert Spencer (1892) stated:

“We see the wandering group dispersing, dividing, held together by no bonds; the tribe with parts made more coherent by subordination to a dominant man; the cluster of tribes united in a political plexus under a chief with subchiefs; and so on up to the civilized nation, consolidated enough to hold together for a thousand years or more... Thus in all respects is fulfilled the formula of evolution. There is progress toward greater size, coherence, multiformity, and definiteness” (Baum, 2004, p56).

Social contract theory has been applied with variations to a number of contemporary discourses on political integration, sustainable development and welfare economics (Benabou, 2000; Hooghe and Marks, 2009; De Jasay, 2012). Benabou (2000) used the social contract theory to explain how countries with similar economic and political "fundamentals" can sustain such different systems of social insurance, fiscal redistribution, and education finance picking from two models: the United States and Western Europe models. The commitment to a social contract by parties to the contract could be either revocable or irrevocable. Social contract becomes revocable, if the parties (individuals, groups and nations) to the contract preserve their respective pre-contract identity and autonomy. The revocation is allowed with some costs payable by the party breaching the social contract. On the other hand, a social contract becomes irrevocable, when the parties that go into the contractual agreement lose their respective pre-contract identity and autonomy indefinitely because all the identities belonging all the identities have been merged into a new entity by extension all autonomies have also been surrendered (De Jasay, 2012). In the case of GCC, the extent to which member's identities/sovereignty should be surrendered (and hence whether it is revocable) will be governed by the GCC agreements. An example of a revocable agreement is article 50 of the Lisbon Treaty allowing member states to leave the European Union.

Social contract theory when applied to the ongoing single currency agenda in the GCC bloc presupposes the intention for a political environment that reflects the existence of political cohesion, a strong political institution and a formidable image among comity of nations. The GCC bloc is believed to be better off, if the GCC countries promote a political integration through inclusive economic, social, religious and cultural policies that bring about economic convergence and equitable development to the region, while reducing economic inequality and poverty. Patrick (2011) noted that operational objectives of the GCC are clearly embedded in the three tenets of the body, namely: 1) coordination, 2) integration and 3) interdependence. Part of the coordination, integration and interdependence is for member nations to allow for effective utilisation of surpluses and deficits.

A labour-abundant nation would explore free movement for the transfer of its excess labour to a labour-deficient nation, and the same principle applies to capital-abundant situations (Raimi and Mobolaji, 2008). In other words, a worthwhile political integration is the integration model that joins labour and capital frontiers of the GCC countries. Despite the simplification of integration process, the GCC has not fully attained a single currency area owing to these political factors. This is not surprising because GCC countries reserve their national identities and autonomies despite adoption of the final stage of economic integration and political integration. Katada (2009) argued constructively that from the experiences of the Asian region that governments are sceptical compromising their sovereignties and political autonomies for full political integration unless three political elements are well articulated. These include: clarity on regional cooperation, creation of mechanisms for compensating parties to the agreement styled “losers” and the “weak” and clear definition of beneficiaries form the integration mechanisms. Similarly, Hooghe and

Marks (2009, p2) explained that political integration process as a multi-level governance mechanism is often delayed or compromised because “the functional need for human co-operation rarely coincides with the territorial scope of community. Communities demand self-rule, and the preference for self-rule is almost always inconsistent with the functional demand for regional community”.

4.5. Summary

This chapter discussed the theoretical framework of OCA according to the works of (Mundell, 1961), (McKinnon, 1963) and (Kenen, 1969) and also highlighted the required prerequisite factors for the implementation of OCA. The aim of the theoretical framework in this thesis was to demonstrate the application of both economic and political theories, which are the main building blocks for the integration process and a single currency agenda within the GCC countries. The two theories that made the foundation for this research are optimum currency area (OCA) and theory of political integration. The theory of OCA provides a solution in finding the optimal currency for a region with similar social and economic structure. The framework also designed to make the region achieve monetary integration for mutual benefits and some degree of costs regarding the governance and the economic structures of each member. One of the main implications, which results in the adaptation of single currency is the central bank with power of monetary policy measures on all finance aspects. Another implications also should be considered are the fixed exchange rate and the centralised financial regulations. In order to implement OCA there are eight factors should be taken into consideration, namely 1) degree of economic openness, 2) mobility, 3) degree of commodity and diversification, 4) similarity of structure of production, 5) price and wage flexibility, 6) similarity of inflation rates, 7) degree of policy integration and 8) political factors.

In this chapter, two currency areas were identified the first one is a currency area with several countries with their own national currencies and the second is a currency area with many countries with a single currency. However, Mundell justified the preference for the first one on the grounds that: For a currency area with several countries and their different currencies, there could be a form of cooperation if the countries with surplus rate of employment are willing to cooperate with deficit countries. The framework also argued that OCA could only be applied when decisions are made on both past and present information. This is not the case for dynamic economic situations since rational economic agents form, and act upon, expectations of future policy changes. This leads to the current policy plays a “game” between policy makers and agents.

This chapter discussed the theory of political integration to emphasis the political structures, factors and processes, which affect the policy relations among states. This is due to the political integration makes the foundation for a multi-level governance approach. The concept of political integration when viewed as a process of uniting and centralizing of interest groups, the four pre-determined conditions and elements have always been required to establish a unified legal framework; create common institutions; develop decision-making centre and promote the identity of the unifying units. The three strands of political integration theory emphasise the importance political cooperation, common institution and political structures for the benefits of all parties to the formation of a regional integration. All in all the argument in this chapter is that there is a lack of political will of GCC nations in forming the OCA, which explains the reason for the delay in the implementation of this important project; single currency for years.

Chapter Five

Research Methodology

5.0. Introduction

Methodology entails collecting the relevant data for making informed academic research. This chapter provides an overview on the methodology employed in current research. A comprehensive discussion on the adopted methodology with appropriate justifications is presented. The methodology used in this research is the mixed method (quantitative and qualitative). First part includes the first part of the discussion, which focuses on the ontological discourse on the position of the researcher regarding the reality. The second part of the chapter discusses the philosophical domain and epistemological foundation of the research. This was followed by discussion of three dominant paradigms in academic research, namely: Positivism, Interpretivism and Pragmatism. The chapter provided the research process justifications for the adoption of mixed paradigms using Johannes's cointegration method.

5.1. Ontology

Ontology as a philosophical position in research asks a critical question: what is the nature of social, economic, environmental and political reality that a researcher attempts to investigate? Wrong ontological standpoint leads to wrong epistemology, wrong theoretical perspective, wrong methodology and wrong data sources (Crotty, 1998; Hay, 2002; Saunders, Lewis and Thornhill, 2012). According to Hay (2002), the term ontology means the phenomenon out there to be learnt or investigated.

Besides, ontology refers to assumptions that humans made about the nature of social reality in terms of claims about what really exists, what the reality looks like,

what units make up the social reality and how these units of reality interact with each other. In other words, ontology is concerned with what researchers believe to constitute social reality. Ontology embeds epistemology, which also guides the choice of theoretical perspective of a good research (Crotty, 1998). Since ontology is a personal mind-set of a researcher, it is seen as the basis for which the research should be assessed. From multidisciplinary application, ontology is conceived as a means of sharing and reusing knowledge. The practice of adopting more than one ontology is gaining prominence. The process of comparing and combining several ontologies to form a more extensive one is termed as ontology merging (Hitzler *et al* 2005).

The practical aim of this thesis is to develop the concept of OCA as a beneficial framework for uniting the GCC countries under a single currency. The term OCA is a scientific framework that has wide application in empirical studies across Europe, Asia and Africa. Economic integration issue is matter of convergence or divergence, which is an ontological issue of a single social reality. Based on the strength of foregoing explanations, the ontological position of this thesis is based on philosophy merging. This position arose from the mixed research methods. For the qualitative approach, the ontology is multiple realities as the viewpoints sought through interviews allow for subjective and multiple perceptions. For the quantitative approach, the ontology is a single reality as the viewpoints elicited through available data (from secondary sources) allow for objective and tele-guided viewpoints; it is either the GCC countries fulfill the prerequisite for OCA or not. Philosophy merging, which used in this thesis provides comprehensive and detailed explanations for a better understanding of the issues causing the delay in adopting common currency in the GCC bloc.

5.2. Epistemology

Closely tied to the ontological question (What is out there to know?) is epistemology, which Hay (2002, p64) simply defines as “What and how can we know about it?” However, Blaikie (2000, p8) defines epistemology as “all the possible ways of gaining knowledge of social reality, whatever it is understood to be. In short, claims about what is assumed to exist can be known.” Furthermore, epistemology is defined as “the theory of knowledge that defines what kind of knowledge is possible and legitimate” (Feast and Melles, 2010, p1). Upholding an epistemological position in research, involves making an option from three standpoints, namely: objectivism, constructionism and subjectivism (Crotty, 1998; Feast and Melles, 2010).

With regards to the meanings of these three standpoints, Crotty (1998) further explained that objectivism is premised on the belief that where knowledge and absolute reality exists within the social context where humans live, but could be unveiled through systematic investigation of causes, effects and explanations. Objectivism, while examining cause-effect relationships, employs the use of prediction, theory testing and hypotheses development/validation on the basis of which explanations are given. Subjectivism presumes that human behaviour or social reality could exclusively be understood through experience sharing with those involved, that is, reality could be reconstructed through self-understanding by researchers with the actors.

However, constructivism is an epistemological viewpoint that that social phenomena develop within distinct social contexts. To understand social reality therefore, researcher must involve relevant individuals and groups in the creation/re-creation of social reality where this reality is changeable. These changes evolve

overtime as social interactions continue in human society. The epistemological position of this thesis is a combination of objectivism and subjectivism. The issue of economic integration among the GCC countries and the associated social reality, which obstructs the establishment of a common currency since its formation can effectively be understood by adopting an objective epistemological posture. However, the political factor is a qualitative issue, which cannot be objectively verified, hence this research employed subjectivism. This research combined the examination of the economical and the political aspects and their relationships. This approach required an adoption of a mixed method approach. The positivist analysis is used to analyse the economics of an OCA whereas the interpretivist approach is used in the political analysis of the GCC. This approach will provide a more nuanced and comprehensive explanation of the process.

5.3. Research Paradigm

Research paradigm is simply a discussion backed by justifications when making a selection between positivism and interpretivism philosophical positions. The two common paradigms in contemporary research are: positivism and interpretivism (Saunders, Lewis and Thornhill, 2012). This section will provide a concise critique on positivism and interpretivism. At the end, the advantages/merits and disadvantages/demerits of both paradigms are discussed.

Hergenhahn and Henley (2013) established that positivism finds relevance in social sciences, as the social issues cannot be observed directly without following a scientific approach. Furthermore, positivism avoids arbitrariness in reaching conclusions for the good of the society. This is the concept of neutrality and objectivity (Babbie, 2008; Al-Habil, 2011; Saunders, Lewis and Thornhill, 2012). Adopting both positivism and interpretivism are justified by the concept of

methodological pluralism. Lee (1991, p342) stated that “the positivist and interpretive approaches are opposed and irreconcilable”. In fact they are reconcilable; a researcher can be a positivist and enhance his/her research with input from interpretivism and vice versa. The philosophical position of this research is mixed paradigms. The positivist paradigm is upheld for understanding the Economic issues in the OCA in the GCC. The interpretivist paradigm is upheld to elicit information on the political factors from interviewee in the GCC countries.

5.3.1. Positivism

Positivism is defined as a research philosophy that based on the principles of which researchers should conduct their investigations objectively, free of valued judgement and independently in the social environment (Al-Habil, 2011). Positivism also has been defined as a belief that the empirical process of science is the only authentic way of attaining reality because “empirical methods, make extensive use of quantitative analysis, or develop logical calculi to build formal explanatory theory” for finding answers to scientific inquiry (Shafritz, Krane and Wright, 1998, p1718).

Furthermore, Al-Habil (2011, p949) noted “positivism could be seen as the belief in the existence of objective reality, which could be explained and controlled through causal relations and testing hypotheses that establish statistical inferences”. According to the definitions above, Saunders, Lewis and Thornhill (2012) explained that positivist ensures objectivity is maintained and sustained when the social environment is being observed, and that process of collection of data/facts, analysis, presentation and inferences is also objective. Put differently, Shafritz, Krane and Wright (1998) noted that positivism is constructed on the notion that reality within the social context in which humans live could be objectively understood and investigated based on scientific methods of establishing facts.

Based on the discussion above, positivism is the norm in the natural sciences and is employed as tool for explaining, predicting and analysing the behaviour of natural phenomena. The adoption of positivism in the social sciences presupposes that social issues and phenomena would be explained and predicted using scientific analytical process of cause-effect relationship (Al-Habil, 2011). This suggests that in both the natural sciences (where the positivism paradigm historically emerged) and the social sciences (where it is borrowed and adopted), the most important element is the methodological uniformity in conducting research (Lincoln and Guba, 1985; Al-Habil, 2011; Saunders, Lewis and Thornhill, 2012).

When positivism is used in natural sciences, it is viewed as scientific method of research, whereas if applied to social sciences it becomes a science policy for solving socio-economic and other challenges facing the society (Al-Habil, 2011). The positivism is contemporary empirical research (in both natural and social sciences) that is not connected to its theory-building potential, which entails “the development of a collection of related and testable law-like statements that express causal relationships among relevant variables” (White, 2001, p44).

Positivist argument sounds strong in theory and practice; however, it received a number of criticisms. Firstly, it was found to be inappropriate in the fields of social and management sciences as it is not people-focused (Hummel, 1991). Al-Habil (2011, p950) explained further that rejection of positivism by Ralph Hammel’s was based on the argument that research in social sciences “should pay more attention to the stories managers tell [interpretations], which is a valid approach to produce knowledge, instead of maintaining the objectivity of science (for the critics including Hammel) the use of scientific standards, which the positivist approach asserts, is not

an appropriate research tool for studying this type of administrative practice” as people-focused problem can only be solved by interacting with the people involved.

Secondly, Wang (2016) argued that the outcomes of positivist investigation are often based on rational proof from science, which has no connection with social issue; the positivist approach take a position on issues after rigorous scientific inquiry and the outcome of the process is applied to other things and areas.

5.3.2. Interpretivism

Interpretivism is a reactionary paradigm, which queries the philosophical limitations of positivism as inadequate for social sciences (Al-Habil, 2011). The concept of interpretivism emerged in the 19th century and the credit for its intellectual conceptualisation and development was acknowledged to a German scholar, Wilheme Dilthey (Spencer *et al* 2003; Al-Habil, 2011). Conceptually, the term interpretivism in the literature is a research paradigm, which is built on presumptions/principles related to the social environment of humans. It is basically based on subjective and personal experiences of humans as researchers or observers of events in the social world. The bottom-line of interpretivism is that social phenomena being investigated could be better understood if the researcher/investigator looks into the totality of events and how people provide meaning and interpretation to events in the social world (Brown, 2006; Saunders, Lewis and Thornhill, 2012). Similarly, Ritchie and Lewis (2003) described interpretivism as a paradigm that presumes reality could be best investigated and understood by studying the personal experiences of human beings as actors within historical and social contexts in which they live.

Furthermore, Henn, Weinstein, and Foard (2009) described interpretivism as a paradigm that seeks to gain meaning and deep understanding about human behaviour from a people-focused approach involved, rather than a causal relationships approach.

In other words, people provide meanings to realities within defined social and cultural contexts. Whereas, White (2001, p47) perceived interpretivism as a “philosophical traditions of the analytical philosophy of language, hermeneutics, and phenomenology”; he believes that when conducting a research, the language used by humans within a social context enhances better understanding to the social problems being investigated. According to Butin (2010), the focus of interpretivism is not to seek after a positivist’s single reality or authoritative truth, rather an insight into people’s perspective within the social and cultural contexts to enable researcher understand realities.

The first criticism of interpretivism is due to its subjective nature, where results are constrained by “validity, reliability and generalisability” tests; hence is not replicable and repeatable by another person (Kelliher, 2011, p123). Another criticism of interpretive research that is a paradigm abandons the scientific procedures of systematic verification/investigation and therefore results cannot be generalised or extended to other situations. This limitation makes scientists/positivists query the overall validity and the inherent benefit of interpretivist research (Mack, 2010).

5.4. Rationale for Adopting OCA Theory

Most of studies in the field of single currency area used the framework of OCA theory. For example, Bayoumi and Eichengreen (1997) applied OCA theory for investigating the relationship between OCA characteristics and the observed behaviour of exchange rates. They made the OCA theory functional and implementable by formulating an OCA for the investigated European countries.

OCA has gained popularity as a model for measuring asymmetric shocks, labour mobility and the transactions value of a single currency exchange rate in countries with a monetary union (Bayoumi and Eichengreen, 1997).

OCA has a broader view perspective of shocks in single currency area; it looks at several factors ranging from asymmetric shocks, price fluctuation/inflation, labour mobility and exchange rate, whereas other like a Generalized-Purchasing Power Parity (G-PPP) involves the use of consumer price index focuses on exchange rate variability as the offshoot of the real exchange rate variability criterion introduced by Roland Vaubel in 1977 (Enders and Hum, 1994; Sarno and Taylor, 1998). In other words, if the Real Exchange Rates (RERs) in countries with the single currency union are non-stationary, but other macroeconomic factors that influence exchange rate are related across member countries, then a linear combination of all the non-stationary RERs will lead to shared stationary trends in the long-run across member countries (Mishra and Sharma, 2010).

On the contrary, (G-PPP) is simply a model for testing for non-stationary of the bilateral real exchange rate (Sarno and Taylor, 1998; Laabas and Limam, 2002; Chiemeké, 2010). G-PPP is useful for predicting nonlinear adjustment in single currency region with real exchange rates volatility especially where the countries within the single currency area have very high inflation rates (Sarno, 2000). The key argument of G-PPP is that inflation rate in a country and its bilateral nominal exchange rate with another country are strongly influenced by other countries within the single currency area (Enders and Hum, 1994).

OCA is more comprehensive in the sense that it presumes the countries with similarity in their business cycles and prices/exchange rate shocks are more likely to adopt a single currency area. By coming together they are able to counter the shocks with a single monetary policy thereby avoiding the excessive cost of counter-cyclical monetary policy (Darvas and Szapáry, 2004). The comprehensiveness of OCA made its appropriate and relevant for studying single currency issue in GCC countries.

5.5. Research Process

The research problem as stated in chapter one is to provide explanation for how OCA could strategically build long-term unity and development of single currency in the GCC bloc. Beyond the logistics of time, space and resources, the issue of research process (that is, the progressive stages of research) to be adopted is critical if a research is really designed to “understand individuals’ perceptions of the world” (Bell, 2014, p7). The methodology in the literature is full of different views on research process. Johanson (1994) proposes eleven research process steps for meaningful research. Crotty (1998) identified four sequential research process steps, namely: epistemology, the theoretical perspective, methodology, and methods. Cohen, Manion, and Morrison (2013) identify eight sequential stages of the research process. Blaxter, Hughes and Tight (2006) proposed five stages (design, sampling, data collection, data analysis and presentation). In this research, Johnson’s (1994) eleven-stage process was partially followed and is explained in the following sub-sections.

5.5.1. Selected Research Method

Selecting a suitable research method from the several methods available is indeed a crucial task in the research process (Johnson, 1994). Blaxter, Hughes and Tight (2006) explained that the research method refers to how the researcher intends to carry out the research, use for data collection, processing and analysis. Selecting a research method entails to make a choice from the three methods qualitative, quantitative and mixed research methods (Johnson, 1994; Babbie, 2008; Saunders, Lewis and Thornhill, 2012). Before making this choice, it is useful to explain each of the three methods. The qualitative research method refers to a research method where non-numerical soft data were collected through interview technique, data are transcribed from voice to word using content, thematic and discursive analyses

(CTDS), on the basis of which conclusions are drawn (Saunders, Lewis and Thornhill, 2012).

Moreover, the qualitative research method employs an inductive reasoning approach. Data collection in qualitative research is often carried out using techniques like survey interview, focus groups and ethnography. Limitations of qualitative research and its techniques include data overload, labour intensity, time waste, poor response rate, a generalisation of findings, subjectivity or researcher's bias and non-representativeness for example, an inadequacy of sampling, due to having only a few cases (Miles and Huberman, 1984; Blaxter, Hughes and Tight, 2006; Saunders, Lewis and Thornhill, 2012). Johnson (1994) notes that qualitative methods are slow. Thus, the qualitative research method is often used for small-scale research that seeks merely insight, rather than absolute truth or facts on social, economic and political phenomena. Adoption of a qualitative research method is based on the nature of the research and the skills and ability of the investigator to do justice to this method (Saunders, Lewis and Thornhill, 2012).

Quantitative research collects quantifiable information, secondary data and numerical data from people and institutions, which allows for statistical analysis. Quantitative research based on survey questionnaires and documented secondary sources, and its collected data are analysed and interpreted using descriptive and inferential statistics, on the basis of which conclusions are drawn (Saunders, Lewis and Thornhill, 2012). Compared to the qualitative research method, the quantitative research method has a high response rate as it allows for anonymity and confidentiality in the process of data gathering (Denscombe, 2009). For this research, the data analysis technique used is Johansen Cointegration test as explained in section 6.2.2.

For the qualitative research, on the other hand, the interview technique was used. In view of the scope of this research, thirteen interviewees from seven financial institutions were carefully selected for their seniority in decision making, economic analysis, and banking industry. They were chosen to reflect the objectives of identifying economic, political and cultural factors issues that causing the delay of implementing the single currency in GCC. An interview is an important element in the qualitative research strategy; it involves generating useful answers through conversations with the target audience on topic of their interest to the researcher. In terms of their managerial status, all the interviewees are top-level professionals, bankers and policymakers who are familiar with the work of the GCC and its single currency agenda.

The quantitative research method finds grounding in deductive reasoning to establish a cause-effect relationship on the basis of theories (Babbie, 2008). Quantitative research is often used for large-scale studies that seek authoritative information on social, economic and political phenomena. The major limitations of quantitative research are that it is a monolith; hence, it can be ineffective because it seeks one absolute reality using a scientific approach. In contrast, business and management research allows for multiple realities and a variety of explanations because it is people-focused and people-centred, and these people interpret issues differently. In other words, quantitative research creates a static view of life (Jankowicz, 2005; Saunders, Lewis and Thornhill, 2012; Bryman and Bell, 2015).

The mixed methods emerged as a 'third paradigm in social research. It is unique a research paradigm that is accommodative and consistent with the pragmatist perspective of research. It also accommodates some degrees of diversity and provides researchers with methodological choices of triangulating between two paradigms

(Denscombe, 2008). The defining characteristics of the Mixed Methods approach involve its use of quantitative (QUAN) and qualitative (QUAL) methods within the same research work. It aligns with a research design that allows QUAN and QUAL elements of data collection and analysis.

Furthermore, the mixed research defines the manner in which the QUAN and QUAL aspects of the research relate to each other especially how triangulation is used. Finally, mixed research connects with pragmatism as the philosophical underpinning for the research (Bryman, 2004; Bryman, 2007; Creswell & Plano Clark, 2007; Denscombe, 2008). It has been argued that, the philosophical premises of quantitative and qualitative methodologies are incompatible; therefore, the use of both methods is encouraged to leverage both strengths (Denscombe, 2008; Morse, 2003).

A number of scholars argued that that researchers make use of mixed methods to improve the accuracy of their data, to produce a more complete picture by combining information from complementary kinds of data or sources; it is deployed as a means of avoiding biases associated with a single-method approaches; it is used to analyse and build upon initial findings using contrasting kinds of data or methods; and it aid sampling when questionnaires are being used to screen potential participants for inclusion in an interview programme (Bryman, 2007; Collins, Onwuegbuzie and Sutton, 2006). The drawback of the mixed methods research is the difficulty faced by researchers is how to integrate the findings from the QUANT and QUAL aspects of mixed research.

Bryman (2007) noted that the cogent reasons for the difficulty in integrating quantitative and qualitative research is connected with the nature and strategies of both research methods. In view of the significance of triangulation, it is necessary to discuss triangulation in mixed research methods. What is triangulation? Triangulation

is often defined the deliberate desire by the researcher to use more than one particular approach when conducting research for the purpose of obtaining richer, expansive data and comparison results of research (Raimi, 2015; Wilson, 2014). It is an approach that has gain acceptance in social science research (Bryman, 2004).

Four types of triangulation have been identified by Flick (2002). These are data, investigator, theory and methodological triangulations. Data triangulation involves using data from several sources, different times, difference places and different people in a research. Investigator of triangulation entails using different methods in the data gathering and analysis of data. Theory triangulation is the practice of embedding data within multiple theories for the purpose of extending research frontier or for the possibilities of producing new knowledge. In other words, methodological triangulation is the use of more than one method to gather data for a research (Flick, 2002; Raimi, 2015).

5.5.2. Research Methodology

The mixed method approach is used in this thesis to link political and economic factors that affect the GCC's single currency. Using this kind of method will enable the research to have deep insights and enriched findings. Previous studies in the GCC's single currency have adopted a single research method. Adopting mixed research approach is a significant advantage, which could contribute to the body of existing knowledge in this field of research. In order to have a deep look and clear picture of the research, the quantitative and the qualitative research methods are combined together. For the quantitative research, the documented secondary data on socio-economic indicators and financial transactions were officially obtained from the GCC secretariat and the missing data were obtained from the UNCTAD and World Bank. The secondary data (quantitative) were used to analyse six out of eight pre-

requisites of OCA, namely: 1) openness; 2) factor mobility; 3) degree of commodity diversification; 4) similarity of structure of production; 5) price and wage flexibility and 6) similarity of inflation rates. The analysis was carried out using Cointegration Test. In order to investigate the quantitative OCA factors, the Johansen method of cointegration was used.

The Johansen method of cointegration is usually used for testing the presence of cointegration between variables. The cointegration can be defined as if linear combinations of two or more non-stationary time series data generate a stationary error term, then the two series are cointegrated. The Johansen method is used in this study to analysis the prerequisites of OCA theory for the GCC countries. Based on this analysis, the cointegration relationships between the GCC countries can assessed in light of achieving single currency union. In order to carry out the Johansen analysis, the following steps should followed; Convert the raw data values to logarithmic values, Check the original time series for unit root test by Augmented Dickey Fuller, Check the first differenced series for unit root and final Run the cointegration test.

In the case of unit root, macroeconomic time-series data are usually considered to be non-stationary (Nelson and Plosser, 1982) and therefore conducive to spurious regression. The test for stationarity of a time series at the outset of cointegration analysis should be performed. In order to empirically test for cointegration between the variables under consideration, series should be investigated if they are stationary or not using Augmented Dickey-Fuller tests (ADF) (Dickey and Fuller, 1979). Most of time series data are usually non-stationary, therefore unit root tests are necessary to make sure that all model variables are stationary. If a variable is stationary in its level is considered to be integrated of order zero $I(0)$. When a

variable is not stationary in its level form but stationary in its first difference form, it is considered to be integrated of order one or $I(1)$. Enders (2010) mentioned that multivariate generalization of the Akaike information criterion (AIC) or Schwarz criterion (SC) is used to select the lag length. The unit root test is based on estimating the following regression equation 6.1.

$$\Delta X_t = a_0 + a_1 t + a_2 X_{t-1} + \sum_{i=1}^{\rho} C_i \Delta X_{t-i} + \varepsilon_{it} \quad (6.1)$$

Where X_t is the series being tested, a_0 is a constant, a_1 is the coefficient of time trend, ρ is the number of lagged differences included to capture any autocorrelation, and Δ is the first difference operator. The null hypothesis for unit root is $H_0: a_2 = 0$

In the case of cointegration test, the econometric framework used for the analysis is the Johansen (1998). The idea of cointegration, which was first introduced into the research by Granger (1981), is applied in economics to determine the long run or 'equilibrium' relationships. Cointegration is the statistical technique used for testing the existence of a long-run relationship between economic variables (Thomas, 1993). Johansen test is used to identify cointegrating relationship between the variables. Johansen Cointegration test was selected as an econometric technique used for testing the hypotheses, and the cointegration economic relationships contained in a model involving non-stationary stochastic variables. Johansen Cointegration test is an effective for ascertaining the relationships among multiple economic variables; it is valuable for testing and estimation macroeconomic model where long-run relationships among variables affect present/future observed values.

The Johansen Conintegration is used to analyse all the six quantitative prerequisites factors of OCA using an updated (up to 2015) statistical data obtained from UNCTAD and the World Bank. Cheung and Lai (1993) note that, trace tests are

more reliable and robust than the maximum eigenvalue tests for testing the cointegration. The Johansen trace test used to determine the number of cointegrating vectors between the variables, the null hypothesis says that there are at most r cointegrating vectors ($r = 0$) is tested against the alternative that ($r = 1$) where r equals the number of cointegrating vectors. For existence of cointegration there should be at least one cointegrating vector. If series are integrated with the same order, $1(d)$, cointegration test is required to investigate the existence of a stable long-run relationship between the variables. It is worth mentioning that when series are integrated at the same order, for instance, as $1(0)$, they are naturally cointegrated and the estimated model is considered to be relevant. However, when they are all integrated at $1(1)$, the series itself is not stationary, but its first difference is stationary. When series are not integrated at the same order, then cointegration could not be exist among them over the long-run period.

The Johansen procedure is based on likelihood ratio (LR) test to determine the number of cointegration relationships among the variable. Johansen method is used to test for the presence of non-unique cointegrations as shown in equation 6.2.

$$\Delta Y_t = C + \sum_{i=1}^k \Gamma_i \Delta Y_{t-1} + \Pi Y_{t-1} + \eta_t \quad (6.2)$$

Where, Y_t is a vector of non-stationary variables, Γ and Π are the coefficient matrices, k denotes the lag length and C is a constant. The information in the coefficient matrix between the levels of the Π is decomposed as $\Pi = \alpha\beta$ where the relevant elements α matrix is adjustment coefficients and the β matrix contains cointegrating vectors.

Two statistics tests are advised to select the number of cointegrating relations based on LR test. In this analysis the cointegration relationships among the prerequisites of OCA theory were determined using EViews9 software. The OCA

factors of Saudi Arabia are considered to be independent variables because it is the largest economy in the GCC region. The economic decisions of Saudi Arabia have significant impact in whole region. Thus, the economic cointegration relationship between Saudi Arabia and other GCC has the plausibility of reducing the potential cost of common monetary policy, whereas the factors of the other GCC countries are considered to be dependent variables. Both trace statistic and maximal eigenvalue statistic are obtained. Since the Trace test is more robust than the eigenvalue test, so the analysis relied only on the Trace test to make a decision whether the variables are cointegrated or not (see Duttat and Ahmed, 1999 and Odhiambo, 2005). The Null Hypothesis is rejected if there is at least one cointegration with 5% level of significance. The trace test (λ_{trace}) maximum eigenvalues and are defined in equation 6.3 and 6.4, respectively.

$$\lambda_{trace} = -T \sum_{i=r+1}^n \log(1 - \hat{\lambda}_i) \quad (6.3)$$

Where T is the number of unusable observations, and λ is the estimated values of the eigenvalues and n is the number of separate series to be analysed. The null hypothesis is that the number of Cointegration vectors is $\leq r$ where $r = 0, 1$ or 2 against the alternative hypothesis that the number of Cointegration vectors = r .

$$\lambda_{max} = -T \log(1 - \lambda_{r+1}) \quad (6.4)$$

Which test the null hypothesis that the number of Cointegrating vectors = r against the alternative that there are $r + 1$ cointegrating vectors, the null hypothesis, $r = 0$ is tested against the alternative that $r = 1$, and $r = 1$ is tested against the alternative $r = 2$. The λ_{max} test has the sharper alternative hypothesis. It is usually preferred for trying to get the number of cointegrating vectors (Enders, 2010).

The qualitative research method was used to investigate the other two from the eight pre-requisites of OCA, namely: 7) degree of policy integration and 8) political

factors. The researcher conducted interviews with experts in economic integration in the GCC countries. The total number of the interviewee was thirteen who have a deep knowledge and expertise in GCC's single currency. A brief description of their professionals and expertise is provided in section 7.1. The study was carried out over period of three months in Saudi Arabia. The interviews were conducted in Arabic because the Arabic language is the official language in all of the countries concerned and is the native language of the researcher.

5.5.3. Data Collection

In order to carry out the empirical verification, this study used secondary and primary data. For the quantitative research method, all the secondary data are from the UNCTAD, World Bank Indicators. The data period is from 1980 to 2015 section 6.1 explains the data in more details, which can lead to a more robust analysis as the progress towards a single currency has been accelerated recently.

In order to achieve the reliability and validity of the interview questions, a pilot study was carried out as explained in section 7.2.1. For the final interview questions version, it was modified according to the feedback obtained from the pilot study (see Appendix C). The interviews were designed to gather information that could not be obtained by the secondary data. The major OCA factors that secondary data could not capture are political factor and degree of policy integration. The quantitative research tool was a semi-structured interview with eleven questions was constructed. The questions were formulated based on the issues arising from the reviewed theoretical and empirical studies. The interview questions were very specific questions designed to obtain the required viewpoints from the interviewee. On other words this part elicits the viewpoints of the interviewees on the pros and cons of a

common currency area, policy issues and associated challenges in the GCC (About Issues on GCC/Monetary and Political Policies).

5.5.4. Data Process

This represents the process of collating and streamlining the numerical data (for the quantitative research aspect) and collating and transcribing the voice data into text data (for the qualitative research aspect). This stage of the research process is described as a stage of readiness as it entails accountability in reporting what has been gathered in the field of enquiry. The secondary data for the quantitative research aspect were collated, tabulated chronologically and imported into EViews9 to perform Johansen cointegration test. The qualitative data gathered from the conducted interview were analysed using content and thematic analysis.

5.5.5. Data Analysis

In this research, there are two sets of data: the non-numerical qualitative data collected from the interviews and the numerical quantitative data. Both data involve different data analyses. For the quantitative research, the numerical data generated on the socio-economic indicators and financial transactions of the GCC were analysed using the Johansen cointegration test. It is used to test the existence of a long-run relationship between economic variables among the six quantitative OCA factors. For the qualitative research, the non-numerical data collected were transcribed and analysed using content analysis (CA) and thematic analysis (TA), following conventional methodologies for analysing qualitative research (Babbie, 2008; Saunders, Lewis and Thornhill, 2012).

5.5.6. Enabling Dissemination

Research outcomes become useless if they are not disseminated to the end users. It is the researcher's responsibility to promote research findings through presentations of findings before presenting them to the panels, academic staff, colleagues and the business community (Johnson, 1994). For this study the findings will be presented to the GCC Secretariat for consideration and implementation. The benefit of internal and external dissemination is the sharing of valuable findings, results and field experiences with a wider audience (Johnson, 1994).

5.6. Ethical Considerations

This research ensures the confidentiality and privacy of all human and institutional participants. To render the study ethical, rights regarding anonymity, confidentiality and informed consent was issued, as recommended by the ethical code of the university. This code prescribes the principles of confidentiality, security of data collected, no harm, prior consent, intrusion on privacy and anonymity [De Montfort Code of Research Ethics (4.2.2.)]. This research was guided by the terms and conditions of Ethical Approval of Faculty of Business Administration and Law (BAL). Due to the seniority of the respondents' it is not possible to show their positions without identifying the person.

5.7. Summary

This chapter provided a brief discussion on the adopted methodology applied in this research with appropriate justifications. Some important philosophical issues such as ontology, epistemology and paradigms were presented. Methodology concept can be understood as the process of collecting relevant data for making informed research decisions. The first part of the discussion focuses on the ontological

discourse on what is reality and what is the position of the researcher on reality. This was followed by discussion of some dominant paradigms in academic research, namely: Positivism and Interpretivism. This was followed by a discussion on research paradigm, which is simply a discussion backed by justifications for making a choice between positivism and interpretivism philosophical positions.

The philosophical position of this research is mixed paradigms. The positivist paradigm is upheld for understanding the economic issues in the OCA in the GCC. The interpretivist paradigm is upheld to elicit information from human in the GCC countries regarding the political factors, which cannot be investigated using positivism. The positivist paradigm is upheld to process secondary data on the GCC countries that found in the institutional documents. From the foregoing explanation, the two paradigms have been applied for problem-identification and problem solving by two different methods. Therefore, the choice of research paradigm could be based on the nature of research and researcher's orientation. The research process was also explicated in this chapter.

The chapter provided justifications for the adoption of mixed paradigms, OCA and Johansen Cointegration test. Johansen Cointegration test is an effective tool used for ascertaining the relationships among multiple economic variables; it is valuable for testing and estimation macroeconomic model where long-run relationships among variables affect present/future observed values. The chapter was concluded with discussion of the ethical considerations/ issues in research especially issues of confidentiality and privacy of all human and institutional participants.

Chapter Six

Economic Data Analysis I Quantitative Analysis

6.0. Introduction

The GCC countries have made a significant progress toward the integration of economic and financial systems. A quantitative analysis based on OCA theory is essential to identify the similarities and/or the differences of the economic structures of the GCC countries. Theoretically, the OCA theory emphasises a number of criteria, which have to be satisfied for a successful CU. These criteria are essentials to minimise the cost of implementing the CU. Based on the OCA quantitative prerequisites 1) degree of economic openness, 2) mobility, 3) degree of commodity of diversification, 4) similarity of structure of production, 5) price and wage flexibility, 6) similarity of inflation rates, the magnitude of the costs of establishing the CU can be predicted.

In order to analyse the convergence criteria of the GCC countries, the cointegration analysis of OCA theory prerequisite is performed. The Johansen (1994) method of cointegration is used to implement the analysis. A successful monetary union depends on the presence of cointegration relationships between OCA factors in GCC countries, which can be used as evidence that support the formation of this kind of CU. Indeed as the number of cointegration relations increased means more common trends among the OCA factors, which may indicate the robustness of the effective economic coordination between GCC countries. In this chapter a quantitative study of OCA factors are carried out to be used as indicative tool to assess the suitability of GCC countries for forming a currency union. This study provides an updated analysis based on the previous studies discussed in section (2.5.2) such as Laabas and Limam (2002), Hebous (2006), Alturki (2007), Kim,

Hammoudeh, and Aleisa (2012) and Aloui, Hkiri, Nguyen, and Hamida (2014) that investigated the OCA factors within GCC countries. The main aim of this chapter is to evaluate the appropriateness of the economic integration of GCC to form the OCA. The following sections of the chapter assess the suitability of GCC countries to implement the single currency through the OCA theory. Thus, the Hypothesis of this chapter suggested that the GCC countries are cointegrated and converged for forming a single currency in terms of economic principals.

6.1. Data Explanation of the Quantitative Prerequisites Factors of OCA

This section presents the description of the data of the six quantitative prerequisites factors of OCA, it is important to note that the factors five and six are merged together.

6.1.1. Openness

Openness as explained in section (4.2.3) can be defined as how open is a country to the international trade. It can be measured by the average of exports and imports (goods and services) as a percentage of GDP. In order to measure the openness, the trade openness indicators were employed. The trade openness indicators are calculated for trade in goods, trade in services and total trade in goods and services. Note that the average of imports and exports, which indicates roughly the size of international trade, is the sum of imports and exports divided by two. The raw data for GCC countries, apart from Qatar as it was not available, were collected from UNCAT between 1980 and 2013 annually, (refer to Appendix A).

6.1.2. Mobility

Mobility as explained in section (4.2.3) can be defined as the free movement of productions within and outside a country. UNCAT measures the mobility using the

current account net, expressed in millions of dollars and as percentages of GDP. This indicator represents the balance-of-payments current account data for all transactions between residents and non-residents of the GCC countries, including economic values of goods, services, income and current transfers. In order to measure the mobility, the Balance of payments, Current account net was employed. Usually the current account balance refers to the difference between current pay-in and payout for internationally traded goods, services and income payments. From a national perspective, the current account balance is equal the difference between national savings and domestic investment. The collected data was from UNCAT between 1980 and 2015 annually (refer to Appendix A).

6.1.3. Degree of Commodity of Diversification

Diversification for an economy is an index, which can be calculated by measuring the absolute deviation of the trade structure of a country from world structure. In other words the index is a measure of the degree of product diversification. The diversified economies are considered to be a very effective to establish a single currency union, which can protect them from external shocks. In order to measure the degree of commodity diversification, the merchandise: a diversification index of exports and imports by country was employed. The product diversification index represents whether the exports and imports of the GCC countries are concentrated on a few products or diverged in a more homogeneous manner among a series of products. The collected data was from UNCAT between 1995 and 2015 annually (refer to Appendix A).

6.1.4. Similarity of Structure of Production

Countries with similar production structure are more likely to face symmetric external shocks and to exhibit high covariation in economic activities. These countries are less likely to adjust their exchange rates as a tool to ease these kinds of shocks, which makes them better candidates for single currency as explained in section (3.2.3). In order to measure the similarity of structure of productions, indicator of similarity in merchandise trade structures, 1995-2015 was employed. The collected data was obtained from UNCAT between 1995 and 2015 annually (refer to Appendix A).

6.1.5. Inflation Price and Wage Flexibility and the Consumer Price Index

Similar inflation rate indicates similarity in the economic structure in the implementation of the economic policies. This could be appreciated for countries such as GCC, which are going to coordinate their plans to fulfil the requirements for the single currency. This factor can be measured using the Consumer Price Indices (CPI). The CPI is an inflationary indicator that can be calculated by the weighted average of prices of a basket of consumer goods and services, purchases by a consumer. In other words the CPI is calculated by taking the average of the price changes for each item in the predetermined basket of goods and services. Fluctuations in CPI are used to evaluate the changes in the price associated with the cost of living. The analysed data provides information on CPI, in addition, annual growth rate indicator. The collected data was between 1980 and 2015 annually for World Bank indicators except Oman and UAE (refer to Appendix A).

6.3. Empirical Result

In this section, the empirical results of this study are discussed. Firstly the Unit Root Test Results are presented followed by the Cointegration results.

6.3.1. Unit Root Test Result

Table 6.1 summaries result of Augmented Dickey-Fuller test (Unit Root Test) (Dickey and Fuller, 1979) regarding to MacKinnon (1996) one-sided p-values as the lag lengths were selected regarding to Akaike Info Criterion result (Akaike, 1974). The aim of the table is to present the stationarity test for the individual variable and to make sure it is integrated. The first column represents the GCC countries and the second column split into two cells, where the first cell refers to the level and the second refers to the first difference. The rest five columns refer to the five OCA quantitative factors of OCA namely; Openness, Mobility, Diversification, Production and Inflation.

Table 6-1: Augmented Dickey-Fuller tests (ADF) Unit Root Tests

Variables		Openness	Mobility	Diversification	Production	Inflation
GCC countries						
Bahrain	Level	0.518	-3.338	-0.397	-1.752	1.344
	1 st difference	-5.582	-7.111	-4.032	-4.380	-4.377
Kuwait	Level	-0.583	-3.116	-0.806	-1.312	0.140
	1 st difference	-6.215	-6.511	-6.303	-5.121	-4.313
Oman	Level	0.667	-3.621	-1.771	-2.004	N/A
	1 st difference	-7.132	-7.651	-4.741	-4.593	N/A
Qatar	Level	N/A	-1.441	-1.056	-1.180	-0.098
	1 st difference	N/A	-5.415	-3.210	-4.024	-3.399
Saudi Arabia	Level	0.120	-1.973	-1.175	-1.871	0.308
	1 st difference	-4.255	-5.300	-4.489	-3.979	-2.435
UAE	Level	1.474	-2.365	-0.481	-1.798	N/A
	1 st difference	-4.742	-6.137	-4.669	-4.835	N/A

In order to perform the cointegration analysis, the unit roots in each variable should be determined. To this end Augmented Dickey-Fuller (ADF) a stationary test

is applied on the five OCA factors of the GCC countries (openness, mobility, degree of commodity and diversification, similarity of structure of production, and the inflation)

Table 6.1 reports the results of the ADF test for the level and for the first-difference of the considered variables. The results show that unit root tests applied to the variables at levels satisfy the null hypothesis of non-stationary of all the variables used. In other words all the variables are non-stationary at levels. The hypothesis is accepted when the series are first-differenced, which means all variables are stationary. Table 6.1 shows that there is no unit root for the inflation factor for Saudi Arabia, so in this case the cointegration test cannot be performed. Also the raw data for UAE and Oman are not available, hence this factor is eliminated from this study. Based on MacKinnon (1996) one-sided p-values, the openness factor in Bahrain is non-stationary at level due to its value, which is (0.518) while is stationary at the first difference with value of (-5.582) All the series in this research results are integrated of first order I(1). All the result of ADF are listed in appendix B.

6.3.2. Cointegration Test Result

Tables 6.2 illustrates the result of the Trace Test of the five factors of OCA. The result of the table presents Johansen's Cointegration test. The aim of the table is to confirm if every factor of OCA is cointegrated within GCC countries. The number of the cointegration for each factor was obtained regarding to Trace Test at the 0.05 level. In the first column shows the OCA factors and the second column refers to the Null Hypothesis H_0 . The third column refers to the Alternative Hypothesis H_1 while the fourth column represents the values of the Trace Test. The last two columns represent the P critical values.

Table 6-2: Johansen's Cointegration Test for the OCA Factors

OCA factors	Null Hypothesis	Alternative Hypothesis	Trace Test	Critical Values	
				95%	P-values
Openness	$H_0: r = 0$	$H_1: r = 1$	84.142	69.818	0.0024
	$H_0: r = 1$	$H_1: r = 2$	47.635	47.856	0.0524
	$H_0: r = 2$	$H_1: r = 3$	19.915	29.797	0.4286
	$H_0: r = 3$	$H_1: r = 4$	6.0164	15.494	0.6936
	$H_0: r = 4$	$H_1: r = 5$	0.1589	3.841	0.6901
Mobility	$H_0: r = 0$	$H_1: r = 1$	148.738	95.753	0.0000
	$H_0: r = 1$	$H_1: r = 2$	92.918	69.818	0.0003
	$H_0: r = 2$	$H_1: r = 3$	59.358	47.856	0.0029
	$H_0: r = 3$	$H_1: r = 4$	33.729	29.797	0.0167
	$H_0: r = 4$	$H_1: r = 5$	15.473	15.494	0.0504
	$H_0: r = 5$	$H_1: r = 6$	6.6654	3.8414	0.0098
Diversification	$H_0: r = 0$	$H_1: r = 1$	229.032	95.753	0.0000
	$H_0: r = 1$	$H_1: r = 2$	113.509	69.818	0.0000
	$H_0: r = 2$	$H_1: r = 3$	47.700	47.856	0.0517
	$H_0: r = 3$	$H_1: r = 4$	19.784	29.797	0.4375
	$H_0: r = 4$	$H_1: r = 5$	4.302	15.494	0.8777
	$H_0: r = 5$	$H_1: r = 6$	0.093	3.841	0.7600
Production	$H_0: r = 0$	$H_1: r = 1$	198.327	95.753	0.0000
	$H_0: r = 1$	$H_1: r = 2$	122.688	69.818	0.0000
	$H_0: r = 2$	$H_1: r = 3$	76.464	47.856	0.0000
	$H_0: r = 3$	$H_1: r = 4$	43.330	29.797	0.0008
	$H_0: r = 4$	$H_1: r = 5$	16.574	15.494	0.0343
	$H_0: r = 5$	$H_1: r = 6$	6.496	3.841	0.0108

The Johansen cointegration is applied on the four OCA factors of the GCC countries, which has unit roots (openness, mobility, degree of commodity and diversification and similarity of structure of production, inflation was excluded because it was not integrated in the Augmented Dickey-Fuller test as it has no Unit Root. Tables 6.2 shows the results of the cointegration test based on Johansen's trace tests for the four factors of the OCA. The results indicate that there is one cointegration between the independent variable (openness of Saudi Arabia) and the dependent variables (the openness of other GCC countries except Qatar). The results also confirm that there are four cointegrations between the independent variable and the dependent variables for the case of the mobility factor while there are two cointegrations among the variable for the degree of Commodity of Diversification in the case of Similarity of Structure of Production factor it can be seen from the table that there are six cointegration among the variable with regard to production. All the result of Johansen test are listed in appendix B.

It is clear from the results that apart from the inflation all other quantitative prerequisites of OCA theory have at least one conintegration. These results provide strong evidence for the GCC to move forward toward a single currency union with minimum costs, which confirmed the Proposition 2 as stated - there is economic convergence (in the six quantitative prerequisites factors of an optimum currency area) in the GCC countries. Therefore, the Hypothesis of this chapter is confirmed.

6.4. Summary

In this chapter, the six quantitative prerequisites factors of OCA theory were analysed to examine whether the GCC countries could successfully form an Optimum Currency Area. The OCA theory in this context was used to predict the magnitude of the costs of using single currency within the GCC countries. The results of

cointegration test, when taking evaluated factors of Saudi Arabia as independent variables and the factors of other GCC countries as dependent variables, provided clear evidence that support the effectiveness of cointegration between the independent variables and the dependent variables. The obtained results showed that there was one or more cointegrations for each prerequisites of OCA theory among the GCC countries. The results indicated the production factor has 6 cointegrations, which mean that the GCC countries have a very similar production structures. However, for the openness factor the cointegration between the independent variable and the dependent variable was only 1, which means that the GCC countries should pay more attention to improve their openness, which is a political consideration as well as economic discussed in chapter 7 Questions 9 and 11.

Finally, this study clearly indicated that the GCC countries are in a satisfactory position to form single currency with significant benefits and minimum costs. This assertion is backed by views in the literature and established theories. Laabas and Limam (2002) a single currency area often defined as an area that agree to form a common monetary and currency union for mutual benefits with several implications on governance and economic structures of member states. Brackemyre (2014) explained that with regards to the OCA theory, there is preference for a single currency area, which brings huge benefits to the member countries. The OCA theory simply helps to define the point where the marginal costs and benefits of joining a union intersect (with underlining mutually beneficial terms and conditions in place). Horvath and Komarek (2002) stated that OCA theory attempts to provide answer to the raging question: what is the optimal number of currencies that ideal for a region with similar social and economic structures?

The OCA theory also explains the framework that leads a region to monetary integration with attendant beneficial implications. The first beneficial is the monetary integration, which presupposes one single currency and coordinating a central bank with power of monetary policy measures on liquidity, inflation, foreign exchange reserves and interest rates. The second is fixed exchange rates (currency pegging), that allows for convertibility of member states' currencies with non-members. The third beneficial implication is financial market integration, which entails openness and the free inflow of capital transactions and centralized financial regulations. It can be concluded from this empirical study that the main obstacle for the GCC countries to form single currency area is not the economic integration.

Chapter Seven

Political Data Analysis I I: Qualitative Analysis

7.0. Introduction

The qualitative research interview refers to the description and the meanings of the studied themes in the subjects of the real world. The main role of the interview is to fully understand the meaning of what has been said by the interviewees. The interviews are significantly helpful for obtaining the information from the participants' experiences. The researcher can seek deep information related to the studied topic. The aim of this chapter is to investigate the political factors, which effect the adoption of the OCA in GCC bloc through a qualitative study. This chapter investigates the transcription and analysis of the interviews that were conducted with professionals and economists across the GCC countries. It also provides a brief explanation of the content and thematic analysis, which used as a technique to interpret the gained information in section 7.1. In section 7.2 comprehensive and a critical discussion of all interview questions are presented. A brief of the findings from this study are presented in section 7.3 followed by the summary of this chapter in section 7.4. From the discussion in section (2.5.3), this study investigates the political factor.

7.1. Analytical Approach used for the Interviews

In this qualitative study, thirteen professionals with different career and discipline were interviewed and due to confidentiality constraint, the autobiography of these interviewees cannot be provided. The sample was chosen based on Self-selection and Snowball sampling. Self-selection sampling is used when the individuals express their desire to participate in the research when they are contacted

by the researcher, while the Snowball sampling allows the researcher to contact one or two interviewees and then ask them to identify further interviewees. According to these methods I started selecting my sample by contacted one professional at King Abdulaziz and then those interviewees recommended to further interviewees. There are three key points were learned from the pilot study. One, the pilot study made me to choose the right sampling techniques, which are explained above. Furthermore, clarify the ambiguity in the interview questions. The questions were reframed to be clear and specific. Two, the interviews used for the pilot were highly experienced, they provided more insight into economic, cultural and political dimensions that led to delay in adopting a single currency in the region. Thirdly, the interviewees assisted with contacts of experts on GCC in the Gulf region. The sample was selected according to following conventions:

- Knowledge background (finance, economic and politic) to conduct comprehensive investigations;
- From GCC countries;
- Recommendation by third party;
- Our own judgment and selection.

From the contact list, the professionals were contacted through their email addresses. After a period of one month, 13 professionals signified interest to participate in the main interview. In order to have a clear understanding to the single currency project and to answer my research questions, three themes were identified, which includes economy, banking and political themes. Therefor, these 13 professionals include economists, bankers and politics with extensive knowledge and expertise in GCC's single currency agenda. These interviewees work in seven

different organisations, which are interested in GCC economic integration and the single currency agenda in the Gulf. The seven institutions listed below:

- 1) Islamic Economics Institute at King Abdulaziz University
(http://iei.kau.edu.sa/Default.aspx?Site_ID=121&Lng=EN)
- 2) Capital Market Authority (<https://cma.org.sa/Pages/default.aspx>)
- 3) Business Economic Consulting Centre (<http://www.becc.com.sa>)
- 4) Hafiz Financial Consulting (Jeddah, Saudi Arabia)
- 5) Bank Aljazira (<http://www.baj.com.sa/ar/index.aspx>)
- 6) Khazaen Financial (<http://www.khazaen.com/>)
- 7) Department of Political Science at King Abdulaziz University (http://political-science.kau.edu.sa/Default.aspx?Site_ID=120006&lng=EN)

The study was carried out over three months, from 15th October 2014 to 15th January 2015. The interviews were conducted in Arabic, which is the official language in Saudi Arabia. The interviews were then analysed based on Content analysis (CA) and Thematic Analysis (TA). These techniques are used to analyse non-numerical data, voices and observations and will be explained in more details in the next two sub-sections. The interview responses were transcribed and translated from Arabic into English and sorted into common statements and themes using CA and TA techniques.

Table 7-1: The Research Sample Description

SN	Interviewee	Job Title
1	Dr. A	Economist
2	Professor B	Economist/Consultant
3	Dr C	Economist/Consultant
4	Dr D	Economist
5	Dr E	Economist/Consultant
6	Dr. F	Banker
7	Mr. G	Banker
8	Mr. H	Banker
9	Mr. I	Banker
10	Professor J	Policymaker
11	Dr. K	Policymaker
12	Dr. L	Policymaker
13	Dr. M	Policymaker

7.1.1. Content Analyses (CA)

The CA is an analytical technique used by interpretivists or researchers to carry out a qualitative study. This technique used for summarising, classifying, compressing and tabulating recorded voice data and several texts into meaningful concepts (Stemler, 2001; Saunders, Lewis and Thornhill, 2012; Raimi, Akhuemonkhan and Ogunjirin, 2015). Harwood and Garry (2003) described the CA as a method for clearly explaining the content of a visual and verbal data. Collis and Hussey (2013) stated that, CA is popularly employed in analysing qualitative and quantitative data, although it is commonly used to manage qualitative data. Horn (2010) posited that CA is simply an analytical tool for providing meanings to open-ended questions or interview responses. CA is used to determine the repetition and the frequency of certain words, concepts and themes from which logical inferences could be drawn on the subject of inquiry.

Based on the above definitions, CA has both the descriptive and the interpretative levels of data analysis. The descriptive level of the CA is the verbatim quotation of the interview sessions without the personal interpretations of the researchers. On the other hand, the interpretative level of the CA is the researcher's

explanation of what is meant by the statements and quotations, which is the inference drawn by the researcher from the interview responses (Denscombe, 2009; Saunders, Lewis and Thornhill, 2012).

Based on the above discussion, it is clear that CA looks for codes and themes to classify the collected data in meaningful and logical manners. To guide academic researchers, Harwood and Garry (2003) classified CA into six types namely: pragmatic analysis, semantic analysis, designation analysis, attribution analysis, assertions analysis and sign-vehicle analysis. Pragmatic content analysis explores cause-effect relationships among words, contents and ideas in terms of frequency and impact. Semantic analysis looks critically at meanings of words within textual and voice data and their frequency in the materials being analysed. Designation analysis examines the frequency of reference to a particular object, person, thing, theme, word in a piece of article. Attribution analysis explores the frequency of characterisations linked to certain attributes. Assertions analysis examines the frequency of characterisations linked to certain objects. Sign-vehicle analysis examines the frequency of certain utterances in a text or speech (Harwood and Garry, 2003; Raimi, Akhuemonkhan and Ogunjirin, 2015). The semantic analysis is the most appropriate technique that fulfils the requirements needed for analysing the data and makes meaningful and logical inferences from the text of the conducted interviews.

7.1.2. Thematic Analysis (TA)

The second qualitative analytical technique that provides a meaning out of interviews is the TA. According to (Braun and Clarke, 2006), TA is a qualitative data analysis employed by the interpretivists and realists for identifying, understanding and reporting themes, experiences and meanings from a social reality. However, Horn (2010) explains that thematic analysis is a form of template analysis to bring out

hidden themes and codes from qualitative enquiry. TA is a tool used for interpreting different themes/sub-themes that have been identified after transcription and coding of raw data from interviews (Boyatzis, 1998; Raimi, Akhuemonkhan and Ogunjirin, 2015).

There are five systematic steps that have to be followed when using the TA, namely: 1) Familiarisation with the data; 2) Generation of preliminary codes/categorisations; 3) Searching for common themes by reading, reviewing and fine-tuning the themes from the voice or text data; 4) Refinement of the themes; 5) Production of final report from the themes/codes (Braun and Clarke, 2006; Denscombe, 2009; Saunders, Lewis and Thornhill, 2012).

7.2. Presentation of Data

In this section, the results of the pilot study are presented first followed by the main qualitative study on the policy of integration and the political factors.

7.2.1. Pilot Study Outcome

After constructing the first draft of the interview questions, a pilot study was carried out between the 6th and 30th June 2014. The pilot study informs the researcher about the reliability and validity of the interview questions. The interview questions are considered to be reliable when different researchers investigate the same research problem and come up with the same findings and outcomes (Easterbay-Smith, Thorpe and Jackson, 2008; Saunders, Lewis and Thornhill, 2012). The reliability of the interview questions becomes necessary in qualitative research to ensure neutrality of the research (Saunders, Lewis and Thornhill, 2012). To conduct this pilot study a structured interview was constructed. In order to ensure that the interview questions reflect all research questions, these questions tested on four

volunteers with sufficient knowledge about the GCC bloc. The volunteers were given clear instructions, which make them provide a specific feedback on the interview questions in terms of adequacy, relevance, clarity and also to give feedback on the degree of the confidentiality as shown in Table 7.2. The interview questions were carefully reviewed and modified according to the volunteers' feedback. The interview questions were instructed to cover the answer of the research questions. The interview questions 3, 4 and 5 were designed to cover the economic aspect of the current research, which in turn answer the third research question "Does the GCC meet the economic criteria for a single currency to be introduced?". While questions 1 and 9 were meant to answer the following research question "What are the political factors that affected the adoption of a single currency in the GCC?". Finally, questions 2, 6, 7, 8 and 10 were instructed to link these two research questions and how they influence each other.

Table 7-2: Pilot Study Sample

	Adequacy of Interview Questions	Clarity of Interview Questions	Relevance of Interview Questions
Economist	Fairly adequate	Clear enough	Relevant
Banker	Adequate	Yes	Indeed relevant
Policy Analyst	Adequate	Yes	Remove some repeated questions
Lecturer	Adequate	Not too clear	Relevant

7.2.2. The Interview Study

This section presents the interview questions with the correspondence interviewees' responses. The questions presented here in the same order as they were asked to the interviewees.

Question 1: Do you think the GCC countries believe in a single currency for the region?

Transcribed Responses of Question 1:

All interviewees agreed that the GCC countries passionately believe in a single currency for the region. However, the passion of each GCC country about the single currency differs based on their attitudes, foreign policies and alliances in the Gulf region. For instance, interviewees A, K, L and M are in the favour of a single currency agenda in the GCC nations as this kind of union will bring huge benefits to the region. The interviewee C also mentioned that European countries took too long to reach the final stage. The delay is logistics and that is why the GCC countries are taking their time. The interview D and E is also believed that the GCC countries believe in the single currency union, but so many reasons behind the delay in the implementation.

Interviewee F explained that religion and the language are a significant advantage for GCC countries to reach the single currency union. The delay in adopting the single currency could largely be linked to the internal issues of each member as well as structural differences in economics of the GCC countries. Although GCC countries are Arab countries, they have different priorities in their political commitments, national policy and foreign policy. Taking into consideration this type of picture, it will take some time for a single currency union to be achieved, Interviewee G mentioned. The GCC countries believe in the union in view of some level of cooperation on common business initiatives, military and open borders agreement, Interviewee H mentioned.

Only one theme emerged from the thematic analysis of the interviewees' responses as shown in Table 7.3. The thematic results in Table 7.3 shows that all interviewees agreed upon the necessity of achieving single currency union. The above qualitative findings confirmed the opinion of Laabas and Limam, who found that a

single currency agenda has been unnecessarily delayed because the structure of the GCC countries' economies, is dominated by the oil sector (Laabas and Limam, 2002).

Table 7-3: Thematic Analysis of Question 1

Theme that emerged from interview	Frequency (N=13)	Interviewee	Interviewee by types		
			Economist	Banker	Policy maker
Yes, GCC believes in a currency Union	13	A, B, C, D, E, F, G, H, I, J, K, L and M	5	4	4
No, GCC members are insensitive	0	None	0	0	0

Question 2: Why do you think it has taken too many years to actualise this agenda?

Transcribed Responses of Question 2

The interviewees answers to this question indicate that there are two reasons behind the delay of actualising the single currency agenda, which are the political will and the difference in the economic and foreign policies. The interviewee A said that the commencement of the single currency has taken too long due to the difference in the interests of the representatives of these GCC nations such as ministers and the political leaders who make the final decisions. The delay could be linked also to economic and foreign policy considerations, interviewees A, B, C, D, E, F, G and L mentioned.

Interviewee H believes that the lack of political will is main cause in delaying the take-off of a monetary unit among the GCC countries. Interviewee I identified that the political conflict, the difference in foreign policies and the foreign influence and other operational barriers are the main critical factors, which make the single currency agenda unattainable during the recent years in the GCC. The GCC countries suspended their action on the single currency union due to the regional political

dispute, interviewee J mentioned. Interviewee K pointed out that the delay could be linked to the differences in operational modal for the adoption of a single currency as each country has its own currency, exchange rate and financial challenges that have to be sorted before adopting a full currency union. K also mentioned that the reason for the delay could be linked to the willing of maintaining the independency under the monarchy system, where each country wants to maintain its own control on the external relations, the trade and the monetary policies. However, interviewee M noted that the actualisation of a single currency took so long due to the economic divergent and political interests among members. There are two themes resulted from the interviews, which explained the reasons that cause the delay in actualising the single currency agenda as shown in Table 7.4.

It is clear from the interviews that the main reason behind the delay is the political will, which was also mentioned by the former head of the International Monetary Fund (IMF), who expressed concerns regarding the single currency agenda as there is need for greater political will by the GCC countries (Trenwith, 2014). All in all, it can be said that no matter how good a policy or programme is, without the political will, it will die naturally.

Table 7-4: Thematic Analysis of Question 2

Themes that emerged from interview	Frequency (N=13)	Interviewee	Interviewee by types		
			Economist	Banker	Policymaker
Economic and Foreign policy Difference	8	A, B, C, D, E, F, G, L	5	2	1
Lack of Political Will	5	H, I, J, K, M	0	2	3

In view of the foregoing content and thematic analyses, 8 out of 13 interviewees attributed the long years of delay in actualising the single currency agenda due to the conflicting economic and foreign policies among member countries. The other 5 interviewees attributed the long years of delay to the lack of political will among GCC countries. All economists thought the delay was due to economic and foreign policy differences whilst 3 of the 4 policy makers felt it was due to lack of political will. Given all thought in Q1 there was a significant potential to achieve a currency union and the perceived reasons will be analysed along with the economic analysis at the end of this chapter.

Question 3: Do you think GCC countries have special roles to play in bringing a single currency to reality? If yes, what are these roles? If no why do you think they have no roles?

Transcribed Responses of Question 3

All the thirteen interviewees agreed that the GCC countries have special roles to play in the actualisation of a single currency judging by the experience of Europe and its single currency. Although the European countries were disunited during the first and second world war; later they agreed to come together when they weight the cost and benefits of monetary integration and cooperation. Therefore the socio-economic and political reasons that led to the emergence of EU are quite different from those exist in the GCC bloc. The GCC countries have lots of roles to play to realise a single currency agenda interviewees C, D, F, G and L mentioned. The first role is the monetary cooperation in maintaining inter-regional monetary policy measures. The most important role to bring the establishment of a single currency is to weight the costs and the benefits of a single currency union. This task is for the

policymakers to carry out the cost –benefit analysis interviewees A, B and E mentioned.

Interviewee H and I mentioned that the single currency can be actualised through better understanding, cooperation and avoidance of mutual suspicion, which political dispute has caused in the region. J, K and M pointed out that the key role to be played is a genuine cooperation backed by regular summits on the prospects, challenges and real practical steps to adopt the single currency union. They also mentioned that without cooperation and understanding the final aim would be just a long dream interviewee J, K and M.

Four themes emerged from the TA of the transcribed interviews and are depicted in Table 7.5. In my opinion there is urgent need for the six founders to mend fences. Specifically, the six Gulf Cooperation Council member states - Saudi Arabia, the UAE, Qatar, Kuwait, Bahrain and Oman need to improve their relationships.

Table 7-5: Thematic Analysis of Question 3

Themes that emerged from interview	Frequency (N=13)	Interviewee	Interviewee by types		
			Economist	Banker	Policy maker
Political cooperation	5	C, D, F, G, and L	2	2	1
Weighing cost and benefits of single currency	3	A, B and E	3	0	0
Unified foreign policy and avoidance of suspicion	2	H and I	0	2	0
Regular summits and cooperation	3	J, K and M	0	0	3

In the thematic analyses, 5 interviewees noted that the special role for bringing a single currency into reality requires political will; 3 interviewees stated that the special role of members is to weighing cost and benefits of single currency; 2

interviewees explained that the special role of GCC is evolving into a unified foreign policy and avoidance of suspicion; and 3 interviewees opined that a single currency requires regular summits and cooperation. The policy makers emphasised the need for regular summits and cooperation, which indicates support for the proposition that fences need to be mended for building political trust will.

Question 4: How important is the possible loss of sovereignty of monetary and fiscal policies be responsible for the delay in adopting a single currency?

Transcribed Responses of Question 4

The importance of sovereignty was underscored by all the interviewees. They noted that partial loss on sovereignty is expected under a single currency arrangement. The cost of partial loss of sovereignty is negligible compared with the enormous benefits that a single currency would bring to the GCC countries in the long-run. Interviewees A, B, C, F, L and M mentioned that a unified monetary and fiscal policies should not in any way lead to full loss of sovereignty when there is a comprehensive understanding of what a single currency is all about. A single currency agenda requires serious sacrifices and concession among member countries. Losing monetary policy sovereignty is not a real problem since all the countries in the GCC bloc pegged their currencies with dollars for stability, interviewee A, G, H, I, J, L and M mentioned.

However, B and C expressed their concerns about sovereignty by saying certainly, there will be some degree of loss of sovereignty and these nations would seek assistance from the central monetary body. The stronger nations within the GCC bloc should compensate and support weaker one like Oman on the principle of wealth redistribution and justice. This is what Germany does in Europe to sustain the single currency union, interviewee D and K mentioned. The fear of losing the sovereignty

of monetary and fiscal policies increases the procrastination in adopting a single currency. E and F said that each member values his political power and sovereignty under the kingship system of governance. They feel loss of sovereignty would affect their country's relations with trade partners/countries, which they are not prepared to abandon for a unified currency agenda in a region.

The four themes rose from the TA that there is a possible link between loss of sovereignty and delay in adoption of a single currency as depicted in Table 7.6. This finding aligns with the finding of on the integration effort of ECOWAS. It is argued that the fear of loss of sovereignty by the West African Countries under the ECOWAS regional union experienced serious obstacle in the take-off of its monetary integration due to member countries loss their intra-regional tariffs. The fear is that with loss of revenue it would be difficult for member countries to meet their revenue requirements (Goshit, 2013). This is the same fear that makes the GCC countries think twice before going into a single currency union.

Table 7-6: Thematic Analysis of Question 4

Themes that emerged from interview	Frequency (N=13)	Interviewee	Interviewee by types		
			Economist	Banker	Policy maker
Loss of sovereignty worsens procrastination	7	A, G, H, I, J, L and M	1	3	3
Idea of central monetary and political sovereignties	2	B and C	2	0	0
Wealth redistribution	2	D and K	1	0	1
Negative effect on trade relations	2	E and F	1	1	0

In view of the thematic analyses in Table 7.6, 7 interviewees noted that loss of sovereignty was responsible for the delay in adopting a single currency; 2 interviewees stated that the delay is caused by the idea of central monetary and

political sovereignties; Another 2 interviewees linked the delay to wealth distribution and the remaining 2 interviewees said that negative effect on trade relations caused further delay in adopting a single currency area. This again highlights the loss of political independence as a key issue amongst policy makers.

Question 5: How important is the fear of domination by Saudi Arabia be responsible for the delay in adopting a single currency?

Transcribed Responses of Question 5

The fear of other GCC countries from the domination of Saudi Arabia was clearly emphasised by all the interviewees. Some interviewees opined that this fear would be reduced if the GCC countries came together and move forward to create economic balance among member countries in an atmosphere of maturity, cooperation and mutual benefits as similar fears existed in the European Union. Decision-making process should be based on evaluation of cost, benefits and the fairness rather than the domination; Interviewees B, C, F, H and K mentioned. These interviewees further mentioned that the fear of domination by Saudi Arabia is recently raised.

The fear of domination is natural, interviewees B, C, F, H and K mentioned, as the same feeling happened in the EU when the nations feared the dominance of Germany. However, the reality of a single currency agenda in Europe means that all the member countries shared the positive and negative impact of economic dynamics. The EU fear experience should not be used as a justification for the fear in GCC bloc, interviewees A, D, E, G, J and I mentioned. Also the interviewee A mentioned that to be fair the fear of Saudi's domination among the other countries of the GCC is reality as this feeling came due to that Saudi Arabia controls over 60% of economic activities in the region. Interviewees L and M also agreed that the fear is real because the headquarter of the GCC and the Gulf Central Bank are located in Saudi Arabia, and

the governor often appointed from the same country. The Gulf Central Bank does not currently mandate monetary policy, but should a currency union occur it would adopt these powers.

The fear of domination by Saudi Arabia plays a big role in the delay of adopting a single currency as Saudi Arabia presented itself as a leader of the GCC bloc and this was the main concern of UAE and Oman. Saudi Arabia is the only Arab country has the membership of G20, which may make the GCC bloc came up with a resolution to give Saudi Arabia advantage of hosting the regional central bank for the proposed monetary union. This resolution caused a confliction between UAE and Saudi Arabia and worsens the fear in UAE of dominance by Saudi Arabia, as the UAE wants the bank to be located in Abu Dhabi. This fear and the conflictions led the UAE to exit from the single currency project. The three themes that emerged from the link of fear of domination by Saudi Arabia and delay in adoption of a single currency are tabulated in Table 7.7 below.

Table 7-7: Thematic Analysis of Question 5

Themes that emerged from interview	Frequency (N=13)	Interviewee	Interviewee by types		
			Economist	Banker	Policy maker
Economic imbalance among member countries	5	B, C, F, H and K	2	2	1
Slow economic integration	6	A, D, E, G, I and J	3	2	1
Loss of economic interests	2	L and M	0	0	2

In view of the content and thematic analyses above, 5 interviewees noted the fear of domination by Saudi Arabia may lead to economic imbalance among member countries; 6 interviewees noted that the same fear could cause a slow economic integration, while 2 interviewees stated that fear of domination by Saudi Arabia may be responsible for the loss of economic interests.

Question 6: Do you think UAE and Oman will join a single currency? What are the key factors for these e.g. economic or political reasons?

Transcribed Responses of Question 6

The joining of UAE and Oman to the single currency project is very important for regional integration. However, if they decided not to do so, the integration agenda should go ahead as similar experience happened in European Union when Britain refrain from joining the euro zone, Interviewees A, D, L, and M mentioned. Three other interviewees B, C and E noted that every country has its own strengths and weaknesses. UAE has an open door policy for foreign investments, and sacrificed a lot to attract foreign investments.

It seems to be UAE has no economic obstacles from joining the single currency but it has some political concerns. Oman on the other hand has a weak non-competitive economy, which leads its policymakers to decide not to join the union as this may worsen their economy. The interviewees expressed the opinion that at the end there is no doubt that UAE and Oman will join the union, but at the moment they are watching and observing the progress of the integration process, interviewee E mentioned. Also interviewee E mentioned that joining or existing is a matter of national interest, freedom of choice and benefits. If Bahrain, Saudi, Kuwait and Qatar agreed to go ahead with the single currency agenda the impact in the Gulf would still

be noticeable in the region even without Oman and UAE, interviewees G, H and I mentioned.

GCC as an entity is working hard to persuade UAE and Oman on the importance of interring the monetary union project as a precondition for launching a common currency in the region. While, urging UAE and Oman to return, the remaining four members are pushing ahead with the monetary union. A common market and/or central bank would also position the GCC as a single bloc with powerful structure for influencing the international financial system. In spite of the benefits, the monetary union would cause each member state to lose some of the flexibility associated currency autonomy. The four related themes that emerged as key factors, which preventing UAE and Oman from joining a single currency are tabulated in Table 7.8 below.

Table 7-8: Thematic Analysis of Question 6

Themes emerged from interview	Frequency (N=13)	Interviewee	Interviewee by types		
			Economist	Banker	Policy maker
Freedom of choice	4	A, D, L, and M	2	0	2
Investment interest	3	B, C and E	3	0	0
Political consideration	2	F and K	0	1	1
National interests	3	G, H and I	0	3	0

In view of the content and thematic analyses above, 4 interviewees said the key factor that explain the opposition of UAE and Oman on a single currency is purly freedom of choice while 3 interviewees identified the investment interest is the key factor. 2 interviewees looked it as political consideration; while another 3 interviewees attributed it to national interests.

Question 7: When do you think a single currency will be adopted? Why was it not implemented in 2010?

Transcribed Responses of Question 7

The interviewees are optimistic in achieving the single currency as recently this project came up on the surface in the official media in the region. The delay caused by insufficient readiness of the Gulf countries, interviewees A, C, D and G mentioned. Some other interviewees argued from practical experience point view that the delay in the adoption of a single currency in 2010 was linked to some special circumstances in GCC bloc as well as poor planning for take-off. The commencing date of a single currency project is difficult to predict because the GCC countries have disputes in their foreign policies. For instance, Qatar has cordial relations with Turkey, which indicates that Qatar has different foreign policy compared with Saudi Arabia especially during the period of King Abdullah Interviewees B, E and F mentioned.

Another interviewee reported that a single currency union was not implemented in 2010 because of foreign pressures linked to delay in the implementation, interviewee J, K and L mentioned. Considering the announcement of take-off and then later cancelled, it would be extremely difficult to know exactly when the single currency project will be adopted in the GCC bloc.

From the views of the interviewees and events unfolding in the region, the single currency agenda would be materialised when the following measures are in place. First and foremost, there is need for a high fiscal coordination among GCC countries, which is an important process that goes beyond adopting criterion of European Union. Secondly, the GCC countries need to build up fiscal policy at national central banks to enhance successful launch, sustainability, stability and

continuity of the single currency when eventually adopted. Four themes emerged on the two-fold interview question are presented in Table 7.9.

Table 7-9: Thematic Analysis of Question 7

Themes that emerged from interview	Frequency (N=13)	Interviewee	Interviewee by types		
			Economist	Banker	Policy maker
Not sure, but soon/Poor readiness	4	A, C, D and G	3	1	0
Difficult to predict/Unsuitable times	3	B, E and F	2	1	0
Not too soon/Regional conflicts	3	H, M and I	0	2	1
Very difficult to predict/Middle-East Crisis	3	J, K and L	0	0	3

In view of the content and thematic analyses above, 4 interviewees said that they were not sure of when a single currency will be adopted; 3 interviewees said the timing is difficult to predict but the present time is clearly unsuitable; another 3 interviewees stated that the timing for adoption is not soon because of regional conflicts; while 3 other interviewees opined that it is very difficult to predict the timing for adoption of a single currency because of the Middle-East crisis. The responses show that regional stability is a major factor affecting the speed of adoption of a single currency, on top of the current economic and political factors described in the thesis. All were agreed now is not the time to adopt a single currency.

Question 8: What countries do you think will be more affected by CU? In what ways?

Transcribed Responses of Question 8

The union will affect all member countries' monetary, trade and custom structures. They would all be affected through interregional trade relationships and massive investment among member countries like UAE, Oman need investments and Saudi Arabia interviewees A, C, K, L and M mentioned. Another four interviewees responded that Saudi Arabia, UAE and Kuwait would feel more of the positive effect that comes with adoption of a single currency interviewee B, D, E and F mentioned.

Interviewees G, H, J and I replied that countries with the least level of development and weak currencies suffer because stronger currency expels the weak currency from the financial market. Therefore, Saudi Arabia because of its size and big economy would be more affected positively by the currency union than other smaller countries, which have high expectations from Saudi Arabia. However, when there is a negative development like the crisis in Europe, Saudi's economy would bear the effect more especially providing support for the weaker countries in the GCC (Interviewee G, H, I and J).

Saudi Arabia undoubtedly will benefit more than other countries considering the increasing domination of the leadership of Riyadh. Saudi Arabia possesses 30 % of global oil reserves, which positioned it as the political and economic force, which provides the needed motivation for integration in the region. Even militarily, Saudi Arabia under GCC overshadowed other members. This reality informed the apathy of some member countries. Following to the Arab Spring, in 2011 Saudi Arabia and the UAE sent troops to suppress the uprising in Bahrain. Seeing this regional ambition, Kuwait, Oman and Qatar refused to intervene. To expand the economic and political benefits beyond the GCC bloc after the Arab Spring, attempts to influence the Middle-East region by expanding the GCC bloc. Morocco and Jordan applied to join

the GCC bloc in 2011 for the purpose of evolving a bloc based on joint value systems of autocratic monarchies. Yemen has also attempted to join the GCC. Three themes emerged on what countries will be more affected by currency union are presented in Table 7.10.

Table 7-10: Thematic Analysis of Question 8

Themes that emerged from interview	Frequency (N=13)	Interviewee	Interviewee by types		
			Economist	Banker	Policy maker
All GCC member countries/Trade	5	A, C, K, L and M	2	0	3
Three GCC countries/Investment	4	B, D, E, F	3	1	0
Weaker GCC countries/Weak economy	4	G, H, J and I	0	3	1

In view of the content and thematic analyses above, 5 interviewees said all GCC countries will be more affected by a single currency area through improved trade; 4 interviewees said three GCC countries will be more affected by a single currency area through investment; and 4 weaker GCC countries will be more affected by a single currency area through weak economy.

Question 9: How important is united currency in economic development to Gulf cooperation countries?

Transcribed Responses of Question 9

Three interviewees are in the favour of currency union in the Gulf as it is a key element for economic development and interregional trade relationships, interviewees A, K, and M mentioned. Another four interviewees stated that a currency union would make the GCC countries the hub of the Gulf region. It reliefs the deficit in budgets, encourages a stable economy, expanding balanced development, cultural/social and

political union, better international relations and unified foreign policy, interviewee B, C, D and E mentioned.

Interviewees F, G and L are of the opinion that a united currency system would make the GCC bloc a powerful economic bloc similar to European Monetary Union. Interviewee H noted that a united currency system helps maintain significant foreign monetary reserves for all member countries. Interviewee I opined that a united currency has a number of benefits such a powerful influence, unified exchange rate system and massive regional investment in oil and gas. Finally, one interviewee explained that unified currency is important for maintaining similar convertible exchange rate. With unified funding there would be stability in funding developmental projects across the Gulf countries, interviewee J mentioned.

A united currency is important for economic development in the GCC bloc for several reasons. Firstly, the GCC countries constitute less than 15 % of the population of entire Arab countries, but they produce 70% of total of the GDP of Arab world. Secondly, these six countries have almost 90% of the stock market of the entire Arab countries. With a unified common currency, associated monetary and financial integration, the GCC bloc would have the opportunity to improve their socio-economic policy, security and political structures in the Gulf region as well as the entire Middle East. GCC bloc is considered to be the most homogeneous economic bloc as they share a common history, language and culture. The currency union is therefore, an important agenda that needs to be supported and promoted by all the member countries. Six themes that emerged on the importance of currency union and are presented in Table 7.11

Table 7-11: Thematic Analysis of Question 9

Themes that emerged from interview	Frequency (N=13)	Interviewee	Interviewee by types		
			Economist	Banker	Policy maker
Unified Currency creates a better trade relations	3	A, K, and M	1	0	2
Unified Currency create a hub in the Gulf	4	B, C, D and E	4	0	0
Unified Currency create a powerful economic bloc	3	F, G and L,	0	2	1
Unified Currency creates a significant foreign monetary reserves	1	H	0	1	0
Unified Currency create a powerful influence and unified exchange rate	1	I	0	1	0
Unified Currency creates a convertible exchange rate	1	J	0	0	1

In view of the content and thematic analyses above, 3 interviewees said unified currency creates better trade relations while 4 interviewees said unified currency create a hub in the Gulf. 3 interviewees said unified currency creates a powerful economic bloc and only 1 interviewee said unified currency create significant foreign monetary reserves. Also 1 interviewee said unified currency creates a powerful influence and unified exchange rate while 1 interviewee said unified currency creates a convertible exchange rate.

Question 10: What can GCC region learn from EU in terms of the single currency?

Transcribed Responses of Question 10

The thirteen interviewees agreed that there are several useful lessons can be learnt from European Union experience such as unified monetary policy measures,

free movement of goods/services, trade relations and political/foreign policy cooperation. 4 interviewees explained that despite the divergence of EU members in terms of languages, traditions and ideologies, they united and created the Euro vision for bigger Europe (interviewee, A, C, F and M). Interviewees B, D and E explained that GCC countries should learn that attaining a goal requires persistent hard work. The EU's single currency agenda took sixty years and the policymakers are still facing serious challenges and problems among member nations as some members are planning to leave the EU. This is a big lesson for policymakers in the Gulf region to be learnt, B, D and E mentioned.

Two interviewees G and H said that the most important lessons to be learnt from EU's experience is the need for constructive engagement by the members, the need to develop sound experience on integration and lastly the need for long term investment in a common currency agenda. There are many lessons to be learnt from EU with 28 members, which agreed to have a bigger impactful economy. This big economy gives European a powerful and effective foreign relations unlike the GCC, which is currently struggling to bring only six countries together. Each of these countries has fair inter-relations, but the current foreign relations are ineffective and needed more focusing and attention (interviewee 1, J and K).

In view of the foregoing, the GCC bloc can learn a number of lessons from EU's single currency agenda. The first lesson is that EU understood the regional integration is a series of bargains among the cooperated nations in Europe, which are willing to cooperate in the areas of monetary and financial market integration for mutual benefits in long-terms economic development (Mattli, 1999). The second lesson is that in establishing a monetary union, the GCC countries need to learn the principles of managing an exchange rate regime from EU. An exchange rate

regime for nations with a single currency entails pegging the single currency against the US dollar as an external anchor for monetary policy. Four themes that emerged on what the GCC bloc can learn from EU's single currency are presented in Table 7.12

Table 7-12: Thematic Analysis of Question 10

Themes that emerged from interview	Frequency (N=13)	Interviewee	Interviewee by types		
			Economist	Banker	Policy maker
Unity by Euro vision & Bigger Europe	4	A, C, F and M	2	1	1
Persistent hard work	4	B, D, E and L	3	0	1
Constructive engagement	2	G and H	0	2	1
Continues focus	3	I, J and K	0	1	2

In view of the content and thematic analyses above, 4 interviewees noted that GCC bloc can learn from EU the unity and bigger Europe vision while 4 interviewees noted that GCC bloc can learn from EU is the persistent hard work in achieving the ultimate goals. 2 interviewees noted that GCC bloc can learn from EU constructive engagement by the members on single currency; 3 interviewees noted that GCC bloc can learn from EU is continues focus on single currency.

Question 11: How can the existing economic framework of the GCC region enhance the move towards a single currency area?

Transcribed Responses of Question 11

The existence economic framework in terms of custom union, cultural and religious cooperation, interregional trade relations should sustain the strategic move of GCC toward the adoption of the single currency union. Apart from the framework mentioned above, interviewees B, C and F suggested that the cultural and religious relations should be strengthened to help achieve the single currency union. Five

interviewees A, D, E, G and H said that the member countries need to be more organised, by ensuring a greater social and financial cooperation and integrated economy.

Two other interviewees emphasised the need to embrace common projects as a move towards a single currency, (J and I). Two interviewees strongly advocated idea of sharing on monetary matters is an effective move towards to a single currency area, K and L mentioned. One interviewee stated the need for significant change in economic structure because all the countries within the GCC have identical economies, unlike EU model where there is diversity; some countries in EU are agricultural countries, some are service-providing/commercial-oriented countries while some others are industrial countries and there are some other countries with commercial services only (interviewee M).

There has been a significant progress made towards achieving the goal of a full-fledged GCC currency union. Existing economic framework of the GCC bloc could therefore be enhanced for fast-track a movement towards a single currency area through a number of policies and plans. The GCC countries have achieved an intraregional mobility of goods, labour, and capital and the next step is to strengthen the monetary regulations and supervision of the financial systems in the region. All member countries with exception of Kuwait have pegged their national currencies to the US dollar and they also have a harmonised a common external tariff and a common market. In the same vein, it expected that the investment funds (individual and government) and the accumulated wealth in the GCC bloc can be invested in the region's economy rather than investing in US economy. All these economic frameworks would facilitate and encourage increasing trade competitiveness and financial integration, and facilitate foreign direct investment before the take-off of a

single currency area (Frankel and Rose, 2000; Buitter, 2008). Five themes that emerged on how existing economic framework of the GCC bloc can enhanced the move farwards to a single currency area are presented in Table 7.13.

Table 7-13: Thematic Analysis of Question 11

Themes that emerged from interview	Frequency (N=13)	Interviewee	Interviewee by types		
			Economist	Banker	Policy maker
Cultural and religious relations	3	B, C and F	2	1	0
Economic cooperation and integrated economy	5	A, D, E, G and H	3	2	0
Common projects	2	J and I	0	1	1
Idea-sharing	2	K and L	0	0	2
Change of economic structure	1	M	0	0	1

In view of the content and thematic analyses above, 3 interviewees noted that existing economic framework of the GCC bloc could enhance a move towards a single currency area through cultural and religious relations; 5 interviewees noted that existing economic framework of the GCC bloc could enhance move towards a single currency area through economic cooperation and integration; 2 interviewees noted that existing economic framework of the GCC bloc could enhance move towards a single currency area through common projects; 2 interviewees noted that existing economic framework of the GCC bloc could enhance move towards a single currency area through idea-sharing and 1 interviewee noted that existing economic framework of the GCC bloc could enhance move towards a single currency area through change of economic structure.

7.3. Findings

In this section, the main findings of the qualitative study are briefly discussed and summarised in Table 7.14. This table shows the general themes of all the interview questions and the interviewees' answers in terms of economic and political issues. In the table, one star on the question refers to the question is purely political, two stars the questions refers to purely economic and the three stars refers both of them. In general, the interviewees are clearly affected by their backgrounds with regard to their answers. Usually the politician looked to the issue from political point of view while the economists view it as an economic. For example, the answers of questions 1 and 9 are agreed by all that interviewees to be related to economic issues. Whilst, questions 3, 4, 5 and 11 were agreed by most the interviewees to be related to political issues. In addition, Bankers in their answers usually were according to the theme of the question. This series of questions highlighted that closer relations between the countries in all areas of activity need to be developed including religious, institutional and policy exchanges. Also from the interview analysis, it is clear that the GCC countries believe in the single currency and this needs more effective level of cooperation on common business initiatives, military and open borders agreement. Furthermore, the interview analysis confirmed that the GCC countries have a very important role to bring the establishment of a single currency by weighting the costs and the benefits and this task is purely left for the policymakers in GCC countries. Even though there are some answers related to the economic issue but it is clear the main cause behind these issues is due to the lack of political will.

Table 7-14 Summary of the Thematic Analysis

	Politic Theme			Economic Theme		
	Economist	Banker	Policy maker	Economist	Banker	Policy maker
**Q1	0	0	0	5	4	4
***Q2	0	2	3	5	2	1
*Q3	2	2	3	3	2	1
*Q4	2	3	4	3	1	0
*Q5	0	0	0	5	4	4
***Q6	3	4	4	2	0	0
***Q7	0	2	4	5	2	0
***Q8	0	0	0	5	4	4
**Q9	0	0	0	5	4	4
***Q10	5	4	4	0	0	0
*Q11	0	1	4	5	3	0

7.4. Summary

This chapter investigated the effect of the last two prerequisite factors of OCA, which are policy integration and political factors on starting up the single currency agenda. The qualitative research method was used relying on interviews as sources of data collection. The collected data were analysed using CA and TA techniques. In order to ensure the reliability and the validity of the study a pilot study was carried out between the 6th and 30th June 2014. After the pilot, the main interviews were carried out between 15th October 2014 and 15th January 2015. The researcher elicits the views of thirteen professionals with different career and discipline. These provisional includes economists, bankers and politics with extensive knowledge and expertise in GCC's single currency agenda.

Based on the analysis of the interviewees' opinions, the inhibiting factors, which responsible for the delay of adopting the single currency union were identified. Even though all interviewees are agreed upon the strategic impotence of implementing the single currency, but they have different views regarding to main causes of delaying this strategic project. These causes include conflicting economic and foreign policies, lack of political will, procrastination and fear of domination by

Saudi Arabia in the region. 8 interviewees believed that the differences in economic and foreign policy of the GCC bloc were the main cause of the delay while 5 interviewees believed that the delay was due to lack of political will. Also 7 interviewees thought that the fear of the loss of sovereignty made some of the GCC countries tend to procrastination. One of the main causes was also highlighted by 5 interviewees, which is the fear of Saudi Arabia's domination.

In order to overcome these obstacles, the interviewees have made several valuable recommendations. One of the main recommendations was regarding to partial loss of sovereignty. The interviewees thought this kind of sovereignty loss is considered to be natural and the GCC countries should cope with it and move forward. The next recommendation is based on the progress, which already has been made as the interviewees confident in the structure of the currency union project and all it needs genuine political will of all member countries. Also the interviewees recommended that the existing common economic institutions should be operated in the favour of achieving the single currency. Last but not least all interviewees advised that the GCC countries should value the benefits of the currency union and the negative consequences could be treated in the future.

To sum up, it is clear that the single currency project is very strategic and important to move the region toward effective development in its economic and political system. It is very true that achieving this major goal is not easy task. There are many challenges and obstacles caused the delay of launching this project. However, in my opinion the GCC countries should come together and create a more powerful region by adopting the single currency and they should put the mutual benefits and the interests of the region prior to their national benefits and interests. The initial purpose of the GCC was security, and closer economic integration was part of a political

decision to be a bulwark against the revolution in Iran in both military and economic terms. However, although the economies have now converged there is a new regional political context that is preventing the currency union at the current time.

Chapter Eight

Discussion of Quantitative and Qualitative Findings

8.0. Introduction

In this chapter integrated discussions of the current research findings are discussed and linked to each other. In section 8.1 the current research findings are analysed, discussed and clearly evaluated in the line with our research propositions and questions. Also in this section a clear connection between the qualitative and quantitative is presented and how this finding related to each other are critically discussed. In section 8.2 a new PEF is presented and supported a clear evidences from our finding and previous studies based on the relevant theories.

8.1 Triangulation of Qualitative and Quantitative Findings

In this section, a comprehensive discussion of the main findings of our research, which includes the finding of historical outcomes, quantitative and qualitative studies, is presented. Firstly, It was found that national currencies of the GCC countries are strongly connected to Islamic cultural norms and values back to Prophet Muhammed era. The prevalent currencies in the first Islamic State founded by prophet Muhammed in Madinah were Dinar (gold) and Dirham (silver).

All Muslim countries adopted different currencies after the balkanisation of Ottoman empires into smaller states during 1960s. However, most of these countries they still naming their currencies by the traditional Muslim currency (Dinar and Dirham). Due to the strong connections to the Muslim history and culture the policymakers in MENA asked for more openness in political and economic institutions to achieve some kind of collaboration especially in single currency project. This led to a new call was not a call for the adoption of a gold standard

system but it was a call for a single currency in the Gulf region, which driven by the theory of OCA. The historical finding provided deep insight into evidences that support the assertion for a single currency has cultural and religious link in the history of the Islamic State.

The above discussion validate our propositions which states that “The Islamic culture and the history of GCC countries have a significant impact in supporting the idea of achieving the single currency project, (new dimension added to OCA)”. Also, this discussion provide a clear answer to our research question, which states that “The GCC countries have a common culture, language and history, to what extent these factors affect the achieving of the single currency in GCC?”

Secondly the findings of the quantitative study that introduced in chapter six are evaluated. The quantitative analysis using the Augmented Dickey-Fuller (ADF) and Johansen’s Trace tests indicate that there is cointegration between the independent variable and the dependent variables with regards to the OCA prerequisites. The results of cointegration test, when taking evaluated factors of Saudi Arabia as independent variables and the factors of other GCC countries as dependent variables, provided clear evidence that support the effectiveness of cointegration between the independent variables and the dependent variables. The obtained results showed that there were significant cointegrations between the dependent and the independent variable for each prerequisites of OCA theory among the GCC counties. The results indicated there was at least one conintegration exists, which means in terms of economic integration factors, the GCC countries are ready for the single currency but they need to pay more attention to improve their openness, which is a political consideration. Similarly, the qualitative chapter seven found that economic integration in the GCC bloc is an appropriate medium for single currency, but the

GCC lag behind in actualising a currency union due to number of challenges and difficulties. The above discussion confirmed the proposition that is states “there is economic convergence (in the six quantitative prerequisites factors of OCA) in the GCC countries”. Also this discussion answered our research question, which states that “is the GCC bloc appropriate medium for establishing economic integration?”

Thirdly, chapter seven presents the qualitative study and the main findings are explained as follows. The study revealed that the adoption of a single currency in 2010 was postponed due to unobvious reasons and the interviews showed that lack of political will was behind this procrastination. The interviewees believed that the delay was due to the recurring differences on foreign policies in the GCC and the different views in their respective economic, political and foreign policies. Comparing with the analytical study of OCA the common points on economic, monetary, customs and political issues for a single currency are already exist.

The interviewees focused in their justification of the reasons that responsible for the delay on new challenging political events emerged especially in the Gulf region and generally in the Arab world such as Syria-Yemen-Libya revolutions, Iranian nuclear dispute, Israeli-Palestinian conflict, terrorism, which led to a conflicting foreign policy measures in the GCC. The consequences of adopting single currency in the GCC is still not clear for the members, which results in the GCC countries paying more attention to their internal socio-political challenges rather than the single currency agenda. All interviewees thought that the anxiety of the GCC countries from these consequences made them think that their economic integration is not appropriate for the single currency. The interviewees confirmed the rejection of the Proposition 3 of the study, which stated that “the GCC meets the criteria set for the OCA”, while the historical and analytical studies confirmed the acceptance of

this Proposition. This provides clear answer to the research question, which states “Does the GCC meet the economic criteria for a single currency to be introduced?”.

There is an economic framework in place for the GCC bloc, which includes the Gulf Monetary Council, but this framework still has not been exploited to make the GCC strategically move toward a single currency. The interviewees pointed out that to make the present economic framework effective for a single currency, the GCC countries need to initiate common projects, greater scientific alliance, social and financial cooperation and idea-sharing on monetary matters to build stronger integrated economy in the GCC bloc. Their views were based on that the GCC countries have already achieved an intraregional mobility of goods, labour, and capital, so the next step is to strengthen the monetary regulations and supervision of the financial systems in the region. If the existing economic framework worked effectively it would facilitate and encourage more trade competitiveness and financial integration, and facilitate foreign direct investment before the take-off of a single currency area as confirmed by (Rose 2000; Frankel and Rose 2000; Buitier 2008).

Finally, the study indicated that the factors, which caused the delay in adopting the single currency in the GCC bloc, are interrelated and complicated. The first factor that accounted for the delay is linked to internal policies of each of the GCC countries as well as economic structural differences among them. For example, UAE structural economy is completely different from the rest especially in supporting FDI. Also Saudi Arabia’s economic structure differs from the others in the way that Saudi Arabia does not support the international tourism apart from Islamic religious visit. However, these differences in the economic structure do not mean that the absence of the economic cointegration as proved by the analytical study.

Interviewees pointed out that although Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates are all Arab countries, but they have different priorities, political commitments, national policy and foreign policy. The conflict between the interests of the representatives of these GCC nations like ministers and the interests of the political leaders, who make the final decisions, results in a confusion for planning the stage of single currency. In other words, the delay is linked to economic and foreign policy considerations. Another reason that may have caused the delay is the differences in the operational modalities for adoption of a single currency as each country has its own currency, exchange rate and financial challenges that needed to be resolved before adopting a full currency union. Faced with this type of picture, it will take a long time for the GCC countries to reach the stage of the single currency, this picture confirms the acceptance of Proposition 4, which stated that “political factors are responsible for the delay in the adoption of a single common currency in the GCC bloc”. Also this Proposition was confirmed by the analytical study, which indicated that the GCC countries are cointegrated in the diversification factor of OCA even though they have some different economic policies. Furthermore, the finding of chapter seven answered our research question, which states that “What are the political factors that affected the adoption of a single currency in the GCC?”

From the above detailed discussion, the economic and political factors are affecting each other and they cannot be separated when studying and evaluating the requirements to achieve the OCA. It was found that in spite of present of an economic framework for the GCC bloc especially Gulf Monetary Council, the framework has not been exploited to make the GCC strategically move toward a single currency. The present economic framework presently allows an intraregional mobility of goods, labour, and capital but there is need for the GCC countries to initiate common

projects, greater scientific alliance, social and financial cooperation and idea-sharing on monetary matters to build stronger integrated economy in the GCC bloc.

Political factors are responsible for the delay in the adoption of a single currency in the GCC bloc. The qualitative finding which revealed that the delay is linked to economic and foreign policy considerations as well as differences in the operational modalities for adoption of a single currency as each country has its own currency, exchange rate and financial challenges that needed to be resolved before adopting a full currency union. This fact is also supported by the quantitative research finding that the GCC countries are cointegrated in the diversification factor of OCA even though they have some different economic policies.

The quantitative analytical findings showed that there was one or more cointegrations for each prerequisites of OCA theory among the GCC countries except for the openness factor, which means that the GCC countries should pay more attention to improve their openness, which is a political consideration. In chapter seven however, the qualitative findings showed that the GCC has not meet the set criteria and the single currency project in 2010 was not achieved yet due to lack of political will, recurring differences on economic, political and foreign policies. The delay was further worsened by events in the Gulf region such Arab Spring events and other events that effects Arab world as mentioned above, which led to a conflicting foreign policy measures in the GCC. The consequences of adopting single currency in the GCC is still not clear for the members, which results in the GCC countries paying more attention to their internal socio-political challenges rather than the single currency agenda. The anxiety of the GCC countries from these above-mentioned consequences made them think that their economic integration is not appropriate for the single currency.

8.2. Application of Political Economic Framework (PEF)

Based on our quantitative and qualitative research, a new framework, which combined the economic and political factors together in a broader and workable framework, is presented in this section. This framework can effectively applied to achieve the single currency in GCC countries. Our findings reveal that economic factors met all the requirements of a achieving the single currency project while political factors still need more attention. However, satisfaction of economic factors cannot lead to OCA by its own and in the same time the stability in political factors without the satisfaction with economic factors are not enough to achieve the OCA. Therefore PEF is an obvious solution to this complicated issue as using this PEF both economic and political factors can be evaluated and balanced in the same time. In the flowing discussion, our new PEF is explored and supported by our research findings.

According to the quantitative economic results, there was clear evidence that area of GCC countries is suitable for single currency project. The economic factors that were investigated are listed below:

- 1) Degree of Economic Openness,
- 2) Mobility,
- 3) Degree of Commodity of Diversification,
- 4) Similarity of Structure of Production,

Using Johansen's trace tests for the above four factors of the OCA, our results clearly indicate that there is a great potential for achieving the single currency project in GCC countries. For the case of openness factor, the results showed that there is one cointegration between the independent and the dependent variables apart from Qatar. Qatar was excluded from this factor due to missing data. While for the case of mobility factor the results confirm that there are four cointegrations between the

independent variable and the dependent variables. Furthermore, our result showed there were two cointegrations among the variable for the degree of Commodity of Diversification. The strongest cointegration was found in the Similarity of Structure of Production factor as our results showed that there six cointegrations. From the above discussion and the numerical results, it can be clearly confirmed that GCC countries are absolutely suitable for the single currency project.

On other hand, our qualitative political study that presented in chapter seven, the findings showed that the political factors have a significant effect in achieving the single currency in GCC. The findings of this qualitative study indicated that the lack of political will and the differences in economic and foreign policies among GCC countries results in significant delay of achieving the single currency as this was raised by all interviewees in their answers in question 2. Furthermore, there was no clear schedule for regular summits between the GCC countries, which caused clear lack of political cooperation among them as this was highlighted by 8 interviewees in their answers to question 3. Also one of the main finding was the fear losing sovereignty as this was raised by 7 interviewees in question 4. This leads to a slow economy in most of courtiers as pointed out by 6 interviewees in their answers to question 5.

Based on the above discussion, the economic factors clearly indicate that the single currency is very achievable, whereas from interviewees' point of views, the political factors have significant created unnecessary obstacle in front of GCC countries in achieving this project. From our research, the evidence it is clear there is a need for a new framework to achieve the single currency area. In this new workable framework, the economic and political factors are combined together to make a clear picture for GCC countries where they can achieve the single currency project. Using

our a new framework the economic and political factors can be both investigated and balanced in order to make it convenient for GCC countries in achieving their aim.

8.4 Summary

The historical study findings clearly showed that there was strong connection between the history of the region and the single currency project. The study showed the start of having different currencies among the Muslim countries was back to 1920s. This means the region with different currencies is seen as to be unusual situation. This led to very emotional and serious calls to be united again under a single currency so the region can be restored back to the normality. The historical study made us to dig deeply in what were the obstacles that face the region for not achieving this project.

We started studying the economic factors in terms of OCA factors using the quantitative method. The finding showed that the GCC countries are economically ready to the single currency. This was clear from our results, which showed that there is at least on cointegration between the dependent and independent factor of OCA.

This raised an obvious question why the single currency project has not been achieving yet. The qualitative finding of the current research provided us with a clear answer, which can be stated in one phrase “the lack of political well”.

In order to have fair evaluations of the factors that caused the delay of achieving the SC, a new framework is introduced. This new framework combines the economic and political factors together for the case investigating the single currency area. Our new framework clearly showed that economic and political factors are affecting each other and cannot be segregated.

Chapter Nine

Conclusions and Future Studies

The GCC bloc was founded in 1981 for economic and political cooperation and the objective of forming single currency has remained as an aim for a very long time (since the 1980s) despite the internal and the external challenges and issues. The final stage of achieving a common currency was initially proposed in 1999. However, it was delayed due to political and economic concerns and precautions. The aim of this research was to investigate the reasons behind the delay of achieving the single currency and whether this delay was due to lack of economic convergence of the region or due to political issues.

The foundation for the research was based on the OCA theory. The research framework was designed according to the prerequisite factors of OCA, namely, degree of economic openness, mobility, degree of commodity of diversification, similarity of structure of production, price and wage flexibility, similarity of inflation rates, degree of policy integration and political factors. Before investigating the OCA theory, a comprehensive historical study of the single currency in the region was carried out, which results in adding the historical factor as new dimension contextual framework to the application of the OCA theory.

This new contextual embedding to the analysis provides evidence that supports the assertion for a single currency has cultural and religious link in the history of the Islamic State. To achieve the major aim of the research firstly investigated the suitability of the region through a comprehensive quantitative study of the first six quantitative prerequisites of the theory using the cointegration method. Secondly the political issues were investigated through a qualitative study of the last

two prerequisite of the OCA theory by interviewing carefully selected interviewees who have a sufficient understanding of single currency issues and challenges.

9.0. Summary and Discussion

In this section, the main reached results and findings of the qualitative and quantitative study are discussed and summarised. In chapter three, the historical factor was investigated and studied in the light of the suitability of the GCC to form a single currency, which led to adding a new dimension of OCA theory in analysing the economic integration in GCC bloc. In this chapter, the historical connection between the Dinar currency system and the single currency agenda in the Gulf States was examined.

In order to carry out this task, the study adopted qualitative research method and the required information and facts were sourced from the historical documents and research articles. These approaches were in line with the research methodology for qualitative and explorative research.

Two major findings from the historical analysis were deducted. The first was that there is a strong historical connection between the Dinar currency system and the single currency system in the GCC due to their religious and cultural connection to Muslim countries especially in the Middle East and North Africa (often called MENA). The region has had a single currency from the first Islamic state to 1924 and after about 90 years without a common currency there are still strong cultural links to the concept of the Dinar and may be seen as a reunification of the currency.

The second finding indicated that the aim of the GCC countries to have a single currency was naturally motivated by Islamic heritage where the region was at a vantage position in the world. The study found out that from monetary and fiscal policy viewpoints, the adoption of Dinar as the official currency system during the

time Prophet Muhammad (Peace be upon him) is predicated upon the fact that gold and silver currencies are have intrinsic value and have guaranteed stability proportion guided by the influence of the law of demand and supply.

Further historical reports revealed that after a period of consolidation, the prevalent Byzantine/Roman Dinar and Persian Dirham were replaced with a new single one, which is Islamically-compliant. Furthermore the historical research found the evidence that Khalifah Abdul Malik Bn Marwan initiated the first minted Dinar and Dirham in Islamic history. Finally the study revealed that the use of Dinar in Islamic world ended in 1924 sequel to the fall of the Ottoman Empire. Thereafter several calls had been made for the reintroduction of Dinar without much success.

Based on the findings of the historical study, the region is considered to be naturally suitable for a single currency. This gives the research the motivation to investigate the suitability of the GCC bloc to from OCA using a quantitative study in chapter six, the application of the OCA analysis indicated that there were no significant economic reasons preventing the region from adopting a single currency. However, this major goal has not been achieved yet due to the political challenges and issues, which investigated in chapter seven.

In chapter seven, the major aim was to identify the obvious and hidden reasons behind the delay of forming single currency through a very precise and comprehensive qualitative study. In this qualitative study, thirteen senior professionals, policymakers and academics with different career and discipline were interviewed. These include economists, bankers and politicians with extensive knowledge and expertise in GCC's single currency agenda. The qualitative study was carried out using two methods namely, content analysis (CA) and thematic analysis (TA). CA is popularly method employed in analysing qualitative and quantitative

data, although it is commonly used to manage qualitative data. CA is simply an analytical tool for providing meanings to open-ended questions or interview responses. TA is a tool includes five specific steps used for interpreting different themes/sub-themes that have been identified after transcription and coding of raw data from interviews. These steps are: Familiarisation with the data, Generation of preliminary codes/categorisations, searching for common themes by reading, reviewing and fine-tuning the themes from the voice or text data, Refinement of the themes, Production of final report from the themes/codes. Based on the interviewee's opinions and their responses to the interview's questions, the main findings are highlighted and discussed.

All interviewees shared the same opinion on the impotence of achieving the single currency within the GCC countries. However, the interviewees stated many challenges and obstacles, which made the interruption to launching the strategic project. The first challenge faced the GCC countries was the confliction in the economic and foreign policies of the GCC countries. The interviewees provided some remedy to this challenge by advising the GCC countries to surrender part of their forging policy and economic structures to a central authority, which govern the region. It is well known that the most valuable identity of any country is the sovereignty, interviewees thought there is considerable fear from losing the sovereignty in all GCC countries, which results in delaying the single currency project.

The Interviewees recommended that the GCC countries should cope with the partial loss of sovereignty is one the consequences of monetary integration, but this sacrifice brings a significant reward to all the members. It is obvious from the interviewees' opinions that the most of GCC countries tend to make excuses to delay

the commencing date of the single currency union and the interviewees believe this kind of procrastination due to the lack of political will. In chapter seven, the research came up with an important conclusion based on the interviewees' opinions, the single currency project faces real challenges and obstacles that other studies have not identified. It was also clear that although there is little prospect of an imminent adoption of a single currency the project ambitions remain resolute but effective planning and hard work from all the members is needed to keep this project alive and overcome the underlying political issues when the region has less conflicts in the future.

9.1. Contributions of the Research

The study adopted an integrated theoretical framework and sequential mixed research methods (qualitative and quantitative methods), mixed research approach (inductive and deductive) and mixed techniques (interview and secondary data). The research has contributed to an existing body of knowledge on a GCC single currency region by providing the empirical evidences for delay in implementing a single currency.

The delay of a single currency is a combination of economic and political factors. The economic factor is an absence of cointegration in the inflation factor of OCA while the political factor has a complex dynamic linked to the fear of losing autonomy over monetary and fiscal policy measures, the fear of surrendering sovereignty to supra-national institutions due to security concerns. On the other hand the historical and cultural factors support the single currency.

The research concludes with far reaching recommendations on the circumstances needed by GCC to move forward toward the single currency. The

contributions of this research are further explained below as theoretical, methodological and empirical contributions.

9.1.1. Theoretical Contributions

Previous studies focused largely on the six economic elements of the eight prerequisites of OCA. Political events in the Gulf region for the decade up to 2016 have underscored the significant effect of political factors on delaying the commencement of a single currency in the GCC countries. Therefore, this research looked at the political and historic factors, which affect the greater economic integration. The political issues that have delayed the single currency agenda include the mutual suspicion leading to conflicting economic and foreign policies among member countries and the lack of political will among GCC countries. It is important to note that there is not a linked set of political factors that can be easily resolved, but layers of issues such as regional stability, security threats to the GCC, fear of loss of economic sovereignty, loss of political autonomy and fear of domination by the Saudi Arabia.

The OCA theory identifies eight preconditions for economic integration, while the Social Contract/Theory of political integration identified four preconditions for a political integration. By applying the OCA theory in the economic integration the research proposed a politico-economic framework (PEF) as an optimum framework for understanding the dynamics of the common currency agenda in the Arab Gulf Region with specific reference to the GCC. The PEF was developed on the basis that the delay in creating single currency area is linked to political disagreement and the pursuit of national economic interests outweigh the pursuit of mutual benefits of economic integration. This theoretical contribution indicated that the delay in adopting a single currency in the GCC region is mainly due to the political factor.

The study found out that in order to expedite action on the adoption of a single currency in the region, it is necessary for member countries to play special role for its realisation through a unified economic, political and foreign policy measures with mutual trust.

9.1.2. Methodological Contributions

The current research provided an effective methodological contribution that can be applied in the research in the field of economic integration. First, this research alternates between two philosophical approaches– single reality and multiple realities. This methodology is different from the conventional philosophies as it combines the two dominant philosophies (positivism and interpretivism) and it can be called the emerged philosophy. For the quantitative approach, the positivism was a single reality because the findings from scientific and experimental process are objective, which means that either the GCC countries capable of satisfying the prerequisite for OCA or not.

However, for the qualitative approach, the interpretivism is multiple realities because the viewpoints sought through interviews are multiple perceptions, i.e., subjective. This new methodological approach of adopting the interpretivism provided a complete, a comprehensive explanation and understanding of the issues regarding to the delay in adopting common currency in the GCC region, by researching key policy makers as well as economists and financiers.

9.1.3. Historical Contributions

This study explored the historical connection between the Dinar currency system and the contemporary move by the GCC to embrace a single currency for the first time. Since the first Islamic state up to 1924 the Dinar served as the unifying

medium of exchange across Muslim world. Colonisation of the Muslim world into small independent states made these nations adopt their own national currencies within the last 90 years. The historical analysis established that the modern calls for the formation of economic and political blocs in the Gulf region have had religious and cultural connections with the Dinar currency system. The call for a return to the dinar is for cultural reasons. Therefore, the formation of the GCC in 1981 was initially political and later moved to have a single currency is a pointer to the fact that the history of having the independent currencies is relatively recent compared to the long history of a single currency.

9.1.4. Empirical Contributions

The empirical study on the single currency area in the GCC was used to test relationships among the eight OCA prerequisites. As a contribution to optimum currency theory and economic integration, the research proposes a politico-economic framework (PEF), which is hinged on two theories (OCA and Social Contract Theories) as the ideal framework for understanding the dynamics of the common currency agenda in the GCC. The choice of PEF was made because the delay in creating single currency area is linked to political disagreement and the pursuit of national economic interests as opposed to the pursuit of collective benefits of economic integration.

The research examined the long-term relationship among macroeconomic variables of OCA in the GCC region using an econometric analysis. The econometric analysis allows the use of computer programs to process large dataset with accurate results. The most important variables used in the data analysis are the trade openness indicators, the current account net, expressed in millions of dollars and as percentages

of GDP, the Diversification index of exports and imports by country, the Indicator of similarity in merchandise trade structures and the Consumer Price Indices.

Within the Johansen Cointegration tests, Saudi Arabia was chosen as the dependent variable as it is the largest economy in the GCC region. In the final analysis, the results have confirmed the existence of cointegration, in specified economic variables apart from the Consumer Price Indices, between these member countries, which means that there exist long run relationship in data. There are some deviations appeared over the shorter period of time, but these are temporary. Therefore, these findings suggest that there are prospects of economic integration in region. Similarly, in Johansen cointegration test, the vectors are considered constant while in real cases, they can change over time due to different factors.

9.1.5. Political Factor Contribution

Based on historical and the analytical studies the economic integration in GCC was found to be appropriate medium for single currency. However, in reality the GCC is still has not achieved this stage due to a number of challenges and difficulties. This study investigated the actual reasons behind this delay in achieving the next stage of single currency project, which made this research to go beyond the typical studies and combine for the first time the economic, cultural and political factors. The political factor was investigated through the quantitative research tool using a semi-structured interview. Based on the interviewees' thoughts and views, the study provided strong evidence that the political factor was the main cause of the delay.

9.2. Limitation of the Study

This research investigated the economic and political factors, which have significant effect on OCA as well as the historical factor. The findings of this research

have contributed to the body of research in the field of economics. Further investigations were carried out based on the quantitative method to assess the suitability of GCC countries to form OCA. However, in this research, the researcher faced some challenges and limitations. These limitations are listed below:

- 1) There was some degree of information shortage due to security restrictions and lack of free speech in GCC countries, which meant that certain information could not be used, and some information was withheld from the researcher, particularly in relation to the security agenda of the GCC and its integration policies
- 2) The aim of the quantitative study was to interview highly ranked people who work specially on the OCA issue. The interviews focused on 13 highly ranked officials in the GCC, academics (economists and politicians) and bankers, but interviewing with those who make the final political decisions was not possible.

There were some missing raw data for some of GCC countries (Qatar for the Openness factor and Oman and UAE for the Inflation factor) for some years, which meant the cointegration analysis relating to inflation was not complete and robust.

9.3. Recommendations and Future Studies

The research has come up with several recommendations and remarks for the GCC countries to consider in their plans to achieve the stage of the single currency. The research provided clear evidence that even though there are many political as well as some economic issues facing the achieving of the single currency, whilst these issues can be resolved through systematic procedures and measures, there needs to be a period of stability coinciding with increased political will. On the other hand the research confirmed that the main obstacle for the GCC in moving forward toward the

single currency was purely political. The study also found out if there was genuine political will from all the GCC countries the single currency stage can be systematically reached. The research provided many economic and political recommendations listed below:

- 1) For sustained progression towards a single currency area, there is a need for implementation of free trade area agreement for the free movement of goods and other factors, thereby promoting more intra-regional trade. In order to have better convergence of macroeconomic fundamentals, the GCC countries need to develop the current central bank so that in future it can take on additional roles, which would formulate and implement monetary policy measures for the region. Other supra-national institutions for coordination of fiscal policy measures are similarly necessary.
- 2) Several studies identified high structural convergence in production structure, low factor mobility and lack of price and wage flexibility in the GCC countries. For a beneficial monetary union, it is suggested that sound policies be formulated and implemented to promote structural diversification, more factor mobility and price wage flexibility as part of the GCC move towards greater integration.
- 3) Moreover, the need for genuine political will has been identified as a vital precondition for monetary union. This requires that the governments establish a regular framework of development that allows the member nations to discuss the processes to surrender to the supra-national political institutions of the GCC and ensure politically acceptable constitutions of the supra-national bodies.

- 4) As a matter of urgency, the GCC countries need to know that adopting a single currency union requires that governments of member nations must surrender to supra-national economic institutions including a central bank to coordinate all regional activities.
- 5) In order to achieve the above recommendations it is necessary for member countries to play the special role for its realisation through a unified economic, political and foreign policy measures; while at the same time ensuring individual country priorities and concerns are addressed and stable mechanisms for future dispute resolution are established.
- 6) It is also recommended that all GCC countries should diversify their economies to allow for improved regional trade relations, which is one of the catalysts for smooth adoption of a single currency union.
- 7) Finally, the fear of domination by Saudi Arabia should be diffused when addressing the political and economic institutional frameworks above.

The present study focused only on the GCC bloc, it is suggested that the next interesting step is to examine the viability of a single currency area in the Middle East and North Africa (MENA) region, which has bigger area and more heterogeneous countries but with the same cultural and historic foundations and compare it with the GCC.

This study investigated the macroeconomic and political factors in GCC bloc, it is suggested that the implications of macroeconomic policy and a single currency on the microeconomic factors such as the Dividend Policy of Companies Listed on Emerging Stock Exchanges in the GCC countries would be useful to add to the macroeconomic analysis. This area of research has received little attention from researchers. This kind of study will strengthen the process of industrial development

in the GCC bloc, as it would improve understanding of the impact of government ownership, free cash flow, firm size, growth rate, growth opportunity, business risk, and firm profitability on dividend pay-out in the GCC bloc.

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APPENDICES

Appendix A: Row Data with its Logs of OCA Prerequisites

Openness, Mobility, Degree of commodity diversification, Similarity of structure production and Inflation (price and wage flexibility and the consumer price index)

Openness

YEAR	Saudi Arabia	Bahrain	Kuwait	Oman	UAE	Log Saudi Arabia	Log Bahrain	Log Kuwait	Log Oman	Log UAE
1980	106765.27	3766.041	21857.38	3756.80558	23086.8	5.028	3.576	4.340	3.575	4.363
1981	119443.42	4538.034	17414.85	4704.40558	22790	5.077	3.657	4.241	3.673	4.358
1982	78767.92	4262.523	11760.563	4434.5708	19497.7	4.896	3.630	4.070	3.647	4.290
1983	50015.1	3486.165	12340.594	4270.416	16423	4.699	3.542	4.091	3.630	4.215
1984	41656.63	4017.82	13044.528	4435.4661	16277.6	4.620	3.604	4.115	3.647	4.212
1985	31039.73	3808.246	11511.14	4985.5962	15710	4.492	3.581	4.061	3.698	4.196
1986	22772.31	2963.832	8269.25	2874.4796	10324	4.357	3.472	3.917	3.459	4.014
1987	25680	3293.084	9251.31	3817.9439	13229	4.410	3.518	3.966	3.582	4.122
1988	26634.67	3313.036	8866.45	3355.0039	12770	4.425	3.520	3.948	3.526	4.106
1989	30853.37	3640.694	12740.85	3908.3214	16304	4.489	3.561	4.105	3.592	4.212
1990	47381.37	4119.151	8268.19	4461.6389	22331.24489	4.676	3.615	3.917	3.649	4.349
1991	50629.3	3924.47	2071.98	5014.9564	22949.0602	4.704	3.594	3.316	3.700	4.361
1992	53681.87	4008.249	8041.67	5568.2739	25061.2912	4.730	3.603	3.905	3.746	4.399
1993	45617.37	4375.262	11506.19	5378.4139	26526.83193	4.659	3.641	4.061	3.731	4.424
1994	45899.43	4435.637	12699.16	5555.2639	27445.92754	4.662	3.647	4.104	3.745	4.438
1995	53449.57	4797.605	14215.25	6078.0239	29521.65622	4.728	3.681	4.153	3.784	4.470
1996	63416.23	5368.353	16438.04	7610.2	38652.13838	4.802	3.730	4.216	3.881	4.587
1997	64902.43	5020.214	16040.95	7925.8	42152.41629	4.812	3.701	4.205	3.899	4.625
1998	43493.3	3994.944	11383.55	5908.1	35770.45609	4.638	3.602	4.056	3.771	4.554
1999	56061.43	5221.709	13784.86	7650.3	38545.94963	4.749	3.718	4.139	3.884	4.586
2000	82259.43	7176.123	21301.27	11769.8	52004.90129	4.915	3.856	4.328	4.071	4.716
2001	72980.55	6606.375	17901.01	11680.082	50787.20218	4.863	3.820	4.253	4.067	4.706
2002	77641.23	6956.04	17014.66	11776.382	54362.69571	4.890	3.842	4.231	4.071	4.735

2003	98956.9	7980.66	24938.34	12325.097	69538.46154	4.995	3.902	4.397	4.091	4.842
2004	131849.73	10336.73	32771.65	14117.021	93968.68618	5.120	4.014	4.515	4.150	4.973
2005	192121.9	13396.96	50077.36	19630.682	122070.7965	5.284	4.127	4.700	4.293	5.087
2006	225506.5	15662.23	64897.48	22897.29	152433.7645	5.353	4.195	4.812	4.360	5.183
2007	249298.2	17314.4	72694.8	26374.5	186690.2655	5.397	4.238	4.862	4.421	5.271
2008	322850.62	21231.36	98902	39544.85	248808.1688	5.509	4.327	4.995	4.597	5.396
2009	202056.35	15704.83	65993.6	29271.79	201958.8836	5.305	4.196	4.820	4.466	5.305
2010	261831.5	17880.27	76139.54	38499.37	225274.8809	5.418	4.252	4.882	4.585	5.353
2011	376223.7	22945.99	112952	49240.54	314834.8536	5.575	4.361	5.053	4.692	5.498
2012	399419.9	22853.192	128479.51	55011.703	364551.1232	5.601	4.359	5.109	4.740	5.562
2013	388725.1	24244.84232	121718.13	59628.29826	395888.3594	5.590	4.385	5.085	4.775	5.598

Mobility

YEAR	Saudi Arabia	Bahrain	Kuwait	Oman	Qatar	UAE	Log Saudi Arabia	Log Bahrain	Log Kuwait	Log Oman	Log Qatar	Log UAE
1980	41503.1	184.35	15301.7	942.386	8364	10089	4.618	2.266	4.185	2.974	3.922	4.004
1981	39627.4	429.521	13698.7	1236.54	8223	10763	4.598	2.633	4.137	3.092	3.915	4.032
1982	7575.47	425.559	4963.34	488.709	5631	7000	3.879	2.629	3.696	2.689	3.751	3.845
1983	-16852.1	102.66	5310.89	494.499	3704	5259	-4.227	2.011	3.725	2.694	3.569	3.721
1984	-18400.5	218.351	6427.71	302.839	5641	7464	-4.265	2.339	3.808	2.481	3.751	3.873
1985	-12931.6	38.8298	4797.95	-10.1333	3908	6914	-4.112	1.589	3.681	-1.006	3.592	3.840
1986	-11785.5	-68.883	5616.07	-1039.84	1658	2378	-4.071	-1.838	3.749	-3.017	3.220	3.376
1987	-9760	-201.33	4561.06	784.395	2048	3719	-3.989	-2.304	3.659	2.895	3.311	3.570
1988	-7330.67	192.021	4601.67	-309.493	1642	2527	-3.865	2.283	3.663	-2.491	3.215	3.403
1989	-9525.33	-193.085	9136.11	305.332	2362	3934	-3.979	-2.286	3.961	2.485	3.373	3.595
1990	-4146.67	69.6809	3886.22	1106.37	-850	7942	-3.618	1.843	3.590	3.044	-2.929	3.900
1991	-27509.3	-602.66	-26478.5	-250.715	-1156	1358	-4.439	-2.780	-4.423	-2.399	-3.063	3.133
1992	-17716.5	-826.596	-450.17	-598.44	-1626	2274	-4.248	-2.917	-2.653	-2.777	-3.211	3.357
1993	-17244.8	-339.362	2498.69	-1190.12	-1743	3046	-4.237	-2.531	3.398	-3.076	-3.241	3.484
1994	-10472.8	-255.585	3243.11	-804.941	-1666	29	-4.020	-2.408	3.511	-2.906	-3.222	1.462
1995	-5318.13	237.382	5015.95	-800.52	-2524	108	-3.726	2.375	3.700	-2.903	-3.402	2.033
1996	679.467	260.425	7107.35	242.7	-2595	4351	2.832	2.416	3.852	2.385	-3.414	3.639
1997	305.067	-31.0637	7934.76	-165.9	-2857	16224	2.484	-1.492	3.900	-2.220	-3.456	4.210
1998	-13132	-777.413	2214.89	-3163.6	-1919	10568	-4.118	-2.891	3.345	-3.500	-3.283	4.024
1999	410.987	-36.8793	5009.61	-459.5	1544	13410	2.614	-1.567	3.700	-2.662	3.189	4.127
2000	14316.8	830.185	14672.1	3129.4	4151	26952	4.156	2.919	4.166	3.495	3.618	4.431
2001	9353.45	225.933	8323.61	2082.44	4152	15409	3.971	2.354	3.920	3.319	3.618	4.188

2002	11873.1	-49.6308	4264.69	1941.22	3824	6848	4.075	-1.696	3.630	3.288	3.583	3.836
2003	28047.9	200.443	9424.13	1453.84	5754	9429	4.448	2.302	3.974	3.163	3.760	3.974
2004	51926	471.579	15508	876.567	7552	12964	4.715	2.674	4.191	2.943	3.878	4.113
2005	90060.3	1474.2	30070.5	5177.53	7482	31476	4.955	3.169	4.478	3.714	3.874	4.498
2006	99066.1	2187.45	45311.8	5664.4	9459	49905	4.996	3.340	4.656	3.753	3.976	4.698
2007	93379.5	2906.57	41330.1	2462.16	11458	32312	4.970	3.463	4.616	3.391	4.059	4.509
2008	132322	2256.89	60239.3	5018.99	26595	22278	5.122	3.354	4.780	3.701	4.425	4.348
2009	20954.6	559.976	28972.2	-501.062	6389	7849	4.321	2.748	4.462	-2.700	3.805	3.895
2010	66751	770.072	36989.2	4884.27	23952	7241	4.824	2.887	4.568	3.689	4.379	3.860
2011	158545	3247.34	66145.8	8847.85	52123.6	50949	5.200	3.512	4.821	3.947	4.717	4.707
2012	164764	2222.07	79122.1	7739.92	62000.2	68961	5.217	3.347	4.898	3.889	4.792	4.839
2013	135442	2560.11	69492.8	5245.77	60461	64682	5.132	3.408	4.842	3.720	4.781	4.811
2014	73758.2	1123.67	53966.4	4055.66	49409.9	48453	4.868	3.051	4.732	3.608	4.694	4.685
2015	-53477.9	-888	8584.24	-10891.9	13750.8	26590.595	-4.728	-2.948	3.934	-4.037	4.138	4.425

Degree of Commodity Diversification

YEAR	Saudi Arabia	Bahrain	Kuwait	Oman	Qatar	UAE	Log Saudi Arabia	Log Bahrain	Log Kuwait	Log Oman	Log Qatar	Log UAE
1995	0.833	0.755	0.838	0.760	0.829	0.701	-0.079	-0.122	-0.077	-0.119	-0.082	-0.154
1996	0.817	0.751	0.854	0.731	0.818	0.712	-0.088	-0.124	-0.068	-0.136	-0.088	-0.147
1997	0.791	0.755	0.844	0.740	0.833	0.668	-0.102	-0.122	-0.074	-0.131	-0.080	-0.175
1998	0.803	0.780	0.835	0.707	0.845	0.650	-0.095	-0.108	-0.078	-0.151	-0.073	-0.187
1999	0.823	0.784	0.856	0.738	0.847	0.648	-0.085	-0.106	-0.068	-0.132	-0.072	-0.188
2000	0.823	0.795	0.846	0.786	0.841	0.673	-0.085	-0.100	-0.073	-0.105	-0.075	-0.172
2001	0.821	0.774	0.852	0.763	0.843	0.657	-0.085	-0.111	-0.069	-0.117	-0.074	-0.182
2002	0.814	0.776	0.847	0.736	0.846	0.616	-0.089	-0.110	-0.072	-0.133	-0.073	-0.210
2003	0.830	0.757	0.822	0.785	0.838	0.611	-0.081	-0.121	-0.085	-0.105	-0.077	-0.214
2004	0.811	0.747	0.824	0.780	0.829	0.580	-0.091	-0.126	-0.084	-0.108	-0.081	-0.236
2005	0.809	0.762	0.815	0.774	0.790	0.576	-0.092	-0.118	-0.089	-0.111	-0.103	-0.240
2006	0.793	0.755	0.814	0.780	0.783	0.582	-0.101	-0.122	-0.089	-0.108	-0.106	-0.235
2007	0.772	0.726	0.814	0.744	0.797	0.586	-0.112	-0.139	-0.090	-0.129	-0.099	-0.232
2008	0.767	0.718	0.787	0.720	0.780	0.577	-0.115	-0.144	-0.104	-0.142	-0.108	-0.239
2009	0.776	0.701	0.799	0.693	0.762	0.525	-0.110	-0.154	-0.098	-0.159	-0.118	-0.280
2010	0.772	0.743	0.799	0.707	0.765	0.548	-0.113	-0.129	-0.098	-0.151	-0.116	-0.261
2011	0.772	0.752	0.786	0.694	0.750	0.541	-0.112	-0.124	-0.105	-0.159	-0.125	-0.267
2012	0.759	0.736	0.782	0.686	0.761	0.510	-0.120	-0.133	-0.107	-0.163	-0.118	-0.292
2013	0.776	0.700	0.777	0.686	0.761	0.492	-0.110	-0.155	-0.109	-0.164	-0.119	-0.308
2014	0.766	0.709	0.790	0.717	0.773	0.484	-0.116	-0.149	-0.102	-0.144	-0.112	-0.315
2015	0.757	0.672	0.787	0.716	0.798	0.485	-0.121	-0.173	-0.104	-0.145	-0.098	-0.315

Similarity of Structure Production

YEAR	Saudi Arabia	Bahrain	Kuwait	Oman	Qatar	UAE	Log Saudi Arabia	Log Bahrain	Log Kuwait	Log Oman	Log Qatar	Log UAE
1995	0.167	0.238	0.161	0.241	0.171	0.303	-0.777	-0.624	-0.793	-0.619	-0.766	-0.518
1996	0.183	0.242	0.146	0.270	0.181	0.291	-0.737	-0.616	-0.837	-0.569	-0.742	-0.536
1997	0.209	0.245	0.157	0.260	0.168	0.327	-0.679	-0.610	-0.804	-0.585	-0.775	-0.485
1998	0.195	0.220	0.157	0.292	0.156	0.342	-0.710	-0.657	-0.804	-0.534	-0.808	-0.466
1999	0.174	0.216	0.140	0.262	0.152	0.344	-0.760	-0.666	-0.853	-0.582	-0.818	-0.464
2000	0.175	0.204	0.154	0.214	0.159	0.321	-0.757	-0.690	-0.812	-0.669	-0.800	-0.493
2001	0.176	0.226	0.148	0.237	0.157	0.338	-0.755	-0.646	-0.828	-0.626	-0.805	-0.471
2002	0.183	0.223	0.154	0.266	0.154	0.380	-0.739	-0.651	-0.813	-0.576	-0.813	-0.420
2003	0.169	0.242	0.179	0.215	0.162	0.382	-0.771	-0.615	-0.748	-0.668	-0.791	-0.417
2004	0.190	0.252	0.177	0.220	0.169	0.411	-0.721	-0.598	-0.751	-0.658	-0.772	-0.386
2005	0.191	0.238	0.185	0.226	0.209	0.419	-0.719	-0.623	-0.732	-0.646	-0.680	-0.377
2006	0.207	0.246	0.187	0.221	0.213	0.413	-0.684	-0.610	-0.729	-0.656	-0.671	-0.384
2007	0.227	0.274	0.188	0.258	0.199	0.417	-0.645	-0.562	-0.726	-0.589	-0.702	-0.380
2008	0.232	0.282	0.214	0.280	0.227	0.415	-0.635	-0.550	-0.669	-0.553	-0.643	-0.382
2009	0.225	0.299	0.204	0.298	0.225	0.477	-0.648	-0.525	-0.690	-0.526	-0.648	-0.322
2010	0.229	0.258	0.202	0.289	0.228	0.440	-0.641	-0.589	-0.695	-0.540	-0.641	-0.357
2011	0.229	0.249	0.216	0.307	0.251	0.446	-0.641	-0.604	-0.665	-0.513	-0.600	-0.351
2012	0.240	0.278	0.222	0.330	0.225	0.457	-0.620	-0.556	-0.654	-0.482	-0.647	-0.340
2013	0.234	0.281	0.216	0.310	0.216	0.455	-0.631	-0.552	-0.666	-0.508	-0.666	-0.342
2014	0.202	0.248	0.179	0.263	0.191	0.388	-0.695	-0.605	-0.746	-0.580	-0.720	-0.411
2015	0.204	0.249	0.180	0.264	0.192	0.393	-0.691	-0.604	-0.744	-0.578	-0.717	-0.406

Inflation (Price and Wage Flexibility and the Consumer Price Index)

	Saudi Arabia	Bahrain	Kuwait	Qatar	Log Saudi Arabia	Log Bahrain	Log Kuwait	Log Qatar
1980	70.84146647	65.23282496	38.27203965	33.27090771	1.850	1.814	1.583	1.522
1981	72.8243065	72.63322594	41.09451898	36.10578842	1.862	1.861	1.614	1.558
1982	73.56787151	79.08720601	44.29035689	38.16381836	1.867	1.898	1.646	1.582
1983	73.70869822	81.43799344	46.38005038	39.21088622	1.868	1.911	1.666	1.593
1984	72.55955229	81.70054893	46.92615694	39.64415568	1.861	1.912	1.671	1.598
1985	70.3401234	79.54694754	47.62550769	40.40237724	1.847	1.901	1.678	1.606
1986	68.08689609	77.72047547	48.07966774	40.70845586	1.833	1.891	1.682	1.610
1987	67.03351233	76.36425181	48.3945149	41.80159377	1.826	1.883	1.685	1.621
1988	67.6418837	76.59596842	49.10501068	43.72551649	1.830	1.884	1.691	1.641
1989	68.34038416	77.73410586	50.74611663	45.16845854	1.835	1.891	1.705	1.655
1990	69.75991737	78.45651645	55.73630468	46.52394955	1.844	1.895	1.746	1.668
1991	73.15102446	79.05625355	60.78500414	48.57904883	1.864	1.898	1.784	1.686
1992	73.09469378	78.91994966	60.45343944	50.06571639	1.864	1.897	1.781	1.700
1993	73.86642413	80.92361678	60.68469886	49.62846122	1.868	1.908	1.783	1.696
1994	74.28327118	81.58469062	62.22271326	50.28434397	1.871	1.912	1.794	1.701
1995	77.89970101	83.79076901	63.89446805	51.77101153	1.892	1.923	1.805	1.714
1996	78.85168954	83.41184421	66.16526831	54.31013871	1.897	1.921	1.821	1.735
1997	78.89675409	85.44004602	66.6166421	56.93575683	1.897	1.932	1.824	1.755
1998	78.61510068	85.12687932	66.7030161	58.61615243	1.896	1.930	1.824	1.768
1999	77.55545215	84.03079586	68.69797681	59.89498291	1.890	1.924	1.837	1.777
2000	76.68295331	83.43850231	69.94343413	60.88345091	1.885	1.921	1.845	1.784
2001	75.82984334	82.43092249	70.85269878	61.77925004	1.880	1.916	1.850	1.791
2002	76.00434311	82.02244418	71.48218968	61.92752024	1.881	1.914	1.854	1.792

2003	76.45028696	83.32957477	72.16938392	63.32990921	1.883	1.921	1.858	1.802
2004	76.70234217	85.29027064	73.07046519	67.63592294	1.885	1.931	1.864	1.830
2005	77.23876739	87.4960535	76.0977569	73.59762057	1.888	1.942	1.881	1.867
2006	78.94369474	89.25251023	78.42407552	82.30849482	1.897	1.951	1.894	1.915
2007	82.23463109	92.15916698	82.72559672	93.63263135	1.915	1.965	1.918	1.971
2008	90.35016287	95.40870212	91.48020654	107.7244783	1.956	1.980	1.961	2.032
2009	94.92787343	98.07586463	95.69707401	102.4855374	1.977	1.992	1.981	2.011
2010	100	100	100	100	2.000	2.000	2.000	2.000
2011	105.8235911	99.63555225	104.9053356	101.9163899	2.025	1.998	2.021	2.008
2012	108.8776202	102.3800669	108.2616179	103.818746	2.037	2.010	2.034	2.016
2013	112.6951565	105.7642246	111.1876076	107.0699038	2.052	2.024	2.046	2.030
2014	115.7047095	108.568241	114.4219449	110.3703061	2.063	2.036	2.059	2.043
2015	118.2324375	110.561547	118.1654905	112.4492294	2.073	2.044	2.072	2.051

Appendix B: EViews Output of OCA Factors

Openness, Mobility, Degree of commodity diversification, Similarity of structure production and Inflation (price and wage flexibility and the consumer price index)



Openness

Null Hypothesis: D(LOG_BAHRAIN) has a unit root				
Exogenous: Constant				
Lag Length: 0 (Automatic - based on SIC, maxlag=1)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-5.582727	0.0001
Test critical values:	1% level		-3.653730	
	5% level		-2.957110	
	10% level		-2.617434	
*MacKinnon (1996) one-sided p-values.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(LOG_BAHRAIN,2)				
Method: Least Squares				
Date: 03/20/17 Time: 10:47				
Sample (adjusted): 1982 2013				
Included observations: 32 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_BAHRAIN(-1))	-1.007571	0.180480	-5.582727	0.0000
C	0.022927	0.012907	1.776313	0.0858
R-squared	0.509538	Mean dependent var		-0.001728
Adjusted R-squared	0.493189	S.D. dependent var		0.096372
S.E. of regression	0.068608	Akaike info criterion		-2.460361
Sum squared resid	0.141211	Schwarz criterion		-2.368752
Log likelihood	41.36577	Hannan-Quinn criter.		-2.429995
F-statistic	31.16684	Durbin-Watson stat		1.946240
Prob(F-statistic)	0.000004			

Null Hypothesis: D(LOG_KUWAIT) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-6.215202	0.0000
Test critical values: 1% level	-3.653730	
5% level	-2.957110	
10% level	-2.617434	

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

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(LOG_KUWAIT,2)
 Method: Least Squares
 Date: 03/20/17 Time: 10:51
 Sample (adjusted): 1982 2013
 Included observations: 32 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_KUWAIT(-1))	-1.119773	0.180167	-6.215202	0.0000
C	0.029268	0.033609	0.870831	0.3908
R-squared	0.562865	Mean dependent var		0.002350
Adjusted R-squared	0.548294	S.D. dependent var		0.280522
S.E. of regression	0.188536	Akaike info criterion		-0.438591
Sum squared resid	1.066378	Schwarz criterion		-0.346982
Log likelihood	9.017449	Hannan-Quinn criter.		-0.408225
F-statistic	38.62874	Durbin-Watson stat		2.079653
Prob(F-statistic)	0.000001			

Null Hypothesis: D(LOG_OMAN) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-7.132796	0.0000
Test critical values: 1% level	-3.653730	
5% level	-2.957110	
10% level	-2.617434	

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

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(LOG_OMAN,2)
 Method: Least Squares
 Date: 03/20/17 Time: 10:54
 Sample (adjusted): 1982 2013
 Included observations: 32 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_OMAN(-1))	-1.250108	0.175262	-7.132796	0.0000
C	0.043578	0.016552	2.632725	0.0133
R-squared	0.629065	Mean dependent var		-0.001959
Adjusted R-squared	0.616701	S.D. dependent var		0.139537
S.E. of regression	0.086389	Akaike info criterion		-1.999451
Sum squared resid	0.223892	Schwarz criterion		-1.907842
Log likelihood	33.99121	Hannan-Quinn criter.		-1.969085
F-statistic	50.87678	Durbin-Watson stat		2.030266
Prob(F-statistic)	0.000000			

Null Hypothesis: D(LOG_SAUDI_ARABIA) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.255437	0.0022
Test critical values:		
1% level	-3.653730	
5% level	-2.957110	
10% level	-2.617434	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LOG_SAUDI_ARABIA,2)

Method: Least Squares

Date: 03/20/17 Time: 10:58

Sample (adjusted): 1982 2013

Included observations: 32 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_SAUDI_ARABIA(-1))	-0.752590	0.176854	-4.255437	0.0002
C	0.011585	0.019741	0.586836	0.5617
R-squared	0.376413	Mean dependent var		-0.001891
Adjusted R-squared	0.355626	S.D. dependent var		0.137315
S.E. of regression	0.110227	Akaike info criterion		-1.512096
Sum squared resid	0.364497	Schwarz criterion		-1.420487
Log likelihood	26.19353	Hannan-Quinn criter.		-1.481730
F-statistic	18.10874	Durbin-Watson stat		1.808569
Prob(F-statistic)	0.000188			

Null Hypothesis: D(LOG_UAE) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.742239	0.0006
Test critical values: 1% level	-3.653730	
5% level	-2.957110	
10% level	-2.617434	

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

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(LOG_UAE,2)
 Method: Least Squares
 Date: 03/20/17 Time: 11:00
 Sample (adjusted): 1982 2013
 Included observations: 32 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_UAE(-1))	-0.851929	0.179647	-4.742239	0.0000
C	0.033199	0.015484	2.144164	0.0402
R-squared	0.428450	Mean dependent var		0.001295
Adjusted R-squared	0.409398	S.D. dependent var		0.102651
S.E. of regression	0.078888	Akaike info criterion		-2.181109
Sum squared resid	0.186700	Schwarz criterion		-2.089500
Log likelihood	36.89774	Hannan-Quinn criter.		-2.150743
F-statistic	22.48883	Durbin-Watson stat		1.996072
Prob(F-statistic)	0.000048			

Johansen Cointegration Test

Date: 03/20/17 Time: 11:08
 Sample (adjusted): 1982 2013
 Included observations: 32 after adjustments
 Trend assumption: Linear deterministic trend
 Series: LOG_SAUDI_ARABIA LOG_BAHRAIN LOG_KUWAIT LOG_OMAN
 LOG_UAE
 Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.680444	84.14213	69.81889	0.0024
At most 1	0.579476	47.63583	47.85613	0.0524
At most 2	0.352316	19.91575	29.79707	0.4286
At most 3	0.167270	6.016457	15.49471	0.6936
At most 4	0.004956	0.158994	3.841466	0.6901

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.680444	36.50629	33.87687	0.0237
At most 1 *	0.579476	27.72009	27.58434	0.0480
At most 2	0.352316	13.89929	21.13162	0.3734
At most 3	0.167270	5.857463	14.26460	0.6316
At most 4	0.004956	0.158994	3.841466	0.6901

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

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

LOG_SAUDI_	LOG_BAHRAI	LOG_KUWAIT	LOG_OMAN	LOG_UAE
ARABIA	N			
7.400900	-14.23452	6.338823	9.145429	-10.43880
10.36998	-3.946429	-3.982360	0.914674	-2.365492
-3.858685	-4.991451	4.698111	-22.03518	20.97109
2.441910	-27.44822	0.734274	10.64727	4.642152
-2.927403	21.92550	-2.546838	-21.15187	6.261017

Unrestricted Adjustment Coefficients (alpha):

D(LOG_SAUD I_ARABIA)	-0.041139	-0.030523	0.020318	-0.003422	-0.003713
D(LOG_BAHR AIN)	-0.022632	-0.000993	0.017047	0.001479	-0.002960
D(LOG_KUW AIT)	-0.123442	0.039062	-0.025912	-0.004976	-0.004759
D(LOG_OMA N)	-0.025244	0.006373	0.027902	-0.011095	-0.002084
D(LOG_UAE)	-0.020885	-0.003697	0.008878	-0.009928	-0.002922

1 Cointegrating Equation(s): Log likelihood 271.6177

Normalized cointegrating coefficients (standard error in parentheses)

LOG_SAUDI_	LOG_BAHRAI	LOG_KUWAIT	LOG_OMAN	LOG_UAE
ARABIA	N			
1.000000	-1.923350	0.856494	1.235718	-1.410477
	(0.62239)	(0.17082)	(0.52528)	(0.38287)

Adjustment coefficients (standard error in parentheses)

D(LOG_SAUDI_	-0.304464
I_ARABIA)	(0.11866)
D(LOG_BAHR	-0.167495
AIN)	(0.07899)
D(LOG_KUW	-0.913584
AIT)	(0.18963)
D(LOG_OMA	-0.186832
N)	(0.09583)
D(LOG_UAE)	-0.154568
	(0.07783)

2 Cointegrating Equation(s): Log likelihood 285.4777

Normalized cointegrating coefficients (standard error in parentheses)

LOG_SAUDI_	LOG_BAHRAI	LOG_KUWAIT	LOG_OMAN	LOG_UAE
ARABIA	N			
1.000000	0.000000	-0.690030	-0.194856	0.063548
		(0.15832)	(0.52707)	(0.41689)
0.000000	1.000000	-0.804078	-0.743793	0.766384
		(0.12106)	(0.40302)	(0.31878)

Adjustment coefficients (standard error in parentheses)

D(LOG_SAUDI_	-0.620983	0.706046
I_ARABIA)	(0.18887)	(0.21899)
D(LOG_BAHR	-0.177788	0.326068
AIN)	(0.13596)	(0.15764)
D(LOG_KUW	-0.508513	1.602987
AIT)	(0.31089)	(0.36046)
D(LOG_OMA	-0.120740	0.334191
N)	(0.16416)	(0.19033)
D(LOG_UAE)	-0.192902	0.311877
	(0.13364)	(0.15495)

3 Cointegrating Equation(s): Log likelihood 292.4274

Normalized cointegrating coefficients (standard error in parentheses)

LOG_SAUDI_	LOG_BAHRAI	LOG_KUWAIT	LOG_OMAN	LOG_UAE
ARABIA	N			
1.000000	0.000000	0.000000	9.049561	-8.672244
			(2.42392)	(1.99674)
0.000000	1.000000	0.000000	10.02854	-9.413259
			(2.89153)	(2.38195)

0.000000	0.000000	1.000000	13.39713 (3.79594)	-12.66002 (3.12697)
Adjustment coefficients (standard error in parentheses)				
D(LOG_SAUDI_	-0.699385	0.604629	-0.043762	
I_ARABIA)	(0.18979)	(0.22230)	(0.12601)	
D(LOG_BAHR	-0.243567	0.240980	-0.059417	
AIN)	(0.13461)	(0.15767)	(0.08937)	
D(LOG_KUW	-0.408527	1.732326	-1.059775	
AIT)	(0.31742)	(0.37180)	(0.21075)	
D(LOG_OMA	-0.228403	0.194921	-0.054316	
N)	(0.15460)	(0.18108)	(0.10264)	
D(LOG_UAE)	-0.227158	0.267564	-0.075957	
	(0.13762)	(0.16120)	(0.09137)	
4 Cointegrating Equation(s):		Log likelihood	295.3561	
Normalized cointegrating coefficients (standard error in parentheses)				
LOG_SAUDI_	LOG_BAHRAI	LOG_KUWAIT	LOG_OMAN	LOG_UAE
ARABIA	N			
1.000000	0.000000	0.000000	0.000000	-0.717107 (0.05352)
0.000000	1.000000	0.000000	0.000000	-0.597537 (0.04562)
0.000000	0.000000	1.000000	0.000000	-0.883098 (0.07640)
0.000000	0.000000	0.000000	1.000000	-0.879063 (0.02940)
Adjustment coefficients (standard error in parentheses)				
D(LOG_SAUDI_	-0.707740	0.698543	-0.046274	-0.888295
I_ARABIA)	(0.19273)	(0.44955)	(0.12630)	(0.37228)
D(LOG_BAHR	-0.239956	0.200391	-0.058331	-0.567768
AIN)	(0.13680)	(0.31909)	(0.08964)	(0.26424)
D(LOG_KUW	-0.420678	1.868908	-1.063429	-0.575207
AIT)	(0.32244)	(0.75209)	(0.21129)	(0.62282)
D(LOG_OMA	-0.255497	0.499466	-0.062463	-0.957996
N)	(0.15428)	(0.35987)	(0.10110)	(0.29801)
D(LOG_UAE)	-0.251401	0.540070	-0.083247	-0.495709
	(0.13731)	(0.32029)	(0.08998)	(0.26524)

Mobility

Null Hypothesis: D(LOG_BAHRAIN) has a unit root					
Exogenous: Constant					
Lag Length: 0 (Automatic - based on SIC, maxlag=1)					
			t-Statistic	Prob.*	
Augmented Dickey-Fuller test statistic			-7.111026	0.0000	
Test critical values:	1% level		-3.639407		
	5% level		-2.951125		
	10% level		-2.614300		
*MacKinnon (1996) one-sided p-values.					
Augmented Dickey-Fuller Test Equation					
Dependent Variable: D(LOG_BAHRAIN,2)					
Method: Least Squares					
Date: 03/22/17 Time: 09:49					
Sample (adjusted): 1982 2015					
Included observations: 34 after adjustments					
	Variable	Coefficient	Std. Error	t-Statistic	Prob.
	D(LOG_BAHRAIN(-1))	-1.310947	0.184354	-7.111026	0.0000
	C	-0.156980	0.435496	-0.360461	0.7209
R-squared	0.612435	Mean dependent var		-0.187247	
Adjusted R-squared	0.600323	S.D. dependent var		4.016509	
S.E. of regression	2.539237	Akaike info criterion		4.758627	
Sum squared resid	206.3272	Schwarz criterion		4.848413	
Log likelihood	-78.89665	Hannan-Quinn criter.		4.789246	
F-statistic	50.56670	Durbin-Watson stat		1.964898	
Prob(F-statistic)	0.000000				

Null Hypothesis: D(LOG_KUWAIT) has a unit root
 Exogenous: Constant
 Lag Length: 1 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-6.511863	0.0000
Test critical values: 1% level	-3.646342	
5% level	-2.954021	
10% level	-2.615817	

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

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(LOG_KUWAIT,2)
 Method: Least Squares
 Date: 03/22/17 Time: 09:51
 Sample (adjusted): 1983 2015
 Included observations: 33 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_KUWAIT(-1))	-1.478750	0.227086	-6.511863	0.0000
D(LOG_KUWAIT(-1),2)	0.480094	0.160613	2.989129	0.0055
C	0.016747	0.287557	0.058238	0.9539
R-squared	0.613483	Mean dependent var		-0.010834
Adjusted R-squared	0.587715	S.D. dependent var		2.572372
S.E. of regression	1.651706	Akaike info criterion		3.928002
Sum squared resid	81.84394	Schwarz criterion		4.064048
Log likelihood	-61.81203	Hannan-Quinn criter.		3.973777
F-statistic	23.80808	Durbin-Watson stat		2.005899
Prob(F-statistic)	0.000001			

Null Hypothesis: D(LOG_OMAN) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-7.651446	0.0000
Test critical values: 1% level	-3.639407	
5% level	-2.951125	
10% level	-2.614300	

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

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(LOG_OMAN,2)
 Method: Least Squares
 Date: 03/22/17 Time: 09:52
 Sample (adjusted): 1982 2015
 Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_OMAN(-1))	-1.379931	0.180349	-7.651446	0.0000
C	-0.202603	0.542435	-0.373507	0.7112
R-squared	0.646583	Mean dependent var		-0.228328
Adjusted R-squared	0.635539	S.D. dependent var		5.239053
S.E. of regression	3.162849	Akaike info criterion		5.197846
Sum squared resid	320.1156	Schwarz criterion		5.287632
Log likelihood	-86.36338	Hannan-Quinn criter.		5.228465
F-statistic	58.54462	Durbin-Watson stat		1.986052
Prob(F-statistic)	0.000000			

Null Hypothesis: D(LOG_QATAR) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.415523	0.0001
Test critical values: 1% level	-3.639407	
5% level	-2.951125	
10% level	-2.614300	

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

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(LOG_QATAR,2)
 Method: Least Squares
 Date: 03/22/17 Time: 09:54
 Sample (adjusted): 1982 2015
 Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_QATAR(-1))	-0.958375	0.176968	-5.415523	0.0000
C	0.005623	0.276892	0.020308	0.9839
R-squared	0.478215	Mean dependent var		-0.016121
Adjusted R-squared	0.461909	S.D. dependent var		2.200776
S.E. of regression	1.614373	Akaike info criterion		3.852793
Sum squared resid	83.39838	Schwarz criterion		3.942578
Log likelihood	-63.49747	Hannan-Quinn criter.		3.883412
F-statistic	29.32789	Durbin-Watson stat		1.997150
Prob(F-statistic)	0.000006			

Null Hypothesis: D(LOG_SAUDI_ARABIA) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.300613	0.0001
Test critical values:		
1% level	-3.639407	
5% level	-2.951125	
10% level	-2.614300	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LOG_SAUDI_ARABIA,2)

Method: Least Squares

Date: 03/22/17 Time: 09:55

Sample (adjusted): 1982 2015

Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_SAUDI_ARABIA(-1))	-1.119157	0.211137	-5.300613	0.0000
C	-0.273424	0.516082	-0.529807	0.5999
R-squared	0.467523	Mean dependent var		-0.281644
Adjusted R-squared	0.450883	S.D. dependent var		4.060917
S.E. of regression	3.009238	Akaike info criterion		5.098273
Sum squared resid	289.7764	Schwarz criterion		5.188059
Log likelihood	-84.67064	Hannan-Quinn criter.		5.128893
F-statistic	28.09650	Durbin-Watson stat		1.744937
Prob(F-statistic)	0.000008			

Null Hypothesis: D(LOG_UAE) has a unit root
 Exogenous: Constant
 Lag Length: 1 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-6.137255	0.0000
Test critical values: 1% level	-3.646342	
5% level	-2.954021	
10% level	-2.615817	

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

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(LOG_UAE,2)
 Method: Least Squares
 Date: 03/22/17 Time: 09:56
 Sample (adjusted): 1983 2015
 Included observations: 33 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_UAE(-1))	-1.418066	0.231059	-6.137255	0.0000
D(LOG_UAE(-1),2)	0.440248	0.164501	2.676262	0.0119
C	0.027891	0.090637	0.307717	0.7604
R-squared	0.588907	Mean dependent var		-0.002235
Adjusted R-squared	0.561501	S.D. dependent var		0.785015
S.E. of regression	0.519831	Akaike info criterion		1.615883
Sum squared resid	8.106736	Schwarz criterion		1.751929
Log likelihood	-23.66207	Hannan-Quinn criter.		1.661658
F-statistic	21.48808	Durbin-Watson stat		1.909379
Prob(F-statistic)	0.000002			

Johansen Cointegration Test

Date: 03/22/17 Time: 10:03

Sample (adjusted): 1982 2015

Included observations: 34 after adjustments

Trend assumption: Linear deterministic trend

Series: LOG_SAUDI_ARABIA LOG_BAHRAIN LOG_KUWAIT LOG_OMAN LOG_QATAR LOG_UAE

Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.806363	148.7388	95.75366	0.0000
At most 1 *	0.627327	92.91864	69.81889	0.0003
At most 2 *	0.529427	59.35878	47.85613	0.0029
At most 3 *	0.415471	33.72943	29.79707	0.0167
At most 4	0.228215	15.47317	15.49471	0.0504
At most 5 *	0.178024	6.665479	3.841466	0.0098

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.806363	55.82013	40.07757	0.0004
At most 1	0.627327	33.55987	33.87687	0.0545
At most 2	0.529427	25.62935	27.58434	0.0871
At most 3	0.415471	18.25626	21.13162	0.1205
At most 4	0.228215	8.807687	14.26460	0.3025
At most 5 *	0.178024	6.665479	3.841466	0.0098

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

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

LOG_SAUDI_	LOG_BAHRAI	LOG_KUWAIT	LOG_OMAN	LOG_QATAR	LOG_UAE
ARABIA	N				
-0.140747	-0.198731	0.838259	0.238791	-0.287117	0.756204
0.223720	-0.013691	0.213895	-0.389347	0.266661	-2.078223
0.340957	-0.469889	0.011822	-0.535191	0.093438	0.735527
0.147007	-0.878269	0.094523	0.762546	0.017565	-1.709022
-0.050121	0.432314	-0.035547	0.207295	-0.562948	0.092736
0.235227	0.155621	-0.100110	0.119530	-0.045671	-0.552977

Unrestricted Adjustment Coefficients (alpha):

D(LOG_SAUD	-0.054305	0.659384	0.240293	-0.039785	0.328135	-1.064305
I_ARABIA)						
D(LOG_BAHR	-0.048124	0.433109	0.397941	0.926790	-0.106264	-0.351635
AIN)						
D(LOG_KUW	-1.148349	0.094860	0.003563	0.064922	0.241424	0.012204
AIT)						

D(LOG_OMA N)	-0.456159	1.471348	0.677988	-0.313835	-0.533889	-0.424566
D(LOG_QATA R)	0.279159	-0.117256	0.721162	-0.159786	0.394214	-0.026974
D(LOG_UAE)	-0.042269	0.337096	-0.034678	0.021613	0.058242	0.008462
1 Cointegrating Equation(s):		Log likelihood	-325.3039			
Normalized cointegrating coefficients (standard error in parentheses)						
LOG_SAUDI_ ARABIA	LOG_BAHRAI N	LOG_KUWAIT	LOG_OMAN	LOG_QATAR	LOG_UAE	
1.000000	1.411966 (0.68574)	-5.955768 (0.59062)	-1.696591 (0.68981)	2.039947 (0.42893)	-5.372771 (1.77888)	
Adjustment coefficients (standard error in parentheses)						
D(LOG_SAUD I_ARABIA)	0.007643 (0.07630)					
D(LOG_BAHR AIN)	0.006773 (0.05097)					
D(LOG_KUW AIT)	0.161627 (0.02133)					
D(LOG_OMA N)	0.064203 (0.07234)					
D(LOG_QATA R)	-0.039291 (0.03672)					
D(LOG_UAE)	0.005949 (0.01235)					
2 Cointegrating Equation(s):		Log likelihood	-308.5240			
Normalized cointegrating coefficients (standard error in parentheses)						
LOG_SAUDI_ ARABIA	LOG_BAHRAI N	LOG_KUWAIT	LOG_OMAN	LOG_QATAR	LOG_UAE	
1.000000	0.000000	0.668965 (0.51071)	-1.738517 (0.56421)	1.227166 (0.40053)	-9.126700 (1.67575)	
0.000000	1.000000	-4.691851 (0.51374)	0.029693 (0.56757)	0.575638 (0.40291)	2.658654 (1.68571)	
Adjustment coefficients (standard error in parentheses)						
D(LOG_SAUD I_ARABIA)	0.155161 (0.13915)					
D(LOG_BAHR AIN)	0.103668 (0.09305)					
D(LOG_KUW AIT)	0.182849 (0.03976)					
D(LOG_OMA N)	0.393373 (0.11241)					
D(LOG_QATA R)	-0.065523 (0.06868)					
D(LOG_UAE)	0.081364 (0.01525)					

3 Cointegrating Equation(s):		Log likelihood	-295.7093		
Normalized cointegrating coefficients (standard error in parentheses)					
LOG_SAUDI_	LOG_BAHRAI	LOG_KUWAIT	LOG_OMAN	LOG_QATAR	LOG_UAE
ARABIA	N				
1.000000	0.000000	0.000000	-1.718753	1.212110	-7.718366
			(0.46460)	(0.31435)	(1.38672)
0.000000	1.000000	0.000000	-0.108918	0.681237	-7.218825
			(0.45974)	(0.31106)	(1.37222)
0.000000	0.000000	1.000000	-0.029543	0.022507	-2.105241
			(0.18517)	(0.12528)	(0.55268)
Adjustment coefficients (standard error in parentheses)					
D(LOG_SAUDI_	0.237090	-0.111146	0.098358		
I_ARABIA)					
	(0.22621)	(0.26762)	(0.45368)		
D(LOG_BAHR	0.239349	-0.183354	0.057004		
AIN)					
	(0.14810)	(0.17521)	(0.29702)		
D(LOG_KUW	0.184064	0.225239	-0.942282		
AIT)					
	(0.06490)	(0.07678)	(0.13016)		
D(LOG_OMA	0.624538	-0.248070	-0.059651		
N)					
	(0.17428)	(0.20618)	(0.34952)		
D(LOG_QATA	0.180362	-0.392738	0.217452		
R)					
	(0.09405)	(0.11126)	(0.18861)		
D(LOG_UAE)	0.069541	0.020080	0.036261		
	(0.02472)	(0.02925)	(0.04958)		
4 Cointegrating Equation(s):		Log likelihood	-286.5812		
Normalized cointegrating coefficients (standard error in parentheses)					
LOG_SAUDI_	LOG_BAHRAI	LOG_KUWAIT	LOG_OMAN	LOG_QATAR	LOG_UAE
ARABIA	N				
1.000000	0.000000	0.000000	0.000000	2.023752	-20.23229
				(0.56684)	(2.77340)
0.000000	1.000000	0.000000	0.000000	0.732671	-8.011841
				(0.26997)	(1.32093)
0.000000	0.000000	1.000000	0.000000	0.036458	-2.320338
				(0.10441)	(0.51085)
0.000000	0.000000	0.000000	1.000000	0.472227	-7.280816
				(0.23513)	(1.15043)
Adjustment coefficients (standard error in parentheses)					
D(LOG_SAUDI_	0.231242	-0.076205	0.094597	-0.428637	
I_ARABIA)					
	(0.23896)	(0.53258)	(0.45633)	(0.54399)	
D(LOG_BAHR	0.375594	-0.997325	0.144607	0.313625	
AIN)					
	(0.13273)	(0.29583)	(0.25347)	(0.30217)	
D(LOG_KUW	0.193608	0.168221	-0.936145	-0.263550	
AIT)					
	(0.06832)	(0.15226)	(0.13046)	(0.15553)	
D(LOG_OMA	0.578402	0.027562	-0.089316	-1.283959	
N)					
	(0.18197)	(0.40557)	(0.34750)	(0.41426)	
D(LOG_QATA	0.156872	-0.252403	0.202349	-0.395489	
R)					

	(0.09833)	(0.21914)	(0.18777)	(0.22384)	
D(LOG_UAE)	0.072718	0.001097	0.038304	-0.106300	
	(0.02605)	(0.05806)	(0.04974)	(0.05930)	
5 Cointegrating Equation(s):		Log likelihood	-282.1774		
Normalized cointegrating coefficients (standard error in parentheses)					
LOG_SAUDI_	LOG_BAHRAI	LOG_KUWAIT	LOG_OMAN	LOG_QATAR	LOG_UAE
ARABIA	N				
1.000000	0.000000	0.000000	0.000000	0.000000	-11.05078
					(1.74599)
0.000000	1.000000	0.000000	0.000000	0.000000	-4.687803
					(0.74937)
0.000000	0.000000	1.000000	0.000000	0.000000	-2.154933
					(0.35088)
0.000000	0.000000	0.000000	1.000000	0.000000	-5.138379
					(0.67650)
0.000000	0.000000	0.000000	0.000000	1.000000	-4.536876
					(0.85411)
Adjustment coefficients (standard error in parentheses)					
D(LOG_SAUD	0.214795	0.065653	0.082933	-0.360616	0.028454
I_ARABIA)					
	(0.23858)	(0.57443)	(0.45325)	(0.55055)	(0.36031)
D(LOG_BAHR	0.380920	-1.043264	0.148384	0.291597	0.242593
AIN)					
	(0.13319)	(0.32069)	(0.25303)	(0.30735)	(0.20115)
D(LOG_KUW	0.181508	0.272592	-0.944727	-0.213504	0.220570
AIT)					
	(0.06521)	(0.15701)	(0.12389)	(0.15048)	(0.09848)
D(LOG_OMA	0.605161	-0.203246	-0.070337	-1.394632	0.881711
N)					
	(0.17666)	(0.42535)	(0.33562)	(0.40766)	(0.26680)
D(LOG_QATA	0.137114	-0.081979	0.188336	-0.313770	-0.268764
R)					
	(0.09235)	(0.22235)	(0.17544)	(0.21310)	(0.13947)
D(LOG_UAE)	0.069799	0.026276	0.036233	-0.094227	0.066378
	(0.02568)	(0.06182)	(0.04878)	(0.05925)	(0.03878)

Degree of Commodity Diversification

Null Hypothesis: D(LOG_BAHRAIN) has a unit root					
Exogenous: Constant					
Lag Length: 0 (Automatic - based on SIC, maxlag=1)					
			t-Statistic	Prob.*	
Augmented Dickey-Fuller test statistic			-4.032197	0.0066	
Test critical values:	1% level		-3.831511		
	5% level		-3.029970		
	10% level		-2.655194		
*MacKinnon (1996) one-sided p-values.					
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 19					
Augmented Dickey-Fuller Test Equation					
Dependent Variable: D(LOG_BAHRAIN,2)					
Method: Least Squares					
Date: 03/20/17 Time: 12:04					
Sample (adjusted): 1997 2015					
Included observations: 19 after adjustments					
	Variable	Coefficient	Std. Error	t-Statistic	Prob.
	D(LOG_BAHRAIN(-1))	-1.072774	0.266052	-4.032197	0.0009
	C	-0.002664	0.002932	-0.908407	0.3764
	R-squared	0.488854	Mean dependent var		-0.001121
	Adjusted R-squared	0.458787	S.D. dependent var		0.017227
	S.E. of regression	0.012673	Akaike info criterion		-5.799356
	Sum squared resid	0.002730	Schwarz criterion		-5.699941
	Log likelihood	57.09388	Hannan-Quinn criter.		-5.782531
	F-statistic	16.25861	Durbin-Watson stat		1.837171
	Prob(F-statistic)	0.000865			

Null Hypothesis: D(LOG__KUWAIT) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-6.303763	0.0001
Test critical values: 1% level	-3.831511	
5% level	-3.029970	
10% level	-2.655194	

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

Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 19

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(LOG__KUWAIT,2)
 Method: Least Squares
 Date: 03/20/17 Time: 12:07
 Sample (adjusted): 1997 2015
 Included observations: 19 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG__KUWAIT(-1))	-1.338824	0.212385	-6.303763	0.0000
C	-0.002331	0.001404	-1.659913	0.1153
R-squared	0.700374	Mean dependent var		-0.000527
Adjusted R-squared	0.682749	S.D. dependent var		0.010637
S.E. of regression	0.005992	Akaike info criterion		-7.297649
Sum squared resid	0.000610	Schwarz criterion		-7.198234
Log likelihood	71.32766	Hannan-Quinn criter.		-7.280824
F-statistic	39.73742	Durbin-Watson stat		2.192159
Prob(F-statistic)	0.000008			

Null Hypothesis: D(LOG_OMAN) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.741775	0.0015
Test critical values: 1% level	-3.831511	
5% level	-3.029970	
10% level	-2.655194	

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

Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 19

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(LOG_OMAN,2)
 Method: Least Squares
 Date: 03/20/17 Time: 12:13
 Sample (adjusted): 1997 2015
 Included observations: 19 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_OMAN(-1))	-1.109739	0.234035	-4.741775	0.0002
C	-0.000602	0.003597	-0.167311	0.8691
R-squared	0.569451	Mean dependent var		0.000865
Adjusted R-squared	0.544124	S.D. dependent var		0.023137
S.E. of regression	0.015622	Akaike info criterion		-5.381000
Sum squared resid	0.004149	Schwarz criterion		-5.281585
Log likelihood	53.11950	Hannan-Quinn criter.		-5.364175
F-statistic	22.48443	Durbin-Watson stat		2.015732
Prob(F-statistic)	0.000189			

Null Hypothesis: D(LOG_QATAR) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.210090	0.0353
Test critical values: 1% level	-3.831511	
5% level	-3.029970	
10% level	-2.655194	

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

Warning: Probabilities and critical values calculated for 20 observations
 and may not be accurate for a sample size of 19

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(LOG_QATAR,2)
 Method: Least Squares
 Date: 03/20/17 Time: 12:54
 Sample (adjusted): 1997 2015
 Included observations: 19 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_QATAR(-1))	-0.835967	0.260419	-3.210090	0.0051
C	-0.000306	0.001951	-0.156609	0.8774
R-squared	0.377396	Mean dependent var		0.001018
Adjusted R-squared	0.340772	S.D. dependent var		0.010240
S.E. of regression	0.008314	Akaike info criterion		-6.642362
Sum squared resid	0.001175	Schwarz criterion		-6.542948
Log likelihood	65.10244	Hannan-Quinn criter.		-6.625537
F-statistic	10.30468	Durbin-Watson stat		1.688536
Prob(F-statistic)	0.005135			

Null Hypothesis: D(LOG_SAUDI_ARABIA) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.489965	0.0025
Test critical values:		
1% level	-3.831511	
5% level	-3.029970	
10% level	-2.655194	

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

Warning: Probabilities and critical values calculated for 20 observations
 and may not be accurate for a sample size of 19

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LOG_SAUDI_ARABIA,2)

Method: Least Squares

Date: 03/20/17 Time: 12:55

Sample (adjusted): 1997 2015

Included observations: 19 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_SAUDI_ARABIA(-1))	-1.068275	0.237925	-4.489965	0.0003
C	-0.001894	0.001782	-1.062925	0.3027
R-squared	0.542516	Mean dependent var		0.000175
Adjusted R-squared	0.515605	S.D. dependent var		0.010778
S.E. of regression	0.007501	Akaike info criterion		-6.848169
Sum squared resid	0.000957	Schwarz criterion		-6.748754
Log likelihood	67.05760	Hannan-Quinn criter.		-6.831344
F-statistic	20.15979	Durbin-Watson stat		2.013118
Prob(F-statistic)	0.000323			

Null Hypothesis: D(LOG_UAE) has a unit root
 Exogenous: Constant
 Lag Length: 1 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.669912	0.0019
Test critical values: 1% level	-3.857386	
5% level	-3.040391	
10% level	-2.660551	

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

Warning: Probabilities and critical values calculated for 20 observations
 and may not be accurate for a sample size of 18

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(LOG_UAE,2)
 Method: Least Squares
 Date: 03/20/17 Time: 12:57
 Sample (adjusted): 1998 2015
 Included observations: 18 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_UAE(-1))	-1.626129	0.348214	-4.669912	0.0003
D(LOG_UAE(-1),2)	0.404859	0.220643	1.834901	0.0864
C	-0.013250	0.004581	-2.892349	0.0112
R-squared	0.662247	Mean dependent var		0.001583
Adjusted R-squared	0.617213	S.D. dependent var		0.023041
S.E. of regression	0.014256	Akaike info criterion		-5.512326
Sum squared resid	0.003048	Schwarz criterion		-5.363931
Log likelihood	52.61093	Hannan-Quinn criter.		-5.491864
F-statistic	14.70555	Durbin-Watson stat		2.313070
Prob(F-statistic)	0.000291			

Johansen Cointegration Test

Date: 03/20/17 Time: 13:01
 Sample (adjusted): 1997 2015
 Included observations: 19 after adjustments
 Trend assumption: Linear deterministic trend
 Series: LOG_SAUDI_ARABIA LOG__KUWAIT LOG_BAHRAIN LOG_OMAN LOG_QATAR LOG_UAE
 Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.997712	229.0325	95.75366	0.0000
At most 1 *	0.968684	113.5093	69.81889	0.0000
At most 2	0.769901	47.70016	47.85613	0.0517
At most 3	0.557296	19.78452	29.79707	0.4375
At most 4	0.198703	4.302279	15.49471	0.8777
At most 5	0.004900	0.093329	3.841466	0.7600

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.997712	115.5233	40.07757	0.0000
At most 1 *	0.968684	65.80911	33.87687	0.0000
At most 2 *	0.769901	27.91564	27.58434	0.0454
At most 3	0.557296	15.48224	21.13162	0.2565
At most 4	0.198703	4.208950	14.26460	0.8367
At most 5	0.004900	0.093329	3.841466	0.7600

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

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

LOG_SAUDI_ ARABIA	LOG__KUWAI T	LOG_BAHRAI N	LOG_OMAN	LOG_QATAR	LOG_UAE
75.17211	-414.9772	3.566258	105.3056	41.87517	50.98085
187.8799	-251.1393	-12.92620	-111.5392	157.0049	3.994540
-217.3224	139.4766	109.0450	-69.93752	176.5323	-69.94502
208.9859	280.3468	-44.88773	-15.25744	-140.6737	-67.78739
105.8858	-224.9420	65.86286	-21.98031	-56.21371	36.78992
111.6308	-182.1207	78.27001	41.60335	-76.47040	38.95351

Unrestricted Adjustment Coefficients (alpha):

D(LOG_SAUD I_ARABIA)	-0.000220	0.000155	0.002151	-0.002000	-0.000538	-1.71E-05
D(LOG__KUW AIT)	0.001726	0.000454	-0.001390	-0.001913	0.001113	-0.000134
D(LOG_BAHR AIN)	-0.001132	-0.000650	-0.006200	-0.002014	-0.002972	6.60E-05
D(LOG_OMA	-0.002170	0.005183	0.003403	0.002926	-0.000890	-0.000302

N)						
D(LOG_QATA	-0.002865	-0.001607	-0.002049	0.000879	0.002616	-0.000154
R)						
D(LOG_UAE)	0.003374	-0.005497	0.001468	0.001691	-0.002146	-0.000426
1 Cointegrating Equation(s):		Log likelihood	469.1222			
Normalized cointegrating coefficients (standard error in parentheses)						
LOG_SAUDI_	LOG_KUWAI	LOG_BAHRAI	LOG_OMAN	LOG_QATAR	LOG_UAE	
ARABIA	T	N				
1.000000	-5.520361	0.047441	1.400860	0.557057	0.678188	
	(0.11524)	(0.02855)	(0.03374)	(0.05101)	(0.02251)	
Adjustment coefficients (standard error in parentheses)						
D(LOG_SAUD	-0.016575					
I_ARABIA)	(0.08697)					
D(LOG_KUW	0.129750					
AIT)	(0.09924)					
D(LOG_BAHR	-0.085058					
AIN)	(0.23001)					
D(LOG_OMA	-0.163087					
N)	(0.20369)					
D(LOG_QATA	-0.215386					
R)	(0.15829)					
D(LOG_UAE)	0.253615					
	(0.22596)					
2 Cointegrating Equation(s):		Log likelihood	502.0267			
Normalized cointegrating coefficients (standard error in parentheses)						
LOG_SAUDI_	LOG_KUWAI	LOG_BAHRAI	LOG_OMAN	LOG_QATAR	LOG_UAE	
ARABIA	T	N				
1.000000	0.000000	-0.105940	-1.230936	0.924683	-0.188631	
		(0.05230)	(0.06463)	(0.09034)	(0.02566)	
0.000000	1.000000	-0.027785	-0.476743	0.066595	-0.157022	
		(0.01124)	(0.01389)	(0.01941)	(0.00551)	
Adjustment coefficients (standard error in parentheses)						
D(LOG_SAUD	0.012475		0.052668			
I_ARABIA)	(0.23394)		(0.56074)			
D(LOG_KUW	0.214992		-0.830211			
AIT)	(0.26571)		(0.63691)			
D(LOG_BAHR	-0.207126		0.632718			
AIN)	(0.61790)		(1.48110)			
D(LOG_OMA	0.810618		-0.401252			
N)	(0.44795)		(1.07373)			
D(LOG_QATA	-0.517365		1.592663			
R)	(0.41468)		(0.99397)			
D(LOG_UAE)	-0.779143		-0.019559			
	(0.50747)		(1.21640)			

3 Cointegrating Equation(s):		Log likelihood	515.9846		
Normalized cointegrating coefficients (standard error in parentheses)					
LOG_SAUDI_	LOG__KUWAI	LOG_BAHRAI	LOG_OMAN	LOG_QATAR	LOG_UAE
ARABIA	T	N			
1.000000	0.000000	0.000000	-1.550243	1.358590	-0.293558
			(0.08214)	(0.11957)	(0.03189)
0.000000	1.000000	0.000000	-0.560487	0.180394	-0.184541
			(0.01855)	(0.02700)	(0.00720)
0.000000	0.000000	1.000000	-3.014032	4.095772	-0.990440
			(0.32301)	(0.47021)	(0.12539)
Adjustment coefficients (standard error in parentheses)					
D(LOG_SAUD	-0.454951	0.352659	0.231753		
I_ARABIA)	(0.28418)	(0.48301)	(0.10514)		
D(LOG__KUW	0.517037	-1.024062	-0.151265		
AIT)	(0.36953)	(0.62806)	(0.13672)		
D(LOG_BAHR	1.140318	-0.232065	-0.671739		
AIN)	(0.71693)	(1.21853)	(0.26525)		
D(LOG_OMA	0.070976	0.073447	0.296399		
N)	(0.58244)	(0.98994)	(0.21549)		
D(LOG_QATA	-0.072106	1.306898	-0.212858		
R)	(0.58020)	(0.98614)	(0.21466)		
D(LOG_UAE)	-1.098240	0.185236	0.243198		
	(0.73298)	(1.24581)	(0.27119)		
4 Cointegrating Equation(s):		Log likelihood	523.7257		
Normalized cointegrating coefficients (standard error in parentheses)					
LOG_SAUDI_	LOG__KUWAI	LOG_BAHRAI	LOG_OMAN	LOG_QATAR	LOG_UAE
ARABIA	T	N			
1.000000	0.000000	0.000000	0.000000	-0.007644	-0.289623
				(0.16917)	(0.06869)
0.000000	1.000000	0.000000	0.000000	-0.313565	-0.183119
				(0.06092)	(0.02474)
0.000000	0.000000	1.000000	0.000000	1.439497	-0.982790
				(0.41799)	(0.16972)
0.000000	0.000000	0.000000	1.000000	-0.881303	0.002538
				(0.11183)	(0.04541)
Adjustment coefficients (standard error in parentheses)					
D(LOG_SAUD	-0.872918	-0.208029	0.321528	-0.160375	
I_ARABIA)	(0.26984)	(0.42904)	(0.08820)	(0.12579)	
D(LOG__KUW	0.117345	-1.560235	-0.065416	0.257539	
AIT)	(0.40042)	(0.63666)	(0.13088)	(0.18667)	
D(LOG_BAHR	0.719321	-0.796817	-0.581314	0.417678	
AIN)	(0.84848)	(1.34906)	(0.27732)	(0.39554)	
D(LOG_OMA	0.682472	0.893747	0.165057	-1.089196	
N)	(0.63611)	(1.01139)	(0.20791)	(0.29654)	
D(LOG_QATA	0.111618	1.553358	-0.252319	0.007429	
R)	(0.70292)	(1.11763)	(0.22975)	(0.32769)	

D(LOG_UAE)	-0.744818 (0.87698)	0.659338 (1.39437)	0.167287 (0.28664)	0.839907 (0.40883)	
5 Cointegrating Equation(s):		Log likelihood	525.8302		
Normalized cointegrating coefficients (standard error in parentheses)					
LOG_SAUDI_	LOG_KUWAI	LOG_BAHRAI	LOG_OMAN	LOG_QATAR	LOG_UAE
ARABIA	T	N			
1.000000	0.000000	0.000000	0.000000	0.000000	-0.292522 (0.02933)
0.000000	1.000000	0.000000	0.000000	0.000000	-0.302020 (0.02430)
0.000000	0.000000	1.000000	0.000000	0.000000	-0.436945 (0.09125)
0.000000	0.000000	0.000000	1.000000	0.000000	-0.331644 (0.06127)
0.000000	0.000000	0.000000	0.000000	1.000000	-0.379191 (0.06042)
Adjustment coefficients (standard error in parentheses)					
D(LOG_SAUDI_	-0.929839	-0.087106	0.286122	-0.148558	0.706299
I_ARABIA)	(0.27432)	(0.44937)	(0.09844)	(0.12380)	(0.20579)
D(LOG_KUW	0.235197	-1.810600	0.007891	0.233074	0.104635
AIT)	(0.39732)	(0.65086)	(0.14258)	(0.17931)	(0.29806)
D(LOG_BAHR	0.404666	-0.128369	-0.777035	0.482995	-0.793497
AIN)	(0.81626)	(1.33717)	(0.29292)	(0.36837)	(0.61236)
D(LOG_OMA	0.588246	1.093920	0.106446	-1.069636	0.962070
N)	(0.65479)	(1.07264)	(0.23497)	(0.29550)	(0.49122)
D(LOG_QATA	0.388577	0.964991	-0.080046	-0.050064	-1.004726
R)	(0.66868)	(1.09541)	(0.23996)	(0.30177)	(0.50164)
D(LOG_UAE)	-0.972060	1.142086	0.025939	0.887079	-0.579815
	(0.88011)	(1.44175)	(0.31583)	(0.39719)	(0.66025)

Similarity of Structure of Production

Null Hypothesis: D(LOG_BAHRAIN) has a unit root					
Exogenous: Constant					
Lag Length: 0 (Automatic - based on SIC, maxlag=1)					
			t-Statistic	Prob.*	
Augmented Dickey-Fuller test statistic			-4.380790	0.0032	
Test critical values:	1% level		-3.831511		
	5% level		-3.029970		
	10% level		-2.655194		
*MacKinnon (1996) one-sided p-values.					
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 19					
Augmented Dickey-Fuller Test Equation					
Dependent Variable: D(LOG_BAHRAIN,2)					
Method: Least Squares					
Date: 03/20/17 Time: 13:15					
Sample (adjusted): 1997 2015					
Included observations: 19 after adjustments					
	Variable	Coefficient	Std. Error	t-Statistic	Prob.
	D(LOG_BAHRAIN(-1))	-1.059420	0.241833	-4.380790	0.0004
	C	0.000681	0.007839	0.086813	0.9318
	R-squared	0.530274	Mean dependent var		-0.000345
	Adjusted R-squared	0.502643	S.D. dependent var		0.048432
	S.E. of regression	0.034156	Akaike info criterion		-3.816450
	Sum squared resid	0.019833	Schwarz criterion		-3.717035
	Log likelihood	38.25627	Hannan-Quinn criter.		-3.799625
	F-statistic	19.19132	Durbin-Watson stat		2.035313
	Prob(F-statistic)	0.000408			

Null Hypothesis: D(LOG_KUWAIT) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.121960	0.0007
Test critical values: 1% level	-3.831511	
5% level	-3.029970	
10% level	-2.655194	

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

Warning: Probabilities and critical values calculated for 20 observations
 and may not be accurate for a sample size of 19

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(LOG_KUWAIT,2)
 Method: Least Squares
 Date: 03/20/17 Time: 13:16
 Sample (adjusted): 1997 2015
 Included observations: 19 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_KUWAIT(-1))	-1.163459	0.227151	-5.121960	0.0001
C	0.005272	0.007984	0.660338	0.5179
R-squared	0.606795	Mean dependent var		0.002424
Adjusted R-squared	0.583666	S.D. dependent var		0.053806
S.E. of regression	0.034718	Akaike info criterion		-3.783820
Sum squared resid	0.020491	Schwarz criterion		-3.684405
Log likelihood	37.94629	Hannan-Quinn criter.		-3.766995
F-statistic	26.23448	Durbin-Watson stat		1.925335
Prob(F-statistic)	0.000085			

Null Hypothesis: D(LOG_OMAN) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.593107	0.0020
Test critical values: 1% level	-3.831511	
5% level	-3.029970	
10% level	-2.655194	

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

Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 19

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LOG_OMAN,2)

Method: Least Squares

Date: 03/20/17 Time: 13:19

Sample (adjusted): 1997 2015

Included observations: 19 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_OMAN(-1))	-1.078243	0.234752	-4.593107	0.0003
C	-0.000358	0.011160	-0.032079	0.9748
R-squared	0.553766	Mean dependent var		-0.002541
Adjusted R-squared	0.527517	S.D. dependent var		0.070709
S.E. of regression	0.048603	Akaike info criterion		-3.110952
Sum squared resid	0.040159	Schwarz criterion		-3.011538
Log likelihood	31.55405	Hannan-Quinn criter.		-3.094127
F-statistic	21.09663	Durbin-Watson stat		2.018060
Prob(F-statistic)	0.000259			

Null Hypothesis: D(LOG_QATAR) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.024214	0.0067
Test critical values: 1% level	-3.831511	
5% level	-3.029970	
10% level	-2.655194	

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

Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 19

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LOG_QATAR,2)

Method: Least Squares

Date: 03/20/17 Time: 13:21

Sample (adjusted): 1997 2015

Included observations: 19 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_QATAR(-1))	-0.965612	0.239950	-4.024214	0.0009
C	0.001223	0.008593	0.142301	0.8885
R-squared	0.487864	Mean dependent var		-0.001137
Adjusted R-squared	0.457738	S.D. dependent var		0.050748
S.E. of regression	0.037370	Akaike info criterion		-3.636581
Sum squared resid	0.023741	Schwarz criterion		-3.537166
Log likelihood	36.54752	Hannan-Quinn criter.		-3.619756
F-statistic	16.19430	Durbin-Watson stat		1.880822
Prob(F-statistic)	0.000880			

Null Hypothesis: D(LOG_SAUDI_ARABIA) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.979356	0.0074
Test critical values:		
1% level	-3.831511	
5% level	-3.029970	
10% level	-2.655194	

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

Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 19

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LOG_SAUDI_ARABIA,2)

Method: Least Squares

Date: 03/20/17 Time: 13:23

Sample (adjusted): 1997 2015

Included observations: 19 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_SAUDI_ARABIA(-1))	-0.930775	0.233901	-3.979356	0.0010
C	0.002129	0.007606	0.279899	0.7829
R-squared	0.482264	Mean dependent var		-0.001860
Adjusted R-squared	0.451809	S.D. dependent var		0.044387
S.E. of regression	0.032864	Akaike info criterion		-3.893553
Sum squared resid	0.018361	Schwarz criterion		-3.794138
Log likelihood	38.98875	Hannan-Quinn criter.		-3.876728
F-statistic	15.83528	Durbin-Watson stat		2.032572
Prob(F-statistic)	0.000970			

Null Hypothesis: D(LOG_UAE) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.835803	0.0012
Test critical values: 1% level	-3.831511	
5% level	-3.029970	
10% level	-2.655194	

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

Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 19

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LOG_UAE,2)

Method: Least Squares

Date: 03/20/17 Time: 13:24

Sample (adjusted): 1997 2015

Included observations: 19 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_UAE(-1))	-1.140925	0.235933	-4.835803	0.0002
C	0.007676	0.007288	1.053189	0.3070
R-squared	0.579052	Mean dependent var		0.001216
Adjusted R-squared	0.554290	S.D. dependent var		0.046778
S.E. of regression	0.031230	Akaike info criterion		-3.995602
Sum squared resid	0.016580	Schwarz criterion		-3.896188
Log likelihood	39.95822	Hannan-Quinn criter.		-3.978778
F-statistic	23.38499	Durbin-Watson stat		1.808630
Prob(F-statistic)	0.000155			

Johansen Cointegration Test

Date: 03/20/17 Time: 13:28
 Sample (adjusted): 1997 2015
 Included observations: 19 after adjustments
 Trend assumption: Linear deterministic trend
 Series: LOG_SAUDI_ARABIA LOG_BAHRAIN LOG_KUWAIT LOG_OMAN LOG_QATAR LOG_UAE
 Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.981333	198.3274	95.75366	0.0000
At most 1 *	0.912212	122.6886	69.81889	0.0000
At most 2 *	0.825166	76.46493	47.85613	0.0000
At most 3 *	0.755417	43.33048	29.79707	0.0008
At most 4 *	0.411637	16.57466	15.49471	0.0343
At most 5 *	0.289608	6.496842	3.841466	0.0108

Trace test indicates 6 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.981333	75.63871	40.07757	0.0000
At most 1 *	0.912212	46.22372	33.87687	0.0011
At most 2 *	0.825166	33.13445	27.58434	0.0087
At most 3 *	0.755417	26.75581	21.13162	0.0073
At most 4	0.411637	10.07782	14.26460	0.2069
At most 5 *	0.289608	6.496842	3.841466	0.0108

Max-eigenvalue test indicates 4 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

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

LOG_SAUDI_	LOG_BAHRAI	LOG_KUWAIT	LOG_OMAN	LOG_QATAR	LOG_UAE
ARABIA	N				
37.15945	12.28652	-15.54178	17.96155	-53.02639	32.19423
-47.31938	31.48720	-5.990721	25.13091	6.839836	-7.070266
12.65761	-17.27365	99.66812	-21.89668	-30.44412	-61.10845
51.99172	-10.07349	1.132678	2.607440	-7.693347	-16.92767
33.02269	-62.64115	32.86819	11.77982	-22.12852	-7.293889
-61.76222	-4.486635	43.65782	17.75385	6.683830	-2.025886

Unrestricted Adjustment Coefficients (alpha):

D(LOG_SAUD I_ARABIA)	-0.013883	0.002962	-0.005383	-0.009408	-0.005400	-0.000124
D(LOG_BAHR AIN)	-0.009392	-0.003027	-0.005804	-0.012913	0.008435	-0.001211
D(LOG_KUW AIT)	0.000688	0.001991	-0.019504	-0.015434	-0.002156	-0.006095
D(LOG_OMA	-0.020396	-0.013461	0.007260	0.001178	-0.009930	-0.009834

N)						
D(LOG_QATA	0.019437	-0.008142	-0.002540	-0.018624	-0.010466	-0.002843
R)						
D(LOG_UAE)	-0.007265	0.011668	0.006196	-0.008088	-0.001177	-0.008906
1 Cointegrating Equation(s):		Log likelihood	303.2108			
Normalized cointegrating coefficients (standard error in parentheses)						
LOG_SAUDI_	LOG_BAHRAI	LOG_KUWAIT	LOG_OMAN	LOG_QATAR	LOG_UAE	
ARABIA	N					
1.000000	0.330643	-0.418246	0.483364	-1.426996	0.866381	
	(0.07397)	(0.12842)	(0.04654)	(0.05935)	(0.08038)	
Adjustment coefficients (standard error in parentheses)						
D(LOG_SAUD	-0.515881					
I_ARABIA)	(0.17229)					
D(LOG_BAHR	-0.349016					
AIN)	(0.23799)					
D(LOG_KUW	0.025557					
AIT)	(0.33988)					
D(LOG_OMA	-0.757923					
N)	(0.32583)					
D(LOG_QATA	0.722253					
R)	(0.32489)					
D(LOG_UAE)	-0.269951					
	(0.26529)					
2 Cointegrating Equation(s):		Log likelihood	326.3226			
Normalized cointegrating coefficients (standard error in parentheses)						
LOG_SAUDI_	LOG_BAHRAI	LOG_KUWAIT	LOG_OMAN	LOG_QATAR	LOG_UAE	
ARABIA	N					
1.000000	0.000000	-0.237383	0.146615	-1.001286	0.628384	
		(0.09133)	(0.04133)	(0.05267)	(0.06618)	
0.000000	1.000000	-0.547002	1.018466	-1.287520	0.719799	
		(0.20937)	(0.09475)	(0.12075)	(0.15171)	
Adjustment coefficients (standard error in parentheses)						
D(LOG_SAUD	-0.656030	-0.077315				
I_ARABIA)	(0.27374)	(0.15378)				
D(LOG_BAHR	-0.205772	-0.210716				
AIN)	(0.38140)	(0.21426)				
D(LOG_KUW	-0.068637	0.071129				
AIT)	(0.54913)	(0.30849)				
D(LOG_OMA	-0.120963	-0.674447				
N)	(0.46765)	(0.26271)				
D(LOG_QATA	1.107532	-0.017564				
R)	(0.50488)	(0.28363)				
D(LOG_UAE)	-0.822085	0.278143				
	(0.37376)	(0.20997)				

3 Cointegrating Equation(s):		Log likelihood	342.8899		
Normalized cointegrating coefficients (standard error in parentheses)					
LOG_SAUDI_	LOG_BAHRAI	LOG_KUWAIT	LOG_OMAN	LOG_QATAR	LOG_UAE
ARABIA	N				
1.000000	0.000000	0.000000	0.130930	-1.103168	0.484186
			(0.03910)	(0.04450)	(0.03794)
0.000000	1.000000	0.000000	0.982323	-1.522285	0.387525
			(0.10269)	(0.11687)	(0.09966)
0.000000	0.000000	1.000000	-0.066076	-0.429185	-0.607447
			(0.06036)	(0.06869)	(0.05858)
Adjustment coefficients (standard error in parentheses)					
D(LOG_SAUD	-0.724172	0.015678	-0.338538		
I_ARABIA)	(0.26133)	(0.16134)	(0.42951)		
D(LOG_BAHR	-0.279233	-0.110466	-0.414333		
AIN)	(0.37460)	(0.23127)	(0.61568)		
D(LOG_KUW	-0.315515	0.408039	-1.966570		
AIT)	(0.42914)	(0.26494)	(0.70531)		
D(LOG_OMA	-0.029064	-0.799860	1.121265		
N)	(0.45854)	(0.28309)	(0.75364)		
D(LOG_QATA	1.075386	0.026305	-0.506427		
R)	(0.51378)	(0.31719)	(0.84442)		
D(LOG_UAE)	-0.743658	0.171115	0.660552		
	(0.36426)	(0.22488)	(0.59868)		
4 Cointegrating Equation(s):		Log likelihood	356.2678		
Normalized cointegrating coefficients (standard error in parentheses)					
LOG_SAUDI_	LOG_BAHRAI	LOG_KUWAIT	LOG_OMAN	LOG_QATAR	LOG_UAE
ARABIA	N				
1.000000	0.000000	0.000000	0.000000	-1.893083	1.335272
				(0.13654)	(0.15094)
0.000000	1.000000	0.000000	0.000000	-7.448750	6.772928
				(0.92533)	(1.02292)
0.000000	0.000000	1.000000	0.000000	-0.030542	-1.036960
				(0.07885)	(0.08717)
0.000000	0.000000	0.000000	1.000000	6.033113	-6.500310
				(0.95030)	(1.05052)
Adjustment coefficients (standard error in parentheses)					
D(LOG_SAUD	-1.213330	0.110453	-0.349195	-0.081578	
I_ARABIA)	(0.25486)	(0.12431)	(0.31987)	(0.12013)	
D(LOG_BAHR	-0.950591	0.019611	-0.428959	-0.151365	
AIN)	(0.37736)	(0.18405)	(0.47361)	(0.17787)	
D(LOG_KUW	-1.117970	0.563516	-1.984052	0.449214	
AIT)	(0.41887)	(0.20429)	(0.52570)	(0.19744)	
D(LOG_OMA	0.032196	-0.811729	1.122600	-0.860542	
N)	(0.59983)	(0.29256)	(0.75283)	(0.28273)	
D(LOG_QATA	0.107083	0.213916	-0.527523	0.151542	
R)	(0.49829)	(0.24303)	(0.62538)	(0.23487)	

D(LOG_UAE)	-1.164164 (0.43475)	0.252589 (0.21204)	0.651391 (0.54565)	0.005988 (0.20492)	
5 Cointegrating Equation(s):		Log likelihood	361.3067		
Normalized cointegrating coefficients (standard error in parentheses)					
LOG_SAUDI_	LOG_BAHRAI	LOG_KUWAIT	LOG_OMAN	LOG_QATAR	LOG_UAE
ARABIA	N				
1.000000	0.000000	0.000000	0.000000	0.000000	-0.509192 (0.07747)
0.000000	1.000000	0.000000	0.000000	0.000000	-0.484516 (0.10717)
0.000000	0.000000	1.000000	0.000000	0.000000	-1.066718 (0.04783)
0.000000	0.000000	0.000000	1.000000	0.000000	-0.622145 (0.11670)
0.000000	0.000000	0.000000	0.000000	1.000000	-0.974317 (0.07937)
Adjustment coefficients (standard error in parentheses)					
D(LOG_SAUDI_	-1.391660 (0.23623)	0.448730 (0.20068)	-0.526691 (0.28845)	-0.145192 (0.10787)	1.112194 (0.17870)
ARABIA)					
D(LOG_BAHRAI	-0.672032 (0.34258)	-0.508790 (0.29103)	-0.151704 (0.41831)	-0.051998 (0.15643)	0.566707 (0.25915)
AIN)					
D(LOG_KUWAIT	-1.189172 (0.44917)	0.698580 (0.38159)	-2.054921 (0.54848)	0.423815 (0.20511)	0.737391 (0.33979)
AIT)					
D(LOG_OMAN	-0.295717 (0.59365)	-0.189707 (0.50433)	0.796221 (0.72490)	-0.977515 (0.27108)	0.979117 (0.44909)
N)					
D(LOG_QATAR	-0.238546 (0.46328)	0.869544 (0.39357)	-0.871535 (0.56570)	0.028249 (0.21155)	-0.634136 (0.35046)
R)					
D(LOG_UAE)	-1.203048 (0.46888)	0.326347 (0.39833)	0.612689 (0.57254)	-0.007883 (0.21410)	0.364674 (0.35470)

Inflation

Null Hypothesis: D(LOG_BAHRAIN) has a unit root					
Exogenous: Constant					
Lag Length: 0 (Automatic - based on SIC, maxlag=1)					
			t-Statistic	Prob.*	
Augmented Dickey-Fuller test statistic			-4.377596	0.0015	
Test critical values:	1% level		-3.639407		
	5% level		-2.951125		
	10% level		-2.614300		
*MacKinnon (1996) one-sided p-values.					
Augmented Dickey-Fuller Test Equation					
Dependent Variable: D(LOG_BAHRAIN,2)					
Method: Least Squares					
Date: 03/20/17 Time: 13:43					
Sample (adjusted): 1982 2015					
Included observations: 34 after adjustments					
	Variable	Coefficient	Std. Error	t-Statistic	Prob.
	D(LOG_BAHRAIN(-1))	-0.435692	0.099528	-4.377596	0.0001
	C	0.001695	0.001320	1.284009	0.2084
R-squared	0.374552	Mean dependent var		-0.001140	
Adjusted R-squared	0.355007	S.D. dependent var		0.008350	
S.E. of regression	0.006706	Akaike info criterion		-7.114507	
Sum squared resid	0.001439	Schwarz criterion		-7.024721	
Log likelihood	122.9466	Hannan-Quinn criter.		-7.083888	
F-statistic	19.16335	Durbin-Watson stat		2.000465	
Prob(F-statistic)	0.000120				

Null Hypothesis: D(LOG_KUWAIT) has a unit root
 Exogenous: Constant
 Lag Length: 1 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.313577	0.0018
Test critical values: 1% level	-3.646342	
5% level	-2.954021	
10% level	-2.615817	

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

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(LOG_KUWAIT,2)
 Method: Least Squares
 Date: 03/20/17 Time: 13:46
 Sample (adjusted): 1983 2015
 Included observations: 33 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_KUWAIT(-1))	-0.728493	0.168884	-4.313577	0.0002
D(LOG_KUWAIT(-1),2)	0.306489	0.163682	1.872468	0.0709
C	0.009427	0.002868	3.286833	0.0026
R-squared	0.383534	Mean dependent var		-0.000562
Adjusted R-squared	0.342436	S.D. dependent var		0.011931
S.E. of regression	0.009675	Akaike info criterion		-6.352046
Sum squared resid	0.002808	Schwarz criterion		-6.216000
Log likelihood	107.8088	Hannan-Quinn criter.		-6.306271
F-statistic	9.332247	Durbin-Watson stat		1.940510
Prob(F-statistic)	0.000706			

Null Hypothesis: D(LOG_QATAR) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.399266	0.0180
Test critical values: 1% level	-3.639407	
5% level	-2.951125	
10% level	-2.614300	

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

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(LOG_QATAR,2)
 Method: Least Squares
 Date: 03/20/17 Time: 13:49
 Sample (adjusted): 1982 2015
 Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_QATAR(-1))	-0.509738	0.149955	-3.399266	0.0018
C	0.007002	0.003393	2.063543	0.0473
R-squared	0.265297	Mean dependent var		-0.000806
Adjusted R-squared	0.242337	S.D. dependent var		0.016730
S.E. of regression	0.014562	Akaike info criterion		-5.563762
Sum squared resid	0.006786	Schwarz criterion		-5.473977
Log likelihood	96.58396	Hannan-Quinn criter.		-5.533143
F-statistic	11.55501	Durbin-Watson stat		1.728164
Prob(F-statistic)	0.001826			

Null Hypothesis: D(LOG_SAUDI_ARABIA) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-2.435630	0.1400
Test critical values:		
1% level	-3.639407	
5% level	-2.951125	
10% level	-2.614300	

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

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(LOG_SAUDI_ARABIA,2)
 Method: Least Squares
 Date: 03/20/17 Time: 14:30
 Sample (adjusted): 1982 2015
 Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG_SAUDI_ARABIA(-1))	-0.310232	0.127372	-2.435630	0.0206
C	0.001868	0.001681	1.110979	0.2749
R-squared	0.156392	Mean dependent var		-7.66E-05
Adjusted R-squared	0.130029	S.D. dependent var		0.009248
S.E. of regression	0.008626	Akaike info criterion		-6.611005
Sum squared resid	0.002381	Schwarz criterion		-6.521219
Log likelihood	114.3871	Hannan-Quinn criter.		-6.580385
F-statistic	5.932292	Durbin-Watson stat		2.076957
Prob(F-statistic)	0.020616			

Appendix C: The Research's Interview

SEMI-STRUCTURED INTERVIEW



Strategically Using the Issue Affecting the Adoption of a Common Currency for Uniting and Developing the Arab Gulf Region

I am a research student in the Faculty of Business and Law, Department of Accounting & Finance, De Montfort University, Leicester, United Kingdom. Currently, I am undertaking a research study on the above title. This semi-structured interview is being conducted to generate information from you on the issue regarding the adoption of a common currency.

- 1) Do you think the GCC countries believe in a single currency for the region?
- 2) Why do you think it has taken too many years to actualise this agenda?
- 3) Do you think GCC countries have special roles to play in bringing a single currency to reality? If yes, what are these roles? If no why do you think they have no roles?
- 4) How important is the possible loss of sovereignty of monetary and fiscal policies be responsible for the delay in adopting a single currency?
- 5) How important is the fear of domination by Saudi Arabia be responsible for the delay in adopting a single currency?
- 6) Do you think UAE and Oman will join a single currency? What are the key factors for these e.g. economic or political reasons?
- 7) When do you think a single currency will be adopted? Why was it not implemented in 2010?
- 8) What countries do you think will be more affected by CU? In what ways?
- 9) How important is united currency in economic development to GCC?
- 10) What can GCC region learn from EU in terms of the single currency?
- 11) How can the existing economic framework of the GCC region enhanced the move towards a single currency area?

Expected time for each interview is 60 minutes.

Interviewer

Abdussalam Aljadani Email; P10361512@my365.dmu.ac.uk

Research Student, De Montfort University, UK

موضوع البحث/ العقبات الرئيسية التي تمس اعتماد عملة موحدة لدول مجلس التعاون الخليجي

أنا طالب دكتوراة في كلية الأعمال والقانون، قسم المحاسبة والمالية (اقتصاد مالي) ، بجامعة ديمنت فورت بالمملكة المتحدة. أقوم الآن بعمل بحث في الموضوع أعلاه. كما أن هذا الجزء يسعى لقياس احد عناصر نظرية العملة المشتركة عن طريق المقابلات (شبه منظمة/مهيكلة) التي تهدف إلى جمع بيانات عن المشكلة (العوامل السياسية) التي تواجه تبني عملة مشتركة لتوحيد وتطوير منطقة الخليج العربي. أود أن أشير إلى أن البيانات ستستخدم لغرض البحث العلمي فقط، وسيتم التعامل معها على أساس عالي من السرية التي تستحقها. ألتمس تعاونكم معنا، وأتمنى أن تتم الإجابة على جميع الأسئلة. شاكر لكم تعاونكم.

حول المسائل المتعلقة بدول مجلس التعاون الخليجي / السياسات النقدية والسياسية

- (1) هل تعتقد أن دول حكومات دول مجلس التعاون الخليجي تؤمن بفوائد العملة الموحدة للمنطقة؟
- (2) في اعتقادك لماذا هذا التأخير لتطبيق الوحدة النقدية للواقع؟
- (3) هل تعتقد أن دول الخليج لها دور ملموس لتطبيق فكرة الوحدة النقدية للواقع؟ إذا نعم، ما هي هادي الادوار؟ إذا لا، في اعتقادك لماذا ليس لها ادوار؟
- (4) ما مدى أهمية الخسارة المحتملة لسيادة سياسات نقدية ومالية تكون مسؤولة عن التأخير في اعتماد عملة واحدة؟
- (5) ما مدى أهمية الخوف من هيمنة السعودية كونها متهمه أنها مسؤولة عن التأخير في اعتماد عملة واحدة؟
- (6) هل تعتقد أن دولة الإمارات العربية المتحدة وسلطنة عمان ستتنظم للوحدة النقدية؟ ما هي العوامل الرئيسية هل هي اقتصادية أم سياسية؟
- (7) متى تعتقد سيتم اعتماد العملة الخليجية؟ لماذا لم يتم اعتمادها عام 2010م؟
- (8) ما هي الدول التي تعتقد أنها سوف تكون أكثر تأثر بالوحدة النقدية؟ كيف؟
- (9) ما مدى أهمية العملة الموحدة من خلال وجهة نظرك في التنمية الاقتصادية و تنويع دول مجلس التعاون الخليجي؟
- (10) ماذا يمكن أن نتعلم من الاتحاد الأوروبي من حيث العملة الموحدة؟
- (11) كيف يمكن للإطار الاقتصادي الحالي لدول مجلس التعاون الخليجي تعزيز التحرك نحو الوحدة النقدية؟

Expected time for each interview is 60 minutes.

Interviewer

Abdussalam Aljadani Email; P10361512@my365.dmu.ac.uk

Research Student, De Montfort University, UK

Appendix D: Letters for Introduction for the Field Work



Fred Mear
CPFA FCCA MBA HEA
Department Head of International Activities
Department of Accounting and Finance

Email: fcmacc@dmu.ac.uk
Tel: (0116) 250 6814
Fax: 0116 250 6043

12th June 2014

To whom it may concern,

Abdussalam Aljadani – student ID P10361512

I confirm that Abdussalam is carrying out a PhD programme at DMU, examining the GCC and Optimum currency areas. Abdussalam has been granted permission to carry interviews and conduct field research during the autumn/winter of 2014/15. It is anticipated that the field research and interviews will be carried out in the period October 15th 2014 to January 15th 2015. Abdussalam will be based at the Institute of Islamic Economics at King Abdullaziz University during his field research.

Yours sincerely

A handwritten signature in black ink, appearing to read "Fred Mear".

FCJ Mear CPFA, FCCA, MBA, HEA,
PhD Supervisor
Departmental Head of International Activities (Accounting and Finance)

إلى من يهمه الأمر

السلام عليكم ورحمة الله وبركاته،،،

يفيد معهد الاقتصاد الإسلامي بجامعة الملك عبدالعزيز بأنه لا مانع لديه من الإشراف على الدراسة الميدانية التي سيجريها الطالب المتبعث عبدالسلام بن سالم الجدعاني ، وله إجراء مقابلات في مقر المعهد ومقابلة المختصين ذوي العلاقة المتخصصين والتي تتعلق بمجال بحثه لمرحلة الدكتوراه في جامعة ديمونت فورت في تخصص الاقتصاد والمالية (استراتيجية استخدام المشكلة التي تؤثر على اعتماد عملة مشتركة لتوحيد وتطوير منطقة الخليج العربي) . وقد تم إصدار هذا الخطاب بناءً على طلبه وذلك لتقدمه إلى [الملحقية الثقافية بلندن] بحيث تكون الزيارة في الفترة من ٢٠١٤/١٠/١٥ إلى ٢٠١٥/١/١٥ م.

وتفضلوا بقبول خالص التحية،،،

معيد المعهد
د. عبدالله قريان تركستاني



الرقم: ٤١٣٥/٤٦٤٧٥

التاريخ: ٥١٤٣١٢/١٣

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ص.ب: ٨٠٢١٤ جدة ٢١٥٨٩

إلى من يهمه الأمر

السلام عليكم ورحمة الله وبركاته ،،

يفيد معهد الاقتصاد الإسلامي بجامعة الملك عبدالعزيز بأن الطالب المبتعث عبدالسلام بن سالم الجدعاني قد أتم الدراسة الميدانية التي أجراها الطالب ضمن متطلبات درجة الدكتوراة وفق الخطة الدراسية المعتمدة من المشرف على درجة الدكتوراة ، حيث قام الطالب بإجراء المقابلات العلمية في مقر المعهد وخارج المعهد ومقابلة المختصين ذو العلاقة بمجال بحثه للدكتوراة في جامعة ديمونت فورت في تخصص الاقتصاد والمالية . وقد تم اصدار هذا الخطاب بناء على طلبه حيث كانت الزيارة في الفترة من ٢٠١٤/١٠/١٥م إلى ٢٠١٥/١/١٥م.

وتفضلوا بقبول خالص التحية،،،

عميد المعهد

د. عبدالله قريبان تركستاني

الرقم: ٤٦٦٧ / ٥١٩٦ / Ref:

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Appendix E: Publication and Conference Papers

First paper of publication

World Journal of Social Sciences
Vol. 6, No. 3, September 2016, Pp. 113 – 123

Discourse Analysis of the Dinar Currency System and the Single Currency Agenda in the Gulf States

Aljadani Abdussalam *, Mear Fred ** and Raimi Lukman ***

Dinar (Gold) currency system has been the focal point of monetary authorities in both medieval and modern periods. The purpose of this paper is to discuss the historical connection between the dinar currency system and the single currency agenda in the Gulf States. The authors adopt qualitative research method, while sourcing the required information from the documentary sources. The sourced materials were critically analysed using discourse analysis. The first finding indicates that there is a strong historical connection between the dinar currency system and the single currency system in the Gulf States because of its religious and cultural connection to Muslim countries especially in the Middle East and North Africa (often called MENA). The second finding indicates that the desire by the six GCC member nations to have a single currency is motivated by the strong belief that a single currency in the region would place them at a vantage position to assert their influence economically, diplomatically and politically at the level of international trade relations. The implication of the paper is that the modern calls for the formation of economic and political blocs in the Gulf region have religious and cultural connections with the dinar currency system which collapsed in Turkey in 1928.

JEL Codes: B15, F02, G21, P44

1. Introduction

When gold was discovered at a particular time in human history, it became a priceless metal coveted and hoarded by kings, emperors and affluent merchants in the medieval period (Mundell, 1997). At this period, the gold co-existed with silver as globally-reckoned precious metals used as means of exchange for business transaction in different parts of the world including the Muslim nations – a phenomenon termed bimetalism in the economic literature (Chapra, 1996). As the monetary system develops, the bimetallic currency system was abandoned and replaced by monometallism which is an exclusive use of gold for financial exchange (Chown, 1994). The gold currency system therefore dates back to ancient times when gold coins served as medium of exchange, unit of account, and store of value. With a sustained growth in human knowledge and technology, different commodities were developed by people as currencies for facilitating exchange which were backed by gold (a phenomenon latter termed the gold standard). The “gold standard” was effectively in vogue from 1870s until the World War I in 1914. And by 1939, the gold standard had finally collapsed as the global currency system (Chapra, 1996; Mundell, 1997). Retrospectively, there were three stages of evolution of the gold standard system in the western economic history, namely: (a) Gold Coin Standard (GCS), (b) Gold Bullion Standard (GBS) and (c) Gold Exchange Standard (GES). The GCS is described as monetary system which allows gold coins as the legal tender in circulation;

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Conference paper (1)

Manhattan, NEW YORK
July 29-31, 2016

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Econometric Analysis of the long-term relationship among the Macroeconomic Variables for a single currency union in the GCC Region

***Aljadani, A., *Mear, F. and *Raimi, L.**

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Abstract

The purpose of this paper is to examine the long-term relationship among the macroeconomic variables of a single currency union in the GCC region. To ascertain if a relationship really exists, among the variables, the authors adopt a quantitative research method relying on secondary data from 1990-2014. The sourced data on consumer price index (CPI) and gross domestic product (GDP) for the six GCC countries were analysed using econometric analysis. The results of the econometric analysis have evidently shown that there exists long run relationship among the GCC with regards to non-stationary CPI and GDP. The results indicated that a single currency agenda is appropriate in the GCC region. The practical implication of the paper is that despite the emerging issues in the Gulf region, the single currency union is still feasible in the light of the positive long-term relationship among macroeconomic variables for a single currency union. The paper concludes with policy recommendations for take-off of a single currency union.

Keywords: Agenda, Econometric Analysis, Gulf States, Single Currency,



BAM2016

This paper is from the BAM2016 Conference Proceedings

An investigation of co-integration of Net Current Account and Real Effective Exchange Rates in the GCC region from 2002-2014

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Abstract

The single currency union in the six GCC countries has been in state of flux for decades owing to a number of factors, both political and economic. The current dynamics in the Gulf Cooperation Council (GCC) countries has raised the profile of the potential again. This study focuses on one of the areas impacting on the current position and investigates the linkage between energy consumption and GDP by undertaking a co-integration analysis for the six GCC states. The data from 1990-2014 has been used for the sake of GDP research because GCC was in its initial testing phase during first decade. Using the Engle & Granger Cointegration test, the analysis shows that Net Current Account and Real Effective Exchange Rates for the six countries are not co-integrated. The implication of the results is that there is no evidence of co-integration in both the Net Current Account and Real Exchange Rates across the six countries because they operate under international Forex market dynamics. The study concludes with policy prescriptions for speedy take-off of the single currency agenda.

Keywords: Agenda, Econometric Analysis, Gulf States, Single Currency,

Conference paper (3)

*Proceedings of 4th European Business Research Conference
9 - 10 April 2015, Imperial College, London, UK, ISBN: 978-1-922069-72-6*

Exploring the Potentials of Optimum Currency Area and the Political Will of the Gulf Cooperation Council

*Aljadani, A., *Mear, F. and *Raimi, L.

Economic integration is a phenomenon that became highly pronounced in the second half of the twentieth century, as the attention of the global community shifted towards enhanced cultural, economic and political cooperation and the formation of regional and continental blocs. The prominent blocs include the North American free Trade Agreement (NAFTA), the European Union (EU), the Economic Community of West African States (ECOWAS), the African Union (AU) and a host of others. The ripple effects of the realignment of economic interests with the formation of blocs propelled the Gulf States to establish the Gulf Cooperation Council (GCC). The purpose of this paper is to explore the potential for an optimum currency area (OCA) and the readiness of the Gulf Cooperation Council (GCC). The authors adopt qualitative and quantitative research methods, sourcing the required information and data. The findings from the paper indicates that the GCC has fulfilled six out of eight prerequisite factors for an OCA, the only two remaining are policy integration and political factors, which greatly account for the delay in adopting a single currency union in the region. The implication of the paper is that the benefits of OCA outweigh its costs; a single currency union is an effective mechanism for unified central banking, robust monetary policy measures, stability of the exchange rate system and improved inflow of capital and labour among members; it is also a formidable political weapon for relating with the international community.

JEL Codes: F, G, L, O

Keywords: Optimum Currency Area, Gulf Cooperation Council, Political co-operation

Conference paper (4)

*Proceedings of 11th International Business and Social Science Research Conference
8 - 9 January, 2015, Crowne Plaza Hotel, Dubai, UAE, ISBN: 978-1-922069-70-2*

Is a Single Currency Agenda Still Feasible in the Gulf Cooperation Council? A Qualitative Meta-Analysis

Aljadani Abdussalam*, Mear Fead* and Raimi, Lukman*

Delay by the GCC countries to finalise the take-off of its single currency agenda has generated a mixed reaction in policy and academic circles. There are optimists and pessimists on different sides of the pendulum. This paper examines the feasibility of a single currency agenda in the Gulf Cooperation Council (GCC) in view of the delay in commencement. In international business literature and mainstream economics, the benefits and costs of a single currency area are well discussed. The GCC countries, namely Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates agreed to adopt a single currency shortly after GCC's formation for mutually beneficial interests. Subsequently, the take-off date for the single currency has continued to be postponed for vague economic and political exigencies. The proposition to be drawn from the development could be that a single currency agenda is no more feasible in the light of emerging issues in the Gulf region. To confirm or overrule the proposition, this paper adopts a qualitative research method for investigation relying on documentary sources from 2002 to 2014. The sourced data from 25 previous studies were systematically reviewed and analysed using qualitative meta-analysis. Results indicate that a single currency agenda is still feasible in the GCC region, but the pre-conditions have to be substantially met. The delay of a single currency is a combination of economic and political factors specifically fear of losing autonomy over monetary and fiscal policy measures and fear of surrendering sovereignty to supra-national institutions. The paper concludes with few but far reaching recommendations.

JEL Codes: F, G, L, O

Conference paper (5)

STRATEGICALLY USING THE ISSUE AFFECTING THE ADOPTION OF A COMMON CURRENCY FOR UNITING AND DEVELOPING THE ARAB GULF REGION

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Abstract

Economic integration through formation of blocs is a phenomenon which cuts across continental boundaries. It exists in Europe, East Asia, North America, Africa and Middle-East. One of the vibrant, but growing economic bloc in the Middle-East is the Gulf Cooperation Council (GCC). This developmental paper explores the possibility of strategically using the issue affecting the adoption of a common currency for uniting and developing the Arab Gulf region. The theory optimum currency area provides the required foundation for this research, while relying on mixed research methods. The qualitative research aspect shall adopt interview instrument for data collection, which shall be analysed using content analysis. The quantitative research segment of the paper relies on secondary data from GCC and international financial agencies, which shall be analysed using descriptive and Cointegration (Johansen) Test. The anticipated outcome is the development of a framework for a single common currency area in the GCC region leveraging on the benefits of economic integration. As contributions to optimum currency theory and economic integration, the developmental paper proposes a politico- economic framework (PEF) for understanding the dynamics of common currency agenda in the Arab Gulf Region (AGR) with specific reference to the GCC.

Keywords: Arab, Common currency, Gulf region, Unity

Classification: Developmental Paper/Work-in-progress

JEL Code: F, G, L, O
