

The Impact of Oil Prices on GCC Economies

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Abstract

Bahrain, Kuwait, Oman, Saudi Arabia, Qatar, and the United Arab Emirates comprise the Gulf Cooperation Council (GCC). They are all rich in oil reserves and a large part of their gross domestic product and economy is reliant on their ability to export oil at competitive prices to other nations. The GCC nations benefitted financially from rising oil prices from 2000 – 2007. Since 2008 they were also impacted by the sinking oil prices which have had varying effects on their budget and economic growth. This paper aspires to ascertain the forces underlying slowdown of growth, sharply falling revenues from exports, expanding budget deficits, and shrinking current account by establishing a link between economic growth, change in oil prices and the current account during 2000-2015. The study finds evidence of falling and volatile oil prices and economic growth as driving force behind growing budget deficits and dwindling current accounts in GCC nations.

Keywords: Gulf Cooperation Council, Oil Prices, economic growth, budget deficit, current account deficit

JEL: O11, R11

1. Introduction

Bahrain, Kuwait, Oman, Saudi Arabia, Qatar, and the United Arab Emirates (UAE) comprise the Gulf Cooperation Council (GCC) states. Though they may differ in the size of their populations and territories, they are located in close proximity to one another in the Middle East. They are either absolute or constitutional monarchies and rely on one another for cooperation in areas related to International Security and Trade (Gulf Cooperation Council, 2016). However, perhaps an even greater similarity among these six nations is that they are all rich in oil reserves and a large part of their gross domestic product (GDP) and economy is reliant on their ability to export oil at competitive prices to other nations. Additionally, four of these nations, Kuwait, Qatar, Saudi Arabia, and UAE are full members of the Organization of the Petroleum Exporting Countries (OPEC) - an intergovernmental organization created in 1960 to help coordinate economic policies related to exporting petroleum among member states. The Organization ensures a steady supply of petroleum to countries importing oil and assist in securing stable oil prices for exporting countries and investors in the oil market (OPEC: Brief History, 2016).

Aside from OPEC, all six of these nations also comprise the Gulf Cooperation Council - a political and economic alliance between these countries established in 1981 with the purpose of coordinating military and economic policies among member states and citizens (GCC, 2016). A common major issue among these countries with respect to oil production is that although they benefitted financially from the rising oil prices from 2000 – 2007, since 2008 these countries were also greatly impacted by the falling and volatile oil prices, resulting in varying effects on their budget deficits and economic growth. Due to the rock bottom price of oil, these countries have experienced the slowdown of growth, sharply falling revenues from exports, expanding budget deficits, and shrinking current accounts.

A large segment of the economic literature focus on the effects of oil price shocks on the economy (Bruno and Sachs, 1985; Hamilton, 1983 and 1986; Hooker 1996, 2002). Others have researched models to measure the size and nature of the effects of oil price shocks (Rotemberg and Woodford, 1997; Finn, 2000; and Lutz, 2007). This paper aims to investigate the impact of oil prices on GCC states' economies. We review the influence of low oil prices, GDP growth and current account budget on GCC nations'.

GCC states have traditionally used their oil fortune to keep their people content by means of substantial liberal subsidies and assistances. Oil is vital to the six GCC states, which have used the windfall of the past few years to spend generously. In contrast to other oil exporters, such as Nigeria and Venezuela, they have high foreign exchange reserves and low debts to shield them from short-term shortages. Oil proceeds normally account for more than 80% of GCC government revenues, increasing to over 90% of Saudi Arabia's budget before crisis. At the same time, public spending is generous and the private sector is heavily dependent on oil production. To be sustainable in a period of lower prices, the rulers of GCC must change the structure of their economies. This paper is organized as follows: Section two describes stylized facts from 2000-15. Section three presents' basic facts and data while section four presents the model and discusses the estimation results and analyses. Section five concludes.

2. Stylized Facts And Theoretical Motivation

In early 1986, when some members of the Oil Producing and Exporting Countries (OPEC) decided to significantly increase the supply of oil, the price dived from about US\$30 a barrel to roughly US\$10 a barrel. Most oil exporting countries faced a critical sense to amend their budget policies. They had to make harsh choices, some of which, such as cuts in public investment, had a long-lasting effect on the region. Almost 30 years later, oil-exporting countries confront a similar plunge in oil prices – which declined from roughly US\$110 to about US\$30 a barrel in 2016 due to a sluggish global growth, high OPEC production, and the astonishing strength of shale extracted oil supplies. This has greatly affected economies of oil producing countries, including the GCC nations.

Oil is both consumed by households and used as a resource input by firms. Oil is a hard commodity used in mostly every industry for just about every purpose whether it is cooking, gasoline, production, to mention some; therefore, it is no surprise that countries that have large oil reserves benefit greatly from the rise of oil prices. Larger oil exporting nations such as Saudi Arabia and UAE particularly benefit from rising crude oil prices by increasing their negotiating power due to the size of their oil reserves and their dominant presence in OPEC. Oil prices rely on the forces of supply and demand and rising prices are often attributed to undersupply or an increase in demand. Other factors that may cause oil prices to increase include larger economic growth and market speculation over possible shortages in oil supply and delivery (Federal Reserve Bank of San Francisco, 2007). In the period from 2000 to 2007, the average Brent crude oil price in dollars per barrel went up quickly from US\$28.66 in 2000 to US\$96.94 by late 2007 to early 2008 (U.S. Energy Information Administration, 2016). The rise of oil prices during this period can possibly be credited to the economic expansion of large populous countries such as India and China, and an increasing concern over a possible shortage in the supply of oil given the political unrest in the Middle East, such as the Iraq War, which also resulted in an increasing demand for oil (Federal Reserve Bank of San Francisco, 2007). However, to see the impact of rising oil prices, it is necessary to understand the importance of oil to the economies of the six GCC nations 'including Bahrain, Kuwait, Oman, Saudi Arabia, Qatar, and United Arab Emirates.

Oil is central to Saudi Arabia's economy as it possesses 16% of the world's petroleum reserves and is said to be the largest exporter of oil in the world, as well as a major player in OPEC. Though Saudi Arabia invested a portion of its government spending to boost other industries, such as telecommunications and natural gas exploration, during the early 2000s, the petroleum sector accounted for roughly 80% of its budget revenues and 45% of its GDP (The World Factbook: Saudi Arabia, 2016). Additionally, in 2000, Saudi Arabia's economy was growing by 5.6% and by 2008, when oil prices were at their peak, its real GDP grew by 6.3%, thereby signaling greater economic prosperity in the nation due largely to the rise in oil prices (The World Bank, GDP Growth, 2016). During the same period, Kuwait, another major oil exporting nation, also experienced economic growth due to the rise in oil prices resulting in an overall GDP growth from 4.7% in 2000 to 6.0% in 2007, though there were periods of slow growth within that time frame (The World Bank Report, 2016). The growth in Kuwait's GDP can also be accredited to rising prices of oil as the petroleum industry comprises half of its GDP and 90% of its government's income. Moreover, Kuwait holds more than 6% of the world's oil reserves (The World Factbook, Kuwait, 2016). During the period from 2000 to 2007 Qatar similarly experienced significant economic growth as a result of high oil prices. Its GDP grew by 3.9% in 2000 and 18% in 2007 (GDP Growth, Annual Percentage, 2016). The sizeable economic growth that Qatar experienced during this period could be attributed to the fact that oil accounts for 56% of its government revenues and 92% of its export earnings.

Additionally, due in part to its prosperity during this time and substantial growth rate, Qatar became the highest income-per capita country in the world, thereby reflecting the improved standard of living that the rise in oil prices brought to the country and its citizens (The World Factbook: Qatar, 2016). The UAE, however, benefitted greatly from the price of oil during this time but experienced great fluctuations in its economic growth during the same time, evidenced by the fact that its GDP grew by 12.3% in 2000 but only by 3.2% in 2007 (GDP Growth, Annual %, 2016).

Bahrain and Oman, two oil-exporting nations that are not full members of OPEC, also grew economically due to the increase in the price of oil. In 2000, Bahrain's GDP grew by 7.0% and in 2007 it grew by 8.3% (GDP Growth, Annual %, 2016). As oil, along with aluminum, comprise the majority of Bahrain's exports and oil also accounts for 86% of the country's budget revenue, it can be said that a large part of the nation's growth during this period was due to the rise of oil prices (The World Factbook: Bahrain, 2016). Lastly, Oman experienced an increase in GDP by 6.5% in 2000 and 8.2% by 2008, despite some fluctuations in economic growth in-between that time period (GDP Growth, Annual %, 2016). Moreover, the fact that oil accounts for 46% of the country's GDP indicates that a large part of this economic growth was attributed to the increase in the price of oil (The World Factbook: Oman, 2016).

Although from 2000 to mid-2008 the rise in oil prices was responsible for bringing economic growth and prosperity to the six GCC states, it also led to the governments' of these countries to use additional revenues and funds from national savings to fund for social spending and provide subsidies to various industries aimed to foster further growth and ensure affordability of goods domestically. For example, before 2007, Saudi Arabia devoted more of its resources and even greater subsidies for education, so it could invest in its youth and lower the unemployment rate. It also provided generous subsidies to fuel, natural gas, utilities, and water (The World Factbook: Saudi Arabia, 2016). Furthermore, during the same time, Qatar used some of its savings to invest in better infrastructure, construction, and building stadiums and sports venues, with the purpose of hosting future sporting events and tourist attractions (The World Factbook: Qatar, 2016). Oman likewise dedicated its resources to increase social welfare and job creation programs. (The World Factbook: Oman, 2016). Therefore, the rise in oil prices not only helped the economic growth of the GCC countries but also was a force in helping them to invest in their labor force and diversify their economies to a certain extent.

Despite the fact that the steady increase of oil prices before 2007 led to a large amount of economic growth in the six oil exporting GCC countries, the period from 2008-10 was largely marked by a major drop in oil prices due to a variety of factors. At the beginning of 2008, Brent crude oil prices were at a high of US\$96.94 per barrel but by 2009 they fell sharply to US\$61.74 per barrel. However, prices rose again to US\$111.26 per barrel in 2011, but fell yet again to US\$52.32 per barrel in 2015 (U.S. Energy Administration, 2016). The sharp drop in oil prices from 2008 to 2009 can be attributed in part to the economic recession during that period, while the falling prices since 2014 can be linked to the slowdown in economic growth in China and other developing countries resulting in reducing demand for oil. However, it is also important to note the effect of low oil prices on the six GCC countries' economies and particularly the impact they had on their budget deficits and on the reduction of subsidies and social spending.

Although the six GCC nations reacted to some extent differently to the fall of oil prices from 2008 onwards, all of them experienced sharp declines in their GDP from 2008 to 2009, more specifically when the economic recession caused a decrease in the demand and price for oil. Also, most of them incurred budget deficits because low oil prices could not account for the cost of the subsidies and social spending provided to their citizens, which resulted in substantial decrease of subsidies and social spending. In 2009, when the price of oil dropped significantly, Saudi Arabia dedicated \$373 billion for social and economic development projects in an attempt to diversify its industries and protect its economy from the impact of falling oil prices in the future (The World Factbook: Saudi Arabia, 2016). Additionally, Kuwait did not incur a budget deficit until 2015, as it had protected itself from falling oil prices due to its "Funds for Future Generations", program which requires the country to save 10% of government revenues annually for such events. Kuwait also established an economic development plan in 2010 with the purpose of spending \$104 billion to attract foreign investment (The World Factbook: Kuwait, 2016). Moreover, in March 2016 the government of Kuwait attempted to lower subsidies on electricity and water fees to reduce government spending, but was faced with serious opposition from the public (Young, 2016). Like Kuwait, Qatar did not experience a budget deficit until 2016 but it is projected that the country will have a deficit of US\$12.8 billion or 6% of its GDP in 2016 due to the fall in oil prices (The World Factbook: Qatar, 2016).

The UAE also experienced a budget deficit in 2009 and 2010 of 17.7% to 3.1% of its GDP due to low oil prices and increased investment in areas of job creation and education aimed to foster more growth and human capital in the nation (The World Factbook: UAE, 2016). Further, in 2015, UAE eliminated its fuel subsidies to reduce national spending (Shahine, 2015). Lastly, Bahrain and Oman, both incurred budget deficits in 2009 with Bahrain's budget deficit being 9.8% of its GDP, while Oman's was 3.7% of its GDP (Cash Surplus/Deficit, % of GDP, 2016). As of 2015, Bahrain's budget deficit was 13% of its GDP, while Oman's was 17.1%. Additionally, both countries have struggled to deal with the falling oil prices due to their limited foreign assets and lack of diverse economies. Therefore, they too have cut social spending and sought to diversify their economies by investing more in industrialization, education, and the private sector (Shahine, 2015).

In general, all GCC countries are hurting from low oil prices, slow growth and rising unemployment. The International Monetary Fund (IMF) estimates that lower oil price shrank US\$340 billion off Arab oil-exporting states' government revenues in 2015 and 2016 is looking worse if the price of oil continues to be on the low side. Moody's, a rating agency, demoted Bahrain and Oman and put on guard the other four GCC states namely, Kuwait, Qatar, Saudi Arabia and the UAE.

3. Basic Facts

Figure 1 details the Brent crude oil prices in US dollars per barrel from 2000 – 2015. This figure shows how a long spell of prolonged rise came to an end in 2008, triggering a new era characterized by substantial drop in the price of oil since 2011. The chart shows that from 2000 to 2008, the price of oil rose from US\$28.66 per barrel to US\$96.94 per barrel. Then, by 2009, the price of oil fell to US\$61.74 per barrel, due to the economic recession which lowered the demand for oil across the world. However, the price of oil rose again to US\$111.26 in 2011 and remained at a steady level, until it fell again in 2014 and ended at US\$52.32 per barrel in 2015 (U.S. information Administration, 2016). The rise in oil prices until 2008 and the fall afterwards, despite some fluctuations due in part to speculation about oil shortages and economic recovery, illustrates that before 2008, oil exporting nations such as the GCC countries experienced more economic prosperity and after 2008, they experienced slower growth and greater losses.

The economic damage has been serious. Most, if not all, of the damage is done by lower oil prices. Figure 2 illustrates this connection showing the percentage change in real GDP for the six GCC countries from 2000 – 2015. Despite differences in their economies, the sharp drop in oil prices in 2009 and 2015 negatively affected GDP and slowed their economic growth. According to Figure 2 which shows the percent change in GDP, between 2014 and 2015, Kuwait suffered the largest GDP decrease.

However, the question of greatest importance is the impact of low oil prices on the budget of GCC. The effects of the oil price collapse on GCC budgets are summarized in Figure 3, which shows budget balances as percentage of GDP. In 2014, Kuwait, Qatar, and the UAE, ran healthy surpluses. In 2015, only Qatar and Kuwait were still in surplus and the UAE had small deficits, but the deficit of Saudi Arabia ballooned to over 15% of GDP.

Further, Figure 3 illustrates that when oil prices were high; the GCC nations had either budget surpluses as a percentage of their GDP or had a smaller budget deficit. Additionally, Qatar and Kuwait did not experience budget deficit in 2009 due to the protection measures against low oil prices they had in place, while Oman and Bahrain incurred budget deficits of 3.7% and 9.8% of their respective GDP. Qatar actually had a budget surplus of 13.4% in 2009. However, these differences in budget deficits and surpluses can also be attributed to different ways in which governments allocate resources and spending.

Figure 4 displays current account positions of all six countries. UAE, Qatar, and Kuwait are in a much better position. According to IMF, UAE increased its monetary reserves when oil prices were higher, which will allow it to withstand oil prices at US\$50 per barrel over the next 30 years. IMF also believes that Qatar and Kuwait can also survive a US\$50 oil price for 25 years. Kuwait is in the solid position to bear an extended period of low oil prices because of its current account surplus. By contrast, Saudi Arabia does not have sufficient fiscal cushions to bear five years of US\$50 oil, according to IMF. After years of huge gluts, Saudi Arabia's current account deficit is anticipated to climb to 20% of GDP. Its coffer of cash is humungous, it is also shrinking fast. There is a link between current account and GDP growth. Theoretical models predict that external borrowing will be influenced by future growth prospects and higher growth is correlated with larger current account deficits, both over the short run and over the long term perspectives.

Blanchard and Giavazzi (2002) noted that the growth rate of income can affect the current account. Barro and Sala – i – Martin (2000) suggested open-economy versions of the neoclassical growth model to explain the speed of conversion in growth.

4. Empirical Specification

To investigate the association between the crude oil prices and economic performance, this paper uses the following model:

$$ca_i = \beta_0 + \beta_1 \Delta y_i + \beta_2 \Delta p_i + \varepsilon$$

Where current account as a percentage of GDP (ca) in country i , depends on the current growth, Δy_i , and on the percentage change in crude oil prices, Δp_i . The findings are reported by the regression results in Table 1.

Table 1: Estimates of Growth and Oil Price Change on Current Account

	Bahrain	Kuwait	Oman	Qatar	Saudi Arab	UAE
Constant	.920 (2.896)	30.647 (3.121)	3.611 (2.223)	22.120 (3.849)	11.805 (3.007)	7.397 (2.462)
Δy	.820 (.595)	-.332 (.498)	.443 (.464)	-.309 (.323)	.224 (.649)	1.026* (.469)
Δp	.062 (.040)	.237* (.039)	.190** (.044)	.101 (.081)	.194* (.088)	.017 (.067)
R^2	.424	.305	.601	.121	.406	.390
F-statistic	4.79	2.85	9.78	.90	4.45	4.16
VIF	1.438	1.393	1.001	1.20	1.509	1.513

Dependent Variable is Current Account. Standard errors are in parenthesis. ** $p < .001$, * $p < .05$. The sample covers the period 2000-2015 and includes the six GCC nations. The data for Current Account (percentage change), GDP (percentage change) are from IMF's World Economic Outlook database, April 2016. The Brent Crude Oil Price (Dollar per Barrel) is taken from U.S. Energy Information Administration (2016). To see if independent variables, Δy and Δp , have correlation with the dependent variable, ca , we conducted Pearson correlation coefficient test for each country. A strong to moderate positive correlation is observed between ca and Δy in Bahrain, Kuwait, Saudi Arabia, and United Arab Emirates. However, in Kuwait and Oman we find a weak positive correlation between the two variables. Qatar, on the contrary, shows negative but weak correlation between the same two variables.

Furthermore, a strong to moderate correlation is observed between ca and Δp in Bahrain, Kuwait, Oman and Saudi Arabia. However, the relationship is weak in Qatar and United Arab Emirates. Additionally, we also checked if the correlations of independent variables were not too high (more than .70) to check for multicollinearity or redundancy in the two predictors. Our results show it varies from .027 to .582. Table 1 summarizes major results with respect to the fit of the model and signs and significance of Δy and Δp from ordinary least square estimates. Although the regression coefficient varies across countries, they have the correct signs and are significant for most of the sample.

The results indicate that there is a link between economic growth (Δy), the percentage change in oil prices (Δp) and the current account (ca) in GCC nations. With the exception of Kuwait and Qatar, Δy is positively related to current account in Bahrain, Oman, Saudi Arabia and UAE. Further, ca is directly influenced by Δp . Additionally, Δy significantly affects current account in UAE ($p < .05$) and Δp significantly influence ca in Kuwait ($p < .05$), Saudi Arabia ($p < .05$), and Oman ($p < .001$). The fit differs between GCC economies. However, the fit of the model is sufficiently higher for Bahrain, Oman, and Saudi Arabia than for Kuwait, Qatar, and UAE. The regression F-statistics are significant at the 5 percent level in Bahrain, Oman, Saudi Arabia, and the UAE. There is no concern of multicollinearity since variance inflation factor (VIF) is less than 10 for all GCC nations. It seems reasonable to conclude that Δy , Δp , and ca connection holds in the GCC countries.

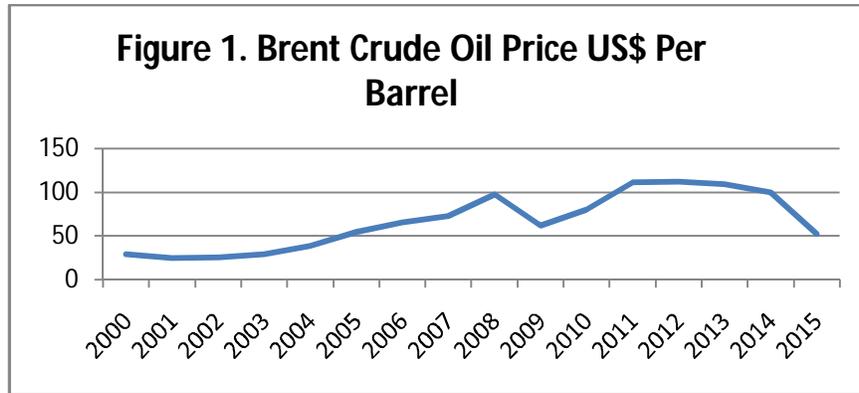
5. Conclusion

In the wake of falling oil prices, countries such as Saudi Arabia, Oman, Bahrain, the UAE, Kuwait, and Qatar, whose economies rely heavily on exporting oil, often suffered greater losses. Eventually many of these countries incurred budget deficits and reduced or eliminated subsidies on items such as natural gas, electricity, etc., as they did not have the revenues from oil sales to compensate for the costs of such subsidies. The fact that these countries have been so heavily impacted by a decrease in oil prices since 2008 reinforces the argument made by Rabah Arezki and Mustapha Nabli in their article “Natural Resources, Volatility, and Inclusive Growth: Perspectives from the Middle East and North Africa,” which stated that oil rich countries such as the GCC nations historically have had slower economic growth than other developing nations due to, in large part to their economy being concentrated in one commodity, which often leads to volatility in their government revenues (Arezki and Nabli, 2012).

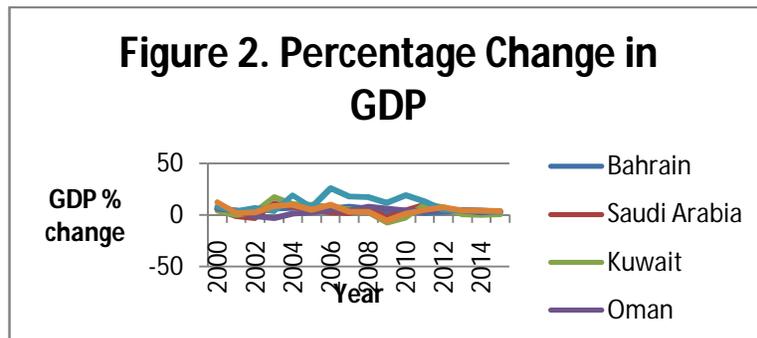
Experts suggest that Saudi Arabia needs a barrel of oil at US\$85 to finance public spending and around US\$60 to keep its current account in balance. Some GCC countries are using foreign exchange reserves to finance their imports. As deficits expand, the old model becomes less viable. In 2015 IMF found that GCC applied about 12% of GDP on public sector payroll wages since most natives work in public sector while private sector hired foreigners. With an increase in young adults entering the labor force, the pressure to find more private sector jobs will be increasing. However, in Qatar and UAE, there are not enough citizens to fill government job positions. GCC governments are now placing quotas for foreign workers in the private sector, forcing them to hire local residents. Some are even charging a fee for each foreign worker hired by the private sector. Others see the low oil price as a blessing to compel such changes. But after years of living on welfare system, such changes may come as a surprise to many.

Low oil prices have undoubtedly left the GCC nations with budget problems that create a potential risk to their stability. However, despite the volatility of oil prices, GCC countries can take several measures to improve their economies as the price of oil decrease. Arezki and Nabli (2012) stated that one way countries can improve their economies is by taking more saving measures to cushion themselves from unstable oil prices in the future, such as Kuwait’s establishment of the “Funds for Future Generations,” which prompted it to save 10% of its government revenue annually in the wake of changing oil prices. As the six countries have been currently cutting their subsidies of public goods and utilities, some had suggested that it is important for countries that are so heavily reliant on one industry to invest more in human capital and job creation. Also, as many of these countries are facing high levels of unemployment, particularly Saudi Arabia, as well as a growing labor force coupled with the fact that the oil industry calls for more capital and less labor force intensity, it is important that these six nations focus on dedicating social spending towards education and job training in areas in which there is stronger demand for labor. Experts also had suggest that job creation in these countries is crucial for maintaining social and political stability and prosperity in the Middle East region and could possibly lead to more foreign investment from developed countries, which could help GCC nations to diversify their economies beyond the petroleum industry. Last, it has also been suggested that building strong institutions, greater checks and balances on the oil industry, and perhaps even introducing democracy to the region can promote more accountability and oversight over the oil industry and a more coordinated response to unstable oil prices.

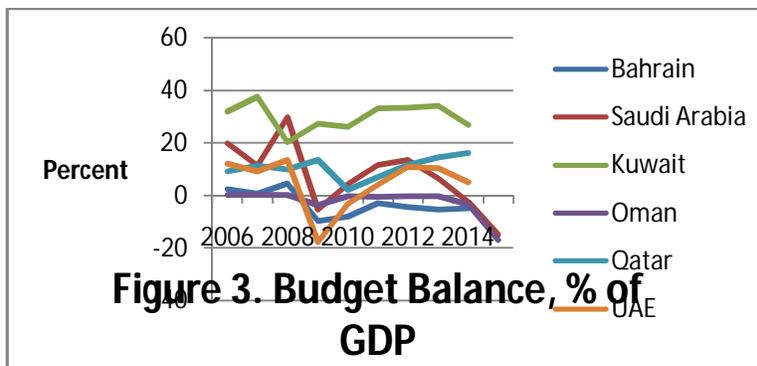
Overall, the nations of GCC prospered for much of the better part of the previous decade from 2000 – 2007 due to the rise of oil prices, which was reflected in an increase in their real GDP and economic growth. However, following the drop of oil prices after 2008, many of these countries have encountered budget deficits and had to cut social spending measures and subsidies on utilities to attempt to regain a more balanced budget. Though, these countries have not yet recovered from the impact of the fall of oil prices, as it is still continuing, they can take several measures to improve their economies. These steps include saving some of their government revenues to protect themselves from future unstable oil prices and investing more in education and job creation to increase their highly skilled labor force. Further they should diversify their economy, bring social stability to the region, and build stronger institutions and governments.



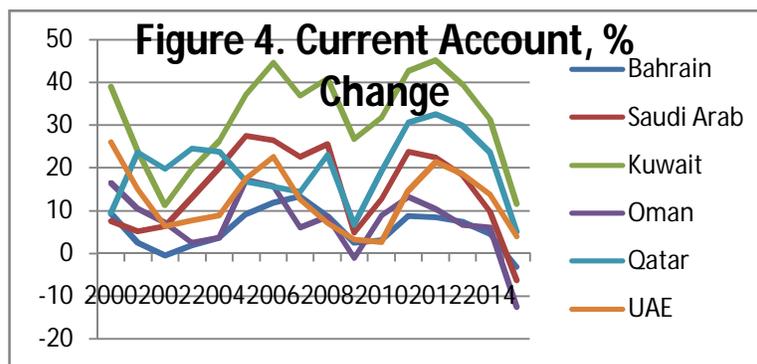
The sample covers the period 2000-2015 and includes the six GCC nations The Brent Crude Oil Price (Dollar per Barrel) is taken from U.S. Energy Information Administration (2016).



The sample covers the period 2000-2015 and includes the six GCC nations. The data for GDP (percentage change) are from IMF’s World Economic Outlook database, April 2016.



The budget balance as a percentage of GDP is retrieved from Trading Economics, September 2016.



The data for Current Account (percentage change) are from IMF’s World Economic Outlook database, April 2016.

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