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**BUDGETARY INSTITUTIONS, FISCAL POLICY,
AND ECONOMIC GROWTH:
THE CASE OF SAUDI ARABIA**

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Abstract

This paper investigates budgetary and fiscal institutions in Saudi Arabia during the period 1969-2014. In addition, the study examines the impact of government expenditure on non-oil private GDP per capita using Autoregressive Distributive Lag (ARDL) approach. The study finds that although the Saudi government uses a conservative oil price when estimating oil revenues, government expenditure in general, and capital expenditure in specific, is still procyclical. Also, the budget institutions index developed by Dabla-Norris et al (2010) shows that because of the limited power of the Saudi Consultative Assembly in the budgetary cycle, Saudi Arabia scored 0.42 out of 1 in the overall stage Index. On the other hand, the estimation of the long run relationship between government expenditure and GDP per capita illustrates that lagged real government consumption expenditure has a positive and significant impact on real non-oil private GDP per capita while its contemporaneous effect is found to be negative.

JEL Classification: H5, H6.

Keywords: Budget institutions, fiscal policy, Saudi Arabia, ARDL.

ملخص

تبحث هذه الورقة المؤسسات الميزانية والمالية في المملكة العربية السعودية خلال الفترة 1969-2014. بالإضافة إلى ذلك، تبحث هذه الدراسة في تأثير الإنفاق الحكومي على الناتج المحلي الإجمالي الخاص غير النفطي للفرد باستخدام الانحدار المتأخر التوزيع (ARDL) النهج. توصلت الدراسة إلى أنه على الرغم من أن الحكومة السعودية تستخدم سعر النفط بشكل متحفظ عند تقدير الإيرادات النفطية والإنفاق الحكومي بشكل عام، والنفقات الرأسمالية بشكل خاص، فإنه لا يزال مساير للاتجاهات الدورية. أيضاً، يشير مؤشر المؤسسات الميزانية التي وضعتها دابلا نوريس وآخرون (2010) أنه بسبب القوة المحدودة لمجلس الشورى السعودي في دورة الميزانية، سجلت المملكة العربية السعودية 0.42 من 1 في مؤشر المرحلة الشامل. ومن ناحية أخرى، فإن تقدير العلاقة على المدى الطويل بين الإنفاق الحكومي والناتج المحلي الإجمالي للفرد الواحد يوضح تخلف الإنفاق الاستهلاكي للحكومة الذي له تأثير إيجابي وكبير على الناتج المحلي الإجمالي غير النفطي الحقيقي الخاص للفرد في حين تم العثور على أثره المعاصر ليكون سلبي.

1. Introduction

Saudi Arabia is a resource-rich country that has about one fifth of the world's proven oil reserves, according to the US Energy Information Administration, and is considered the largest producer and exporter of total petroleum liquids in the world. It is also classified as one of the largest twenty economies in the world and the largest economy in the Middle East, producing about 25% of the total Arab GDP¹. In 2014, Saudi Arabia's GDP is valued at 2431.8 billion Saudi Riyals at 2010 constant prices (648.5 billion US dollars). Out of this value, the oil sector share is about 39.9%².

Like all other oil-based economies, Saudi Arabia government depends on oil revenue as a major source of government revenue, which makes the government vulnerable to fluctuations in its revenue as the international oil prices change (the oil sector is responsible of about 90% of total government revenue). For example, the sharp increase in oil prices in 1973 and 1974, the first oil shock, resulted in a budget surplus of 43.2% and 40.7% of GDP, respectively. Three years later, this huge surplus turned into a deficit of 2.8% of GDP in 1977 then a surplus of 20.4% of GDP in 1980. Recently, since 2003, the Saudi government budget realizes a surplus that ranges from as low as 4.5% of GDP in 2003 to as high as 29.8% of GDP in 2008 (except 2009 when the budget realized a deficit of 86.6 billion riyals, which equals to 5.4% of GDP).

These facts attract many researchers to study the Saudi Arabian government's budget and fiscal policy and institutions, especially in recent years. The literature in this area could be divided into two main groups. The first looks at fiscal policy analysis and its impact on economic growth in Saudi Arabia. The second studies Saudi Arabia's budgetary process and fiscal institutions. In the first group of studies, Robert Loony (1989)'s paper is one of the early studies on the relative efficacy of fiscal and monetary policy in Saudi Arabia. His main interest is to study whether fiscal and monetary policies in Saudi Arabia should be conducted by rule or by discretion. Loony's main findings suggest the superiority of simple rules over optimally designed discretionary policy in increasing the growth rate in non-oil GDP. In the same trend, Joharji and Starr (2010) examine the relationship between government expenditure and non-oil GDP in Saudi Arabia in the period 1969-2005. When comparing between the two main types of government expenditure, current and capital, Joharji and Starr find that current government investment has a larger long run effect on the rate of growth compared to capital government expenditure.

Likewise, Khalifa Ghali (1997) examines the impact of Saudi Arabian government expenditure on per capita output growth. Using a Vector Autoregression Model, Ghali's empirical results show no consistent evidence that government spending can increase Saudi Arabia's per capita output growth. In contrast, Alshahrani and Alsadiq (2014) estimate the short- and long-run effects of different types of government expenditures in Saudi Arabia on growth over the period 1969-2010. Their main findings indicate that while private domestic and public investments, as well as healthcare expenditure, stimulate growth in the long-run, openness to trade and spending in the housing sector can also boost short-run production.

Focusing on just one type of government expenditure, Mohammed Al-Jarrah (2005) studies the causal relationship between defense spending and economic growth in Saudi Arabia. Using a Vector Error Correction model, Al-Jarrah finds a bi-directional causality between defense spending and total real economic growth and also between defense spending and non-oil real economic growth. Khalid Abdulqadair (2005) studies the relationship between government expenditure and government revenue in Saudi Arabia. The error correction model results indicate long run equilibrium between government expenditure and revenues.

¹ Saudi Arabian General Investment Authority (SAGIA).

² The Saudi Arabia Central Department for Statistics and Information.

Yousif Al-Yousif (2000) explores the relationship between the size of the government, measured in government expenditure, and economic growth in Saudi Arabia as a rich developing country using two different measures of government size, the percentage change of government expenditure and the ratio of government expenditure to GDP. Al-Yousif's empirical results show that government size is positively related to economic growth only if it is measured as the percentage change in government expenditure. Abdulrahman Al-Hamidy (2011) studies fiscal and debt management in Saudi Arabia and the counter cyclical aspect of the fiscal policy. He finds that the Saudi government uses public expenditure to accomplish two other major goals: first, to enhance sectors and projects that create more jobs to Saudis; and, second, to achieve intergenerational equity by investing in physical and social infrastructure.

Mohamed Ramady (2010) also stressed on the counter cyclical aspect of government spending in Saudi Arabia and that the budgetary mechanism is a useful barometer of financial health. Ramady points out to the need for transparency and fiscal accountability in Saudi Arabia as long as the Saudi government opted for economic openness and also that Saudi Arabia represents the developing world in the Group of 20 (G20).

The second group of studies are concerned with the budgetary procedures, priorities, and institutions involved in budgetary decisions in Saudi Arabia. Robert Looney (1991) studies budgetary priorities in Saudi Arabia during the 1980's when oil revenues fell sharply. Looney's results show that, although defense spending kept its leading share of the budget, the Saudi government succeeded in maintaining spending on education stable during periods of austerity. Joharji and Willoughby (2014) investigate the Saudi Arabian Budgetary system using an OECD survey to explore the different aspects of budget formulation and execution. They find that a significant part of capital expenditure in the budget preparation procedure is mainly driven by requests from government agencies to increase spending instead of being based on an early determination of the macroeconomic constraints. Joharji and Willoughby recommend budget reform that has two major aspects: first, reform the budget classification to avoid the current budget classification shortcomings and improve the quality of economic analysis and, second, apply a comprehensive budget based on binding spending ceiling that is determined within the country's macroeconomic plan.

In 2013, KPMG conducted a research on 19 of the G20 countries titled "Waking the fiscal Tightrope." The main goal of the research is to see how their fiscal policy settings held up within the context of the budgetary, economic and intergenerational cycles. KPMG study finds Saudi Arabia committed to target investments in areas that support education, health, and infrastructure, with a main focus on strengthening the social safety net and addressing youth unemployment.

This study adds to the literature of budgetary and fiscal institutions in resource-rich countries in several ways. First, it provides a comprehensive overview of government expenditure and revenue classifications in Saudi Arabia over the period (1969-2014). Second, it investigates Saudi budgetary laws and constructs a budget index using the comprehensive Dabla-Norris budget institutions index, which reflects the efficiency of fiscal institutions involved in the budget cycle. Third, the study sheds light on the impact of government expenditure on non-oil private sector GDP growth in Saudi Arabia using Autoregressive Distributed Lag (ARDL) approach, which is considered to be a more statistically significant approach for determining cointegrating relationships in small samples compared to Johansen cointegration techniques. Finally, the study tests for structural breaks in budgetary data using Zivot-Andrews test.

The study is organized as follows. In section 2 the study provides an overview of budgetary data. Section 3 discusses budgetary laws and business politics. Section 4 presents budgetary processes. Section 5 introduces an application of the Budget Institutions Index in Saudi Arabia.

Section 6 examines the impact of government expenditure on private sector growth and tests for structural breaks in budgetary data. Section 7 offers concluding remarks and policy recommendations.

2. An Overview of Budgetary Data and Budget Classification (1969-2014)³

2.1 Capital versus current government expenditure: how they are affected by oil price fluctuations

Historically, budgetary data could be classified into three time periods: 1969-1982, 1983-2002, and 2003-2014 based on the budget balance trend. In the first period (1969-1982), where Saudi Arabia had two positive oil shocks in 1973 and 1979, the budget balance was in surplus in almost all of these fourteen years; except for three years, 1969, 1977, and 1978 when the budget was in deficit. The embargo on oil shipments to the United States and the Netherlands in 1973 increased oil prices sharply (the 1974 oil price was triple that of 1973) while the Iranian revolution and Iran-Iraq war resulted in doubling oil prices in 1979.

To measure the size of government in the economy and to learn more about political decisions that affect the composition of government expenditure and income distribution, the study focuses on government expenditure trends: government current and capital expenditure as a percent of GDP, government consumption and gross fixed capital formation expenditure as a percent of GDP, and government expenditure per capita⁴. This period realized a significant increase in government capital expenditure from 9.5% of GDP in 1969 to 27.1% of GDP in 1982. Similarly, current expenditure increased, but moderately relative to the increase in capital expenditure, in the same period. Data also show that current expenditure was fluctuating more than capital expenditure as current expenditure jumped from 16.4 of GDP in 1969 reaching 30.6% of GDP in 1978 before it goes down to 19.4% of GDP in 1982 while fluctuations in capital expenditure were relatively smoother.

In the second period (1983-2002), the budget balance was in deficit in all years except of the year of 2000 when the budget was in surplus. In the beginning of this period, oil prices decreased sharply from \$24 per barrel in 1985 to about \$12.5 per barrel in 1986 mainly due to a coordination failure between OPEC countries on the level of oil production (OPEC countries failed to enforce a production quota among its members) and the increase in exploration and production of oil outside OPEC. Oil prices stayed under \$20 during almost all years in this period. The prolonged budget deficit affected the composition of government expenditure. The Saudi government gradually decreased its capital expenditure from 23.7% of GDP in 1983 to 4.2% of GDP in 2002, while keeping its current expenditure at a relatively high level. The Government's current expenditure realized fluctuations during this period ranging from 27.8% of GDP in 1983 to 41.8% of GDP in 1987, before it went down to 28.7% of GDP in 2002.

Finally, due to the gradual increase in oil prices from around \$31 per barrel in 2003 to around \$98 per barrel in 2013, the Saudi government budget had a continuous surplus in this period except of 2009 when the budget realized a deficit of 86.6 billion riyals (5.4% of GDP). The increase in oil prices was pushed by the Iraq war in 2003, which led to the loss of Iraq's production of oil, in addition to the growing demand on oil by the US and Asian countries as a result of strong economic growth rates. The Saudi government used a significant part of this surplus to reduce the public debt from 82% to about 3% of GDP between 2003 and 2013. However, with the low international oil prices since the fourth quarter of 2014 until now and

³ Saudi Arabian budgetary data and fiscal reports are collected from the following domestic and international sources: Saudi Arabia Ministry of Finance, Saudi Arabia Monetary Agency, Saudi Arabian Ministry of Economy and Planning, and the International Monetary Fund.

⁴ Government current expenditure consists of government consumption expenditure plus transfer payments, interest payments, and subsidies. Government consumption and fixed capital formation expenditure usually appear in the GDP calculation among other spending sectors.

with the high military expenses in Saudi Arabia in 2015 due to the war in Yemen, the budget turned into a deficit in 2014 and 2015, which will lead to a rise in the public debt.

With regard to the composition of government expenditure, budgetary data show that capital expenditure gained a bigger share of total government expenditure compared to the second period but did not surpass current expenditure, which continued to dominate the budget mainly because of the high wages and salaries share of total government expenditure. The Saudi government gradually increased its capital expenditure from 4.1% of GDP in 2003 to 11.1% of GDP in 2013 while current expenditure share of GDP decreased from 27.7% in 2003 to 23.7% in 2013. Figure 1.A presents capital and current government expenditure as a percent of GDP.

The study of government size in terms of government consumption and fixed capital formation expenditure as a percent of GDP shows similar results to government current and capital expenditure. As shown in figure 1.B above, Government consumption expenditure is always higher than government fixed capital formation expenditure in all periods and is less vulnerable to spending cut during periods of low oil prices.

As for government expenditure per capita, figure 2 shows a sharp upward trend in both current and capital government expenditure per capita in the oil shocks period (the first period of investigation) as current government expenditure increased from 4,369 Saudi riyals (SR) per person in 1969 to SR 9,200 in 1982 (in real terms) while the capital government expenditure increased from SR2,466 per person to SR 12,837 in 1982. Per capita current capital expenditure surpasses that of capital expenditure in most of the years in the first period but the spread between them was small.

As mentioned above, the Saudi government kept its current government expenditure per capita almost stable during the second period (the period of prolonged budget deficit) at the expense of a sharp decline in capital expenditure per capita, which declined from SR 9,863.5 in 1983 to SR 1,258 in 2002. The third period (2003-2013) witnessed increasing attention from the Saudi government to human development programs, the introduction of a minimum wage law (SR 3,000 per month) and the unemployment subsidy (SR 2,000 per month).

In addition, an expansionary fiscal policy was adopted through the implementation of many public projects, mainly in infrastructure and education, to overcome the decline in private investment caused by the 2007 financial crisis. In 2010, the Saudi government announced a \$400 billion (1.5 trillion Saudi riyals) infrastructure investment plan to be implemented through 2013. As a result, both current and capital expenditure per capita increased significantly with a noticeable increase in capital expenditure per capita compared to current expenditure per capita (the former increased from SR 1,295 in 2003 to SR 4,722 in 2013 while the later increased from SR 8,654 in 2003 to SR 10,052 in 2013⁵).

However, in December 2013, the Ministry of Finance released a statement about the national budget for 2014. The statement shows that there is a noticeable slowing in the expansionary fiscal policy in Saudi Arabia as planned government expenditure growth was forecast to increase by only 4.3% and 0.006% in 2014 and 2015, respectively, compared to an increase of about 20% in 2013 (government expenditure is estimated to be 855 and 860 billion riyals in 2014 and 2015, respectively, while it reached 829 billion riyals in 2013), which signals a procyclical fiscal policy. Nevertheless, the decline in planned government expenditure growth

⁵ The 2007 financial crisis mainly affected the demand for credit in the Saudi financial market. As indicated by Abdulrahman Al-Hamidy (2010), the slowdown in demand for credit from the Saudi corporate sector in 2008 resulted from the re-evaluation of companies' business strategies and plans in light of reduced global demand. In response to the reduction in demand for credit, the Saudi government injected SR 40 billion into specialized credit institutions (such as the Real Estate Development Fund and the Saudi Credit and Savings Bank) to ease credit conditions.

will help reduce the inflationary pressure in the economy and also decrease the non-oil primary deficit, which is defined as the difference between non-oil revenue and non-oil expenditure⁶.

The non-oil primary balance is estimated by the IMF to be equal 56.6% of non-oil GDP in 2013 compared to 60.6% in 2012. The decline in non-oil primary deficit could have been larger by about 2% without the thirteenth month wage payment in 2013 (it is worth mentioning that Saudi citizens get wages and pensions for 13 months every three fiscal/calendar years as wages and pensions are paid based on the Hejri (Islamic) calendar which is 10-11 days shorter than a typical calendar year).

2.2 Sectoral and administrative classification of public expenditure

The Saudi government classifies public expenditure by sector of spending (sectoral classification). Government expenditure is divided between ten different sectors: human resources development, transportation and communications, economic resources development, health and social development, infrastructure development, municipal services, defense and security, public administration, government lending institutions, and local subsidies. Generally speaking, there is a significant increase in the percentage of government expenditure directed to human resources development (the second highest item of expenditure) from 8.8% in 1981 to a projected 25.1% in 2015.

For the 2014 fiscal year, the Saudi government directed 25% of its total expenditure to education and training programs. There is an obvious political will to develop Saudis' capabilities and make them equipped with the required skills for modernizing the Saudi economy. To achieve this goal, the Saudi Human Resources development Fund is in charge of funding many training programs for Saudi youth to make their skills match the market characteristics and increase their chances to find jobs in the market (the Saudization program). In addition, the generous King Abdullah Scholarship program, which started in 2005, aims at sending a significant number of Saudi students to continue their educational degrees abroad and gain the most up-to-date knowledge in different fields of science (currently, more than 130,000 Saudi students study abroad, about half of them are in the United States). This makes Saudi Arabia the third highest source of foreign students in the US after China and India. Figures 3 and 4 show the sharp increase in Saudi government expenditure per capita on health and human development programs.

Despite the continuous increase in the volume of expenditure on the top two sectors in the last decade, defense and national security and human resources development, there is a slight decline in their weight among other spending sectors. The percentage of government expenditure on defense and national security and human resources development to total government expenditure declined from 33.07% and 26.03% in 2006 to 30.6% and 24.8%, respectively, in 2013. Items of expenditure that realized increase in the same period are health and social development and economic resource development.

On the other hand, the Saudi government follows the administrative classification of public expenditure, as it breaks down its expenditure by government departments, ministries, (Saudi Arabia has 23 ministries 25 universities and 20 independent public organizations), and the economic classification by dividing public expenditure by economic activity (wages and salaries, operation, and maintenance). Within each government department (or section) there are subdivisions called branches.

In addition, outlays for each government department or branch are further divided into four chapters (the economic classification): chapter one consists of three main items (salaries,

⁶ The non-oil primary deficit is considered by the IMF as the best measure of the impact of fiscal policy on the non-oil economy and aggregate demand. For more information, see: Saudi Arabia 2013 Article IV Consultation, IMF Country Report No. 13/229.

allowances, and workers wages), chapter two includes administrative and operational expenses and is composed of three main categories (a. administrative expenses, materials and consumption equipment and various other specialized expenses, b. subsidies, and c. general items), chapter three includes operation and maintenance expenses, and chapter four contains government expenditure on public projects.

Data on the economic classification of the Saudi government budget is available from 1994 to 2010⁷. Over this period, despite the declining trend of chapter one items (salaries, allowances and workers “laborers” wages) as a percent of total government expenditure in recent years, chapter one spending still accounts for the largest portion of total government expenditure (around 40%) and the salaries item alone accounts for more than two thirds of chapter one spending and is continuously increasing as illustrated in figures 5 and 6 and 7.

During budget deficit years, prior to 2003, administrative expenses and subsidies (chapter 2 items) used to be the second highest items of expenditure before they were outweighed by government expenditure on public projects in 2007 and onward. As mentioned before, the Saudi government started to focus on its capital expenditure (public projects) after 2003. As shown in figure 8, expenditure on public projects is almost equal to salaries and wages in 2010 after it was only about 30% of salaries and wages expenditure in 2003.

2.3 Government revenue: the dominance of oil revenue

With regard to the Saudi government revenue, as stated earlier, the vast majority of the Saudi government revenue is obtained from oil. Oil revenue accounts for more than 80 percent of export revenue and 90 percent of budget revenue. Non-oil revenues are generated from four main sources: corporate profit tax (20% tax rate on non-Saudi corporations’ profit), international trade tax, utilities and license charges and residents’ fees, and Zakah contributions (alms giving)⁸. Recently, the Saudi government began using a conservative estimation of oil price when forecasting government revenue as its oil revenue forecast is based on about 70 dollars per barrel. This is a way to weaken the link between government spending and oil revenue in order to decrease volatility in government spending. However, even when using a conservative oil price per barrel, the 2014 budget realized an actual deficit of 65.53 billion riyals (for the first time since 2009) due to the significant drop in oil prices in the second half of 2014.

According to Jadwa Investment, An estimate of 85 dollars per barrel is needed to cover the budgeted government expenditure in 2014 (the breakeven oil price) whereas the average oil price per barrel decreased to a level well below \$80 in the fourth quarter of 2014 (oil price reached about \$59 per barrel in December 2014). This breakeven oil price estimate is significantly higher than previous years estimates in Saudi Arabia. For example, EFG-Hermes investment bank forecasted the Saudi budget’s break-even oil price to be below \$60 a barrel in 2009. The increase in the breakeven oil price increases the fiscal risk of not being able to cover the budgeted government expenditure if the oil price drops, which results in an increase in public debt⁹.

As indicated by Steven Barnett and Ronaldo Ossowski (2003) and Paulo Medas and Daria Zakharova (2009), resource-rich governments should accumulate assets in order to sustain the

⁷ Saudi Central Department of Statistics and Information, Annual Statistics Book.

⁸ Regarding mixed ownership of corporations, corporate income tax is levied on a non-Saudi’s share in a resident corporation while Zakat is levied on a Saudi’s share. It is worth mentioning that citizens of Gulf Cooperation Council (GCC) countries are treated as Saudis.

⁹ In 2013, the IMF developed two scenarios regarding the Saudi budget balance in the coming decade: under the first scenario, oil price is assumed to drop to \$53 a barrel in 2018, and steady thereafter, while expenditures do not adjust. In this case, government deposits would fall to zero and debt would rise to 50 percent of GDP by 2021. Under the second scenario, oil prices fall to \$80 a barrel in 2013 and beyond and thus, existing fiscal buffers would get exhausted by 2025.

non-oil deficit when oil has been exhausted and the sustainable (long run) non-oil deficit is determined by the accumulated government wealth rather than by the flow of oil revenue.

Generally speaking, assessing fiscal sustainability in resource-rich countries is usually based on Permanent Oil Income Model (POIM). This model states that government net wealth (oil wealth plus net financial assets) is spent at a gradual pace that ensures a constant share for each generation according to some social welfare criteria such as: constant distribution of government net wealth as a share of non-oil GDP (government spending should be set equal to the rate of return on the government wealth adjusted for GDP growth), or constant distribution of government net wealth in real terms (government spending should be constant in real terms over time in order to maintain the purchasing power of the wealth distributed every year). The permanent income hypothesis was originally developed by Friedman (1957) with a main idea that government consumption should be calculated as a percentage (equal to the rate of return on financial assets) of the present value of net oil wealth.

The IMF measures the sustainable non-oil primary deficit in 2013 to be 30% of non-oil GDP, which is significantly lower than the actual non-oil primary deficit (56.6% of non-oil GDP). IMF estimates the sustainable non-oil primary deficit by projecting oil revenues based on proven reserves and an assumed path for future oil prices, and calculating the constant annuity in real per capita terms that can be derived by investing the oil revenues. To be able to control the non-oil primary deficit when oil resources are exhausted, the head of fiscal committee at Saudi Arabia Consultative Assembly announced on June 7, 2014, that the committee is planning to discuss a proposal for the country to establish a sovereign wealth fund (the National Reserve Fund) that would invest some of its oil earnings to guarantee fiscal stability in the Kingdom. The proposed National Reserve fund is expected to start with a capital of 30 percent of budget surpluses accumulated over past years.

Although there are no details on the investment strategy of this new sovereign fund, it is considered a vital step towards lessening the dependency on oil revenue and diversifying government revenues in the long run in order to control the non-oil primary budget deficit. The National Reserve Fund would be of great importance if the Saudi government keeps its expenditure at the current high level, which will result in realizing a budget deficit by 2016 according to IMF estimates. Traditionally, the Saudi Arabian Monetary Agency invests the country's oil surpluses abroad in low-risk assets, as it is believed to have placed over half of its foreign reserves, which is estimated to be equivalent to about \$730 billion, in U.S. Treasury bonds¹⁰.

Since the optimal sustainable policy of running non-oil primary deficit requires setting the non-oil deficit equals to the return on the present discounted value of oil wealth (Barnett and Ossowski, 2003), it is expected that as the return on oil wealth increases (by investing in relatively high-risk assets), the government can support a larger non-oil primary deficit and thus, the estimated sustainable non-oil primary deficit in 2013 (30% of non-oil GDP) should be revised. In general, the sustainable path of non-oil primary deficit should be reassessed periodically if any of the factors affecting government net wealth change, such as a discovery of new oil reserves, a change in the expected oil price in the future, or a change in the way the government invests its accumulated wealth, which affects the expected return on the present value of government wealth. Figure 9 shows the budget deficit as a percent of GDP.

Another measure of the underlying fiscal position in oil-rich countries, when oil revenue volatility is excluded, is the structural budget balance. In 2013, IMF staff estimated the structural budget balance in Saudi Arabia by calculating government revenue each year, based on the average of oil prices in the last five years and the average of oil production in the last

¹⁰ Angus McDowall and Yara Baymouy, "Saudi Arabia to discuss proposal for sovereign wealth fund", Reuters, June 8, 2014.

three years (including the current year), less total expenditure. IMF estimated a positive structural budget balance (surplus) from 2006 until 2012 (about 1.3 percent of non-oil GDP) while a zero structural budget balance was estimated to take place in 2013 as oil prices and production are expected to moderate over the medium term and also real capital expenditure was expected to slow down after the recent sharp increase in the after financial crisis period¹¹. Figure 10 presents oil versus non-oil revenues and figure 11 shows the government total revenue as a percent of GDP.

2.4 Budgeted versus actual government expenditure and revenue

In December of every year, the Ministry of Finance releases a statement containing the actual data on government revenue and expenditure of the current fiscal year and a forecast of the budgeted revenue and expenditure of the following fiscal year. Because of oil price volatility and the inability to accurately predict oil revenue, the Saudi government uses a conservative oil price per barrel to measure its revenue. Mohamed Ramady (2010) argues that there are two fundamental issues facing Saudi fiscal authorities: the inability to have significant control over a large element of government revenue, and the inability or unwillingness to curb and reallocate expenditure. These reasons resulted in a continuous and sometimes big gap between the budgeted figures and actual figures as illustrated in figure 12. During the period 1981-2014, actual revenue is found to be higher than budgeted revenue except in only in two years (1982 and 1998) when the actual revenue fell short of the budgeted one. In the years of 2005, 2008, and 2011, the actual revenue was about 100% more than the forecasted one.

3. Budgetary Laws and Business Politics

3.1 The basic law of governance and the government budget

Before analyzing the budgetary process in Saudi Arabia, it is important to learn about any regulations in the Basic Law of Governance that have a direct impact on preparation, approval, execution, or oversight of the budget. Saudi Arabia does not have a constitution but, rather, depends on the Basic Law of Governance that contains the basic regulations, orders, and decrees, which organize the political, societal, and economic life. The Custodian of the Two Holy Mosques, King Fahd Bin Abdulaziz Al-Saud issued a Royal Decree embodying the Basic Law of Governance in March 1992. There are two articles in the Basic Law of Governance that are related to government budget. In chapter four (economic principles), article 20 states: “No taxes or fees shall be imposed, except in need and on a just basis. Imposition, amendment, cancellation or exemption shall take place according to the provisions of the Law.” In chapter seven (financial affairs) article 76 states: “The Law shall set the fiscal year for the State. The budget shall be announced according to a Royal Decree. It shall specify assessed amounts of revenue and expenditure one month ahead of the coming fiscal year. If the budget cannot be issued due to compelling reasons before the beginning of the new fiscal year, the budget of the previous year shall remain in force until the new budget can be issued¹².”

Although article 20 states that no taxes or fees shall be imposed, it is clear that it left the door open to impose taxes when needed. Until now, the Saudi government does not impose any personal or corporate income tax (except for the corporate tax on foreign corporations as stated earlier) nor does it impose sales, excise, or property taxes. However, after the IMF proposal in 2004 to impose a value added tax in the GCC countries to reduce their reliance on oil as the major source of government revenue, some proposals were introduced in 2008 to apply a value-added tax either across GCC countries or within individual Gulf States but no official discussion of these proposals started yet.

¹¹ Saudi Arabia 2013 Article IV Consultation, IMF Country Report No. 13/229.

¹² The Saudi Arabia Consultative Assembly (Majlis AlShura): <http://www.shura.gov.sa/>

Many observers believe that the main reasons for GCC governments to be reluctant to consider applying a value added tax are: the recent global financial crisis that negatively affected private investment, there is no political will to levy taxes after the Arab Spring, and high oil prices, which resulted in significant budget surplus for GCC governments. On the other hand, article 76 does not specify any role for the Consultative Assembly to play in the budget process (the Consultative Assembly, or Majlis Al-Shura, is considered as the Saudi parliament). Actually, the Saudi government, specifically the Ministry of Finance, controls almost all of the budgetary process steps with a limited role of the Consultative Assembly. It is worth to say that the King of Saudi Arabia appoints all members of the Consultative Assembly. The appointed assembly does not have budgetary powers in terms of approving the budget.

The only role of the Consultative Assembly in the budgetary process is to review the government budget (the general annual report) through a specialized committee (the Committee on Financial Affairs) at the end of the fiscal year and it has the right to question any civilian minister about various items of expenditure that lie under his authority¹³. The assembly then prepares a report on the results of inquiry and raises recommendations and proposals on how to fix or change any financial issue that needs to be amended. The report is sent directly to the King who has the final say on whether to apply what the Committee on Financial Affairs recommends or not¹⁴.

3.2 Sociopolitical characteristics of Saudi society and business politics

Beblawi and Luciani (1987)'s edited book is one of the early studies that analyze the characteristics of governments and societies in oil-rich Arab countries. Beblawi first introduces the concept of a rentier economy as "an economy substantially supported by the expenditure of the state whilst the state itself is supported by the rent accruing from abroad." To be more specific, Luciani (1987) suggests that at least 40 percent of governmental income should come from oil revenue in order to consider the economy as a "rentier economy." Regardless of whether this percentage is accurate or not, it is clear that the Saudi Arabia economy fits into the category of a rentier economy as the proportion of oil revenues to total government revenues is about 90 percent. In this type of economy, the government serves as an intermediary between the oil sector and the rest of the economy the government channels its revenue to the economy through its public expenditure (Abdul-fadil (1987)).

The absence of income and sales taxes in Saudi Arabia as mentioned above, due to the high level of oil revenues, made many groups of people lose interest in tracking and discussing fiscal decisions, not only because of the nonexistence of taxes but also because the means and channels through which people can discuss, question, or oppose fiscal decision either do not exist or are weak. In fact, the weak role of the Saudi Consultative Assembly could be explained by the reversed slogan of democracy "no representation without taxation" (Niblock and Malik (2007)). These government characteristics created what Beblawi (1987) calls a "rentier mentality" as the social and economic interests are organized in a way to capture a good slice of government rent and people seek easy gains rather than gaining earned income through serious work, especially since people can get a good source of income just by being citizens and serving as sponsors of foreign companies or individuals¹⁵. Of course, this type of economy creates disparity in economic wellbeing between those individuals who are able to benefit from government rent and those who cannot. An important question now would be: how the latter

¹³ Based on an interview with a member of the Committee on Financial Affairs in the Saudi Consultative Assembly, the committee has the right to review civilian Ministries only which account for about two-third of total budget expenditure.

¹⁴ This information is based on an interview with a member of the Committee on Financial Affairs in the Saudi Consultative Assembly.

¹⁵ Beblawi (2007) mentioned that because of the rentier mentality, "different layers of beneficiaries of government rent are thus created, giving rise in their turn to new layers of beneficiaries. The whole of society is arranged as a hierarchy of layers of rentiers, with the state or the government at the top of the pyramid."

group of people will react to increase their economic wellbeing? Luciani (1987) answers this question as follows: “*To the individual who feels his benefits are not enough, the solution of maneuvering for personal advantage within the existing setup is always superior to seeking an alliance with others in similar conditions.*” This simply explains the nonexistence, or weak role, of pressure groups and collective influence from less-advantaged people in Saudi Arabia.

Alternatively, the main influence on government decisions comes from family, tribal, and kinship connections with government officials. For example, it is well known in Saudi Arabia that Nejd businessmen (people from the central region of Saudi Arabia where the ruling family of Al-Saud originates from) enjoy preferential treatment when applying for business permits and they might also have access to confidential information about upcoming government tenders and projects (Chaugry (1997)).

Over the years, the Saudi private sector gained increasing formal incorporation into the government decision-making process. In addition, the dependency on key families (senior businessmen such as Alzamil and Bin Laden groups) to perform government infrastructure projects becomes significant. Hertog (2006) shows that after many years of informal access to ministries and princes, consultation with the private sector has been formalized in recent years through some corporatist channels, such as the chambers of commerce, and by appointing key private sector figures in the Consultative Assembly.

In addition, the private sector in Saudi Arabia has been granted representation in specialized bodies such as the board of the General Investment Authority. Niblock and Malik (2007) and Hertog (2006) provide some examples on how this formal incorporation of the private sector affected government policy making: the 2003 income tax law had been debated in the Consultative Assembly and the private sector was consulted before the final approval. The law was brought down due to business lobbying that was so powerful as some senior businessmen took their concerns about the law to the king and, eventually, the income tax plan was cancelled. In addition, the Riyadh Chamber played a role in convincing the government to provide gas to the capital for industrial use and also proposed a draft on trademark and anti-dumping issues. However, the government, and mainly the King, still has great power to decide whether any proposal or policy recommendation by the private sector should be implemented as we will see in the coming section.

4. Budgetary Processes

4.1 Budget preparation and approval

Unlike most countries with a monarchy type of government, where the parliament has the authority to approve the budget proposal, the executive authority in Saudi Arabia conducts both the budget preparation and approval phases¹⁶. As mentioned above, the Ministry of Finance has a great power over the allocation of government expenditure and the budget preparation process before sending the budget to the Council of Ministries for final approval. Here are the main duties of the Saudi Arabian Ministry of Finance¹⁷:

1. Supervising implementation of the government’s fiscal policy and monitoring its implementation by the relevant agencies.
2. Preparing the government’s budget, discussing it with government agencies, and monitoring its implementation.
3. Controlling the current accounts between the Ministry of Finance and all other government agencies.

¹⁶ Saudi Arabia was considered as a country with an absolute monarchy type of government until 1992, when King Fahd Bin Abdulaziz Al-Saud issued a Royal Decree embodying the Basic Law of Governance in March 1992 that is based on Islamic Sharia.

¹⁷ The Saudi Arabian Ministry of Finance, www.mof.gov.sa.

4. Monitoring the pre-disbursement phase of budgetary funds for all government agencies.
5. Supervising government revenue collection activities and ensuring that they comply with the relevant rules and regulations.
6. Supervising the annual closing of the government's accounts and expenditures.
7. Supervising and protecting government properties.
8. Representing the government in international and regional economic and financial institutions, monitoring international financial and economic developments, and preparing the necessary studies and reports.
9. Implementing the government's resolutions with respect to external assistance.
10. Monitoring implementation of the government's policy for providing loans to individuals and national corporations for various developmental activities through its banks and funds, including the Agricultural Bank, the Credit Bank, the Industrial Development Fund, the Real Estate Development Fund, and the Public Investment Fund.

Budget preparation and approval process starts in January when the MOF distributes budget guidelines to ministries and departments that include suggestive aggregate spending ceiling for each ministry and instructions on how to prepare spending estimates in a way that is consistent with macroeconomic objectives. After receiving the budget guidelines, government departments send budget proposals during the months of March and April to the General Budget Department of the MOF for review and assessment of each line item in terms of current and requested appropriations before starting the negotiation of each chapter in August.

The negotiation process takes place between the MOF and government departments' representatives on the basis of the previous year's actual spending, planned spending and actual spending for the first 6 months of the current year. New public projects (chapter 4) have to be evaluated first by the Cost Analysis Unit of the General Budget Department and also have to be set in accordance with the Ministry of Economy and Planning's five-year plan.

Although there is an administrative unit of economic affairs in the MOF, headed by the Deputy Minister of Economic Affairs, there is no a macro-fiscal unit that could help linking budget policies to macroeconomic objectives set by the Ministry of Economy and Planning's five-year plan and in deepening the understanding of how fiscal policy decisions affect the economy (the top-down approach). The establishment of the macro-fiscal unit in the MOF is one of the major recommendations by IMF staff for fiscal reform in Saudi Arabia along with developing a formal medium-term budget framework and publishing fiscal data according to the Government Financial Management Information System (GFMIS) 2001 format¹⁸.

In general, the budget preparation and approval procedures could be summarized as follows¹⁹:

1. In January, the Ministry of Finance distributes budget documents and guidelines to ministries and departments.
2. In March and April, ministries and departments prepare estimates of their expenditure and revenue.
3. In June and July, ministries and departments submit their budget proposals to the Ministry of Finance.
4. In August and September, the Ministry of Finance starts the first sectoral negotiations of budget estimates.

¹⁸ GFMIS is a computerized system that deals with government public financial management functions, which helps governments respond to the demand for better information on budgetary data. For more information, see: Abdul Khan, and Mario Pessoa (2012), "Conceptual Design: A Critical Element of a Successful Government Financial Management Information System Project" International Monetary Fund.

¹⁹ Joharji and Willoughby (2014), "The Saudi Arabian Budgeting System: An Institutional Assessment", *Public Administration and Development*, 34, 63-80.

5. In September, the Deputy Minister of Finance reviews the first draft of the budget.
6. In October, the Ministry of Finance starts the second sectoral negotiations of budget estimates.
7. In November, the Minister of Finance reviews the second draft of the budget.
8. In December, the final draft of the budget is sent to the Council of Ministers for approval.
9. In the last week of December, a Royal approval of the budget is initiated.

The MOF then issues a press release that indicates recent economic developments and highlights of the previous fiscal year (actual figures of expenditure and revenue) and estimates of budgeted total expenditure and total revenue of the following fiscal year. The MOF also shows some aggregate data on government expenditure of major civilian sectors (education, health care, infrastructure and transportation, municipalities' services, water, agricultural, industry, and credit development institutions). As the budget does not require an approval from the consultative Assembly, the budget goes directly to the execution stage on January first of every year (starting in 1987, Saudi Arabia's fiscal year begins on 10th Capricorn of the Zodiac year, January 1).

4.2 Budget implementation and supervision

After receiving their approved budget documents, government departments start spending according to each department budgetary appropriations. As mentioned earlier, Article 67 of the Basic Law of Governance allows the extension of the previous year budget on a monthly basis if the new budget is not approved for some critical reasons. For example, the 1990 budget was extended on a monthly basis until the end of 1991 because of the second Gulf war (1990 budget was amalgamated with 1991 budget). Saudi ministries and departments manage their financial transactions through their accounts at the Saudi Arabian Monetary Agency (SAMA), the central bank of Saudi Arabia, and commercial banks. SAMA is in charge of managing oil revenues (controlling the sovereign wealth fund constructed from several years' budget surpluses) and government expenditure. The MOF regulates transfer of funds from one expenditure item, that realizes a surplus, to another item with a deficit if a governmental agency asks for the so called "budget correction." The MOF has the authority to approve transfers of funds that are less than SR 141.5 million otherwise, if the government agency asks for a budget correction that is more than SR 141.5 or if the correction involves transferring funds from one chapter to another, then an approval from the Council of Ministers is needed.

Bassam Albassam (2011) denotes that the MOF does not precisely determine the volume of budget correction for each government agency, which could lead to a misuse of the budget correction tool. This factor, along with the poor planning and estimation of government expenditure, is considered to be responsible for the significant and prolonged gap between budgeted and actual expenditure that was discussed in the previous section.

To ensure government expenditure is used appropriately, the Financial Representative Department (FRD) of the MOF performs pre-auditing procedures and inspects financial transactions in all government ministries and departments by assigning a financial representative from the FRD to each ministry or department to pre-audit payment authorizations and sign all financial forms and payment orders²⁰. As indicated by Bassam Albassam (2011), after the end of the fiscal year, the General Accounts Department of the MOF starts preparing the government closing account that shows the actual revenue and expenditure for each ministry and department with explanation of any deviation from the budgeted revenue and expenditure.

²⁰ Joharji and Willoughby (2014), "The Saudi Arabian Budgeting System: An Institutional Assessment", Public Administration and Development, 34, 63-80.

The consolidated final government closing account should be ready to be sent to the Council of Ministries and the General Auditing Bureau (GAB) by April of the following fiscal year. The GAB then conducts post-auditing procedures on all government ministries and departments. The main function of GAB is “the execution of post-auditing on the state’s revenues, expenditures, current and fixed assets and to oversee the proper utilization and maintenance of these resources.” The GAB is an independent audit institution that was established in 1971. GAB president, who is appointed by a Royal Directive, reports directly to the King²¹. Finally, a general budget report is sent to the fiscal committee at the Consultative Council for review. As stated above, the Consultative Council has the right to question any civilian minister about expenditure items and then send recommendations to the King, who is also the Prime Minister of the Council of Ministries, to take the final decision on whether to implement these recommendations.

5. Budgetary Questionnaire

To get more information about the government budget rules and procedures in different countries, many organizations apply a budget questionnaire and then construct an index that helps in comparing and ranking countries according to the extent each country is getting close to the perfect answer in each criterion presented in the questionnaire. The most important of these organizations are: OECD/World Bank, International Budget Partnership (IBP), and Revenue Watch Institute (RWI). Luckily, Saudi Arabia is one of the few GCC countries that appear in both IBP and Revenue watch Institute indices while OECD/World Bank’s (2003) survey on budget practices and procedures was used by Ghazi Joharji and John Willoughby (2014) without constructing an index as their study is not intending to compare the results of the survey in different countries. The goal of the OECD/World Bank surveys is to create a database of budget practices and procedures from 60 countries (30 OECD member countries and 30 non-OECD countries). The database provides a comprehensive resource for government practitioners, parliaments, academics, and nongovernment organizations, enabling them to compare and contrast national practices.

On the other hand, IBP releases the Open Budget Survey every two years based on information from experts outside government. This survey is considered an independent and comparative measure of budget transparency and accountability around the world. The latest released survey is the 2012 survey. In that year, IBP surveyed and assessed the national budgets of 100 countries, of which 77 countries failed to meet basic standards of budget transparency. Saudi Arabia lies at the bottom of the 100 countries surveyed with only Qatar behind it. Saudi Arabia has an Open Budget Index Score of 1 out of 100 in the years 2008, 2010, and 2012. IBP explains this score as “Saudi Arabia provides scant information to the public in its budget documents during the year.” Budget documents such as pre-budget statement, executive budget proposal, enacted budget, citizens budget, in-year budget, mid-year review, year-end report, and audit report are either not produced at all or produced for internal use only.

While Revenue Watch Institute releases a broader index measuring transparency and governance in the oil, gas, and mineral sectors in 58 countries (the Resource Governance Index, RGI), it is considered an important source of getting information about government budgets as it contains four components that provide information about the country’s: 1) Institutional and Legal Setting (freedom of information law, clarity of revenue collection, fund rules defined in law, etc.); 2) Reporting Practices (primary source of revenue, secondary source of revenue, subsidies, oil production value, etc.); 3) Safeguards and Quality Controls (check on budgetary process, quality of government reports, government fund rules, etc.), and 4) Enabling

²¹ The General Audit Bureau, www.gab.gov.sa.

Environment (open budget index, corruption index, accountability and democracy, etc.). Saudi Arabia ranked 48 out of 58 countries with a composite index of 34 out of 100.

This study applies the budget institutions index developed by Dabla-Norris et al., (2010) as it more comprehensive than IBP's open budget index. The index has three components based on the three consecutive phases of the budget process: planning and negotiation, approval, and implementation. The planning and negotiation phase contains the allocation of funds between the different line ministries and programs, using multi-annual macroeconomic and budgetary frameworks. The approval phase covers the legislature's hearing of the annual budget. The implementation phase includes the execution, monitoring, control, reporting, and external oversight of budgetary allocations. In each of the three budgetary phases, Dabla-Norris identifies five crosscutting categories: (1) centralization, (2) rules and controls, (3) sustainability and credibility, (4) comprehensiveness, and (5) transparency. This classification allows conducting the analysis in two different dimensions: the budgetary phase dimension and the category dimension.

The overall budgetary phase (stage) dimension index is constructed based on the simple average of the three budgetary phases (stages) sub-indices, That is:

$$\text{Overall stage index} = \frac{1}{3} \sum_{i=1}^3 S_i$$

Where S_i is the value of the sub-indices of the three budgetary stages. In addition, each budgetary stage sub-index is a simple average of the number of questions in each stage as follows:

$$S_1 = \text{Planning} = \frac{1}{15} \sum_{i=1}^{15} q_i, \quad S_2 = \text{Approval} = \frac{1}{10} \sum_{i=1}^{10} q_i, \quad S_3 = \text{Implementation} = \frac{1}{9} \sum_{i=1}^9 q_i$$

Where q_i is the score of each question and each budgetary stage sub-index (S_1 , S_2 , and S_3) is weighted according to the number of questions in each stage. Likewise, the category index is also constructed by calculating the simple average of the sub-indices that are created for each of the five categories mentioned:

$$\text{Category index} = \frac{1}{5} \sum_{i=1}^5 C_i$$

Where C_i is the value of the i^{th} category sub-index. The five category sub-indices are calculated as follows:

$$C_1 = \text{Centralization} = \frac{1}{5} \sum_{i=1}^5 q_i, \quad C_2 = \text{Rules} = \frac{1}{7} \sum_{i=1}^7 q_i, \quad C_3 = \text{Sustainability} = \frac{1}{7} \sum_{i=1}^7 q_i$$

$$C_4 = \text{Comprehensiveness} = \frac{1}{6} \sum_{i=1}^6 q_i, \quad C_5 = \text{Transparency} = \frac{1}{9} \sum_{i=1}^9 q_i$$

As in the stage sub-indices, q_i represents the score of each question, and each category sub-index (C_i 's) is weighted according to the number of questions in each category. For each question, a scale between 0 and 1 is used, with a higher score reflecting better performance. The answers of the questions are based on an interview with Mr. Saleh Al-Afaliq, a member of the Fiscal Committee at the Consultative Assembly, the ministry of finance reports, and the Saudi Arabian Monetary Agency annual reports.

Saudi Arabia scored 0.42 out of 1 in the overall stage index. The approval phase sub-index score is the lowest among other sub-indices and thus results in a low overall index. This is expected since the budget procedure in Saudi Arabia does not require the approval of the Consultative Assembly on the budget proposal before it goes to the implementation phase. As for the category index, Saudi Arabia scored 0.45 out of 1 and the transparency sub category scored the lowest among all other sub categories (0.25). These scores will be more meaningful when compared with other countries in the GCC region.

Tables (table 1.A and 1.B) represent the overall stage and the category indices along with the sub-indices scores.

6. Government Expenditure and Private Sector Growth

The government size, measured as the percentage of government expenditure to GDP as discussed in section 2, and its impact on the macroeconomy received attention of many researchers in both developed and developing countries with a main focus on studying the growth effects of government expenditure. Empirical results vary significantly in terms of whether government expenditure boosts real GDP growth. For example, Landau (1983), Barro and Redlick (2011), Barro (1989 and 1991), Khalifa Ghali (1997), Fölster and Henrekson (1999 and 2001), Ghura (1995), and Jeffrey Miron (2010) argue that there is either a negative relationship between government expenditure and real GDP per capita growth or there is no evidence that government expenditure is positively related to economic growth. On the other hand, Alexiou (2007), Alshahrani and Alsadiq (2014), and Aschauer (1990) found a positive impact of government spending, or some components of it, on GDP growth.

6.1 Methodology

As mentioned earlier, one of the objectives of this study is to examine the impact of government expenditure on private sector growth since a major goal of the Saudi diversification plan is to encourage the private sector to play a greater role in the economy. Thus, while existing studies on government expenditure and economic growth in resource-rich countries use GDP per capita and non-oil GDP per capita as a measure of economic growth, this study uses non-oil private GDP per capita in Saudi Arabia as the outcome variable. Government expenditure is measured in terms of government consumption and gross fixed capital formation expenditure (government consumption expenditure is more relevant to GDP compared to government current expenditure that is usually used in the literature because the latter includes transfer payment, interest rate payment, and subsidies). In addition, while existing literature uses Johansen cointegration techniques to capture the impact of government expenditure on GDP growth in a time series framework, this study employs the Autoregressive Distributed Lag (ARDL) approach. This approach, which was first introduced by Pesaran and Shin (1999) and then extended by Pesaran et al., (2001), is a more statistically significant approach for determining cointegrating relationships in small samples, while the Johansen cointegration techniques require larger samples for the results to be valid (Ghatak and Siddiki, 2001). Another advantage of the ARDL is that while other cointegration techniques require all of the regressors to be integrated in the same order, the ARDL can be applied irrespective of their order of integration (ARDL approach can be applied whether the regressors are I(1) and/or I(0)) and thus, it avoids the pre-testing problems associated with standard cointegration tests (Pesaran et al., 2001). Pahlavani (2005) points out that if the unit root properties of the data are not known for certain, then applying the ARDL procedure would be more appropriate than other cointegration techniques. Also, the ARDL approach allows different variables to have different optimal lags while this is allowed in Johansen cointegration techniques.

In addition, in order to identify the existence of unit roots in a time series data, conventional tests such as Augmented Dickey Fuller (ADF) (1979, 1981) or Phillips-Perron are often used. However, recent contributions to the literature, suggest that such tests may incorrectly indicate the existence of a unit root, when, in fact, the series is stationary around a one-time structural break (Zivot and Andrews, 1992; Pahlavani, et al, 2006). Zivot and Andrews (ZA) (1992) argue that the results of the conventional unit root hypothesis may be reversed by endogenously determining the time of structural breaks.

As explained by Waheed et al., (2007), Perron (1989) shows that the power to reject a unit root decreases if a structural break is ignored. Zivot and Andrews propose a variation of Perron's original test and assume the exact time (year in this study) of the break-point is unknown. Thus,

ZA method runs a regression for every possible break date sequentially and selects only one single break point in the series. The Zivot and Andrews approach uses three models to test for a unit root: model A, which assumes a one-time change in the level of the series; model B, which allows for a one-time change in the slope of the trend function; and model C, which combines one-time changes in the level and the slope of the trend function of the series. Perron suggests that most economic time series can be adequately modeled using either model A or model C. However, Sen (2003) suggests that model C is superior to model A because if model A is used when in fact the break occurs according to model C, then there will be a substantial loss in power but the opposite is not true. Thus, model C is employed in this study.

According to Pesaran and Pesaran (1997), the following ARDL model of order p and q , ARDL (p, q), is estimated:

$$y_t = \alpha_0 + \alpha_1 t + \sum_{i=1}^p \varphi_i y_{t-i} + \sum_{i=0}^q \beta'_i x_{t-i} + \varepsilon_t \quad (1)$$

Where y_{t-i} is the lagged dependent variable, x_t is a K -dimensional vector of explanatory variables, t represents time, α_0 is the intercept, ε_t is a serially uncorrelated disturbance with zero mean and constant variance-covariance. The coefficients φ_i are scalars while β'_i are row vectors. To capture the short run effect of government expenditure on real GDP per capita growth, ARDL model is estimated in an error correction model (ECM) form. The ECM version of the selected ARDL model can be obtained by rewriting equation (1) in terms of the lagged levels and first difference of y_t and x_t as follows:

$$\Delta y_t = \alpha_0 + \gamma ECT_{t-1} + \sum_{i=1}^{p-1} \delta_i \Delta y_{t-i} + \sum_{i=0}^{q-1} \phi_i \Delta x_{t-i} + \varepsilon_t \quad (2)$$

Where δ_i and ϕ_i are the coefficients that are related to the short -run dynamics of the model and ECT is the error correction term. The magnitude of the error correction term coefficient (γ) shows the speed of adjustment of the dependent variable to the equilibrium level in the previous period

6.2 Data

Based on the government expenditure and economic growth literature, the study distinguishes between long run and short run analysis. The natural log of real non-oil private GDP per capita is used as the dependent variable for the long-run analysis and the growth rate of real non-oil private GDP per capita is used for the short-run analysis. The main variables of interest are real government consumption expenditure as a percent of GDP and real government gross fixed capital formation expenditure as a percent of GDP. Control variables include openness of trade, population growth, and real gross private fixed capital formation. All regressors are expressed in log terms for the long run analysis and in growth rate terms for the short run analysis. Data is obtained from Saudi Arabian Monetary Agency annual reports.

6.3 Empirical results

6.3.1 Unit root test statistics

The Augmented Dickey-Fuller (ADF) test statistics for the levels of the variables are reported in Table 2. ADF test statistics indicate that all variables are non-stationary in their levels but become stationary after they are differenced. All variables are found to be $I(1)$ ²².

6.3.2 Zivot-Andrews structural break unit root test

The ZA test results (model C) show that real Non-Oil Private GDP per capita, real government consumption expenditure, real government fixed capital expenditure and openness of trade examined in this study are stationary in the original level, while population and real private

²² ADF test is performed using DF-GLS version, proposed by Elliot, Rothenberg, and Stock, which transforms the time series via a generalized least squares regression before performing the test. The DF-GLS test has shown greater power than the previous versions of ADF test.

gross fixed capital formation are non-stationary. Thus, we reject the null of unit root for the first four series at 5 percent significance while we fail to reject the null of unit root for the last two series. With these findings, it is affirmed that the order of integration for the variables is either $I(0)$ or $I(1)$. Therefore, the bounds testing approach to cointegration within the ARDL framework is the most suitable approach to the present case as the orders of integration are non-uniform. In other words, the use of conventional cointegration approaches in this case may increase the probability to obtain a biased result. Table 3 shows the ZA test results.

In addition, ZA test results illustrate the year of the most significant single structural break for each time series. This could be important information for policymakers to evaluate the impact of any policy change or a newly implemented program that intend to make a structural change. Historically, it is expected that the first and second oil shocks periods (1973-1974 and 1979-1983) are the most appropriate periods for structural breaks in most of Saudi Arabian economic data series. ZA test results in table 3 identify a single structural break in real non-oil private GDP per capita in 1982 and in real government consumption expenditure in 1983, the end of the second oil shock period. None of the other time series data has a structural break point at any of the oil shock periods. For instance, real government fixed capital expenditure has a structural break in 1995, the year after which Saudi Arabian government began to increase its capital spending again, openness of trade had a structural break in 1986, real private gross fixed capital formation had a structural break in 2002, and population growth had a structural break in 1999. The years when the Basic Law of Governance was issued, 1992, and when Saudi Arabia joined the World Trade Organization, 2005, do not seem to impose a structural change in the economic series under investigation.

6.3.3 The ARDL cointegration approach

The first step of the ARDL analysis is to test for the presence of long-run relationships. Enders (2004) noted that a maximum lag order of three years is sufficiently long to capture the system's dynamics for the yearly data analysis. The SBC (Schwarz Bayesian Criterion) statistic indicates that ARDL (1,1,0,0,1,0) is the optimal lag orders combination. The calculated F statistics are reported in Table 4. The result shows that F statistics is higher than the upper bound critical value. Thus, the null hypothesis of no cointegration cannot be accepted, which means that there is a long-run cointegration relationship amongst the variables in our model.

Table 5 shows the estimated long-run coefficients of the variables under investigation and the optimal lag length of each variable based on Schwarz Bayesian Criterion. In addition to the regressors illustrated above, based on the budgetary data classification presented in section 2 in this study, we examine the impact of three break points, 1973 (the first oil shock), 1983 (when oil prices started to decline and thus, the Saudi budget turned into a deficit) and 2003 (when oil prices started to pick up which resulted in turning the deficit into a surplus for about 10 consecutive years).

The empirical results in Table 5 show that lagged real government consumption expenditure has a positive and significant impact on real non-oil private GDP per capita with a point estimate of 0.12, while the contemporaneous effect of real government consumption expenditure is found to be negative. So, a 1% increase in lagged real government consumption expenditure leads to 0.12% in non-oil private GDP per capita. This suggests a time lag (response lag) between government consumption spending and its impact on real non-oil private GDP per capita. On the other hand, real government gross capital fixed capital expenditure is estimated to be insignificant. Since government consumption expenditure represents government final purchase of goods and services, it is expected that this type of government expenditure to have a positive impact on non-oil private GDP per capita. Government gross fixed capital expenditure represents government spending on fixed assets such as the construction of highways and purchases of military hardware, which is not expected

to have an impact on non-oil private GDP per capita, at least in the short run²³. Real private gross fixed capital and population are found to have the expected positive sign, but their impact is insignificant, while lagged openness of trade is found to have the expected positive sign with a significant impact on real non-oil private GDP per capita. Finally, the only break point that is found to have a positive and significant impact on non-oil private GDP per capita is the starting year of the prolonged budget surplus period, 2003.

After estimating the long-term coefficients, we obtain the error correction representation of the ARDL model. Table 6 reports the short-run coefficient estimates obtained from the ECM version of the ARDL model (all variables are expressed in log difference, (i.e., growth rate form)). Results obtained from estimating the first difference equation (equation 2) show that government consumption expenditure growth has a negative and significant impact on non-oil private GDP per capita growth in the short run with a point estimate of -0.139 (a 1% increase in real government consumption expenditure growth rate results in 0.139 reduction in non-oil private GDP per capita growth rate). This result confirms the result obtained from estimating the level equation (equation 1) where the contemporaneous impact of government consumption expenditure on non-oil private GDP per capita is found to be negative. This suggests a short run displacement effect of government spending (as the government increases its consumption spending, it uses up economic resources that could otherwise be used by the private sector). Government fixed capital expenditure is found to have the expected positive sign but its short run impact is estimated to be insignificant. The only control variable that is significantly affecting the non-oil private GDP per capita growth is openness of trade with a point estimate of 0.11. The year of the first oil shock, 1973, does not seem to have a significant impact, while 1983 break point (the starting year of the budget deficit period) is found to have a negative and significant impact on non-oil private GDP per capita growth with a point estimate of -0.09. Finally, the 2003 break point is estimated to be positively and significantly affecting non-oil private GDP per capita growth with a point estimate of 0.1.

The error correction term indicates the speed of adjustment to restoring equilibrium in the short-run dynamic model. The ECM coefficient shows how quickly/slowly variables return to equilibrium, and it should have a statistically significant coefficient with a negative sign. Banerjee *et al.* (1998) shows that a highly significant error correction term is further proof of the existence of a stable long-term relationship. Table 6 shows that the expected negative sign of the ECM is highly significant. The estimated coefficient of the ECM_{t-1} (the error correction term) is equal to 0.289, suggesting that deviation from the long-term GDP per capita path is corrected by around 0.29 percent over the following year. This means that that the speed of adjustment of the dependent variable to the equilibrium level is relatively fast.

7. Concluding Remarks and Policy Recommendations

This study investigated budgetary and fiscal institutions in Saudi Arabia during the period 1969-2014. The study also examined the impact of government expenditure on non-oil private GDP per capita growth using an Autoregressive Distributed Lag (ARDL) approach and tested for structural breaks in budgetary data using Zivot-Andrews test. The main concluding remarks of the study are:

Like other oil-rich countries, government expenditure in Saudi Arabia is vulnerable to sharp fluctuations due to the dependency on oil as a major source of revenue. The study finds that government capital expenditure is subject to spending cuts by more than current and consumption expenditure in periods of low oil revenues. The Saudi government gradually decreased its capital expenditure from 23.7% of GDP in 1983 to 4.2% of GDP in 2002, due to the decrease in oil price, while keeping its current expenditure at a relatively high level. Saudi

²³ I estimated the impact of lagged government gross fixed capital expenditure on real non-oil private GDP and also found it insignificant.

Arabia always attempts to manage its high non-oil budget deficit during periods of low oil prices by cutting its expenditure rather than applying income or expenditure taxes, which are considered important policy tools that help governments to decrease budget deficits in a more sustainable way. As oil prices have been low for about a year (since the fourth quarter of 2014), it is recommended that the Saudi government should start making plans to apply direct and/or indirect taxes in the near future to decrease vulnerability to oil price fluctuations.

The Saudi government tried to make its fiscal policy stable and avoid the negative consequences of fiscal procyclicality by using a conservative oil price when estimating oil revenues. Nevertheless, the Saudi government not only used to increase budgeted government spending significantly during periods of high oil prices, but also used to increase actual spending over the already high budgeted one throughout the year.

A remarkable reallocation of the Saudi government's expenditure took place in the last three decades, as there is a significant increase in the percentage of government expenditure directed to human resources development from 8.8% of total government expenditure in 1981 to 24.5% in 2013 and to a projected 25.1% in 2015 regardless of the government forecast of a higher budget deficit in 2015 compared to the realized deficit in 2014 as a result of the low oil price. This clearly shows the government's unwavering commitment to increase its investment in human development programs.

Saudi Arabia depends mainly on the incremental annual line-item budgeting system and applies both sectoral classification and administrative classification. In addition, there are only two main phases of the budget cycle in Saudi Arabia: budget approval and implementation. This is because of the limited power of the Saudi Consultative Assembly (Shura Council) as its main role in the budgetary process is to review the government budget (the general annual report) through the Committee on Financial Affairs at the end of the fiscal year and send its recommendations to the King for final decision.

Saudi Arabia scored 0.42 and 0.45 (out of 1) in the overall Budget Stage Index and the Budget Category Index, respectively. The approval phase sub-index score is the lowest among other sub-indices and thus results in a low overall index. In order to increase the score of the budget indices, it is highly recommended that Saudi Arabia apply the following changes. First, there is a need to increase the authority of the Consultative Assembly in general, and to the Committee of Financial Affairs at the Consultative Assembly in specific, in reviewing and discussing both the budgeted and actual expenditure and revenue items so the Assembly can enforce the required changes in the budget without having to get the approval from the King. Second, it is imperative to make the Consultative Assembly totally independent from the executive authority by allowing citizens to elect members of the Consultative Assembly rather than appointing them by the King. Third, the government has to increase budget transparency by releasing semi-annual reports on government expenditure and revenue programs and also publishing a simple and summarized version of the enacted budget to the public (the citizens budget). This is a very important step toward increasing the public knowledge of public finances and the rationale behind government expenditure choices.

The lack of power and weak independency of the Consultative Assembly also resulted in a noticeable and continuous wedge between budgeted and actual government expenditure. While a gap between budgeted and actual government revenue is expected to be found due to the difficulty in forecasting international oil prices over the course of the year, it seems that there is no political will to decrease the persistent gap between actual and budgeted expenditure.

The estimation of the long run relationship between government expenditure and non-oil private GDP per capita in Saudi Arabia using Autoregressive Distributed Lag (ARDL) model illustrates that lagged real government consumption expenditure has a positive and significant

impact on real non-oil private GDP per capita while its contemporaneous (short run) effect is found to be negative. This suggests a response lag between government consumption spending and its impact on non-oil private GDP per capita in the long run, while a displacement effect of government consumption spending is taking place in the short run as its impact on non-oil private GDP growth is negative. On the other hand, real government fixed capital expenditure impact on real non-oil private GDP per capita is estimated to be insignificant.

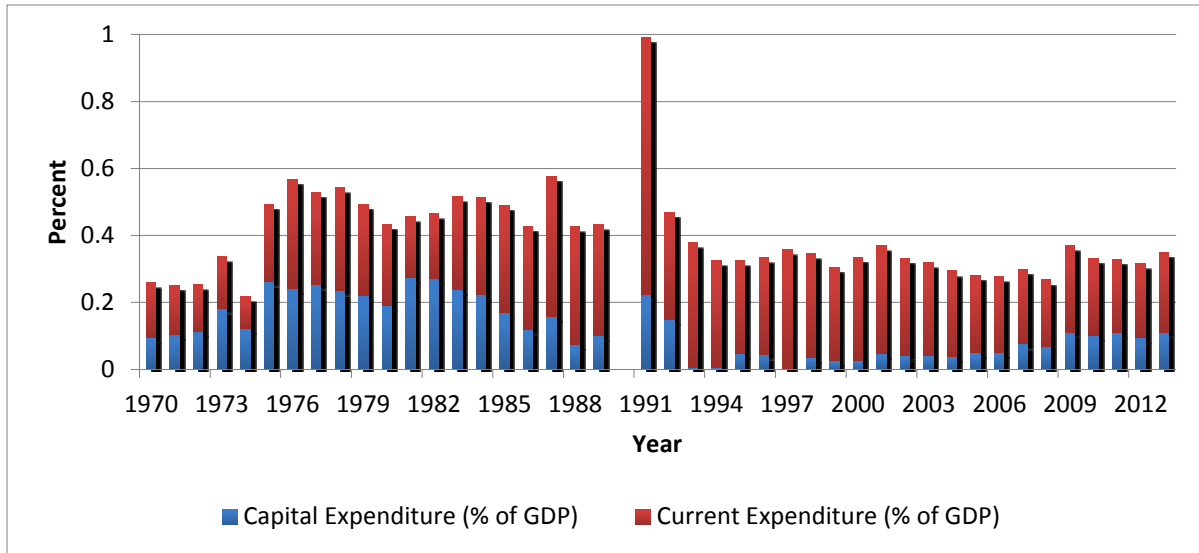
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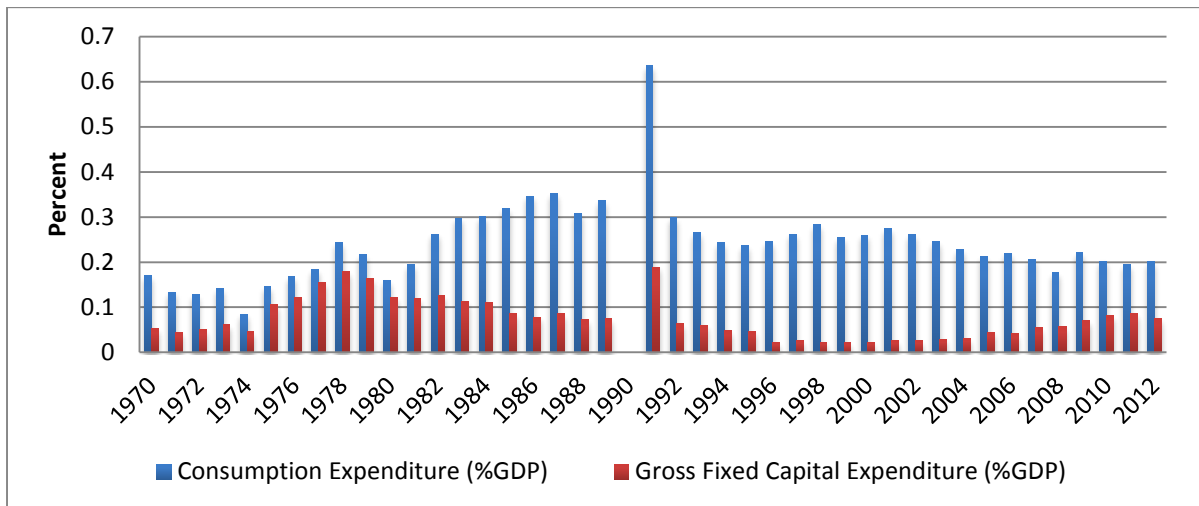
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Figure 1A: Government Current vs. Capital Expenditure (% of GDP)



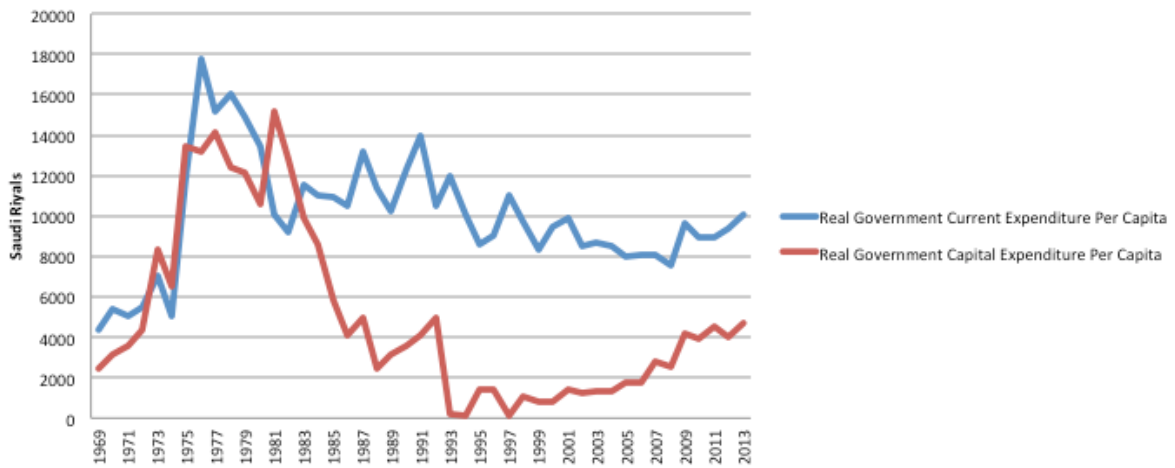
Note: 1990 and 1991 fiscal years were combined due to the second Gulf war.
 Source: Author's calculations based on the Saudi Arabian Monetary Agency Forty Ninth Annual Report data.

Figure 1B: Government Consumption vs. Fixed Capital Formation Expenditure (% of GDP)



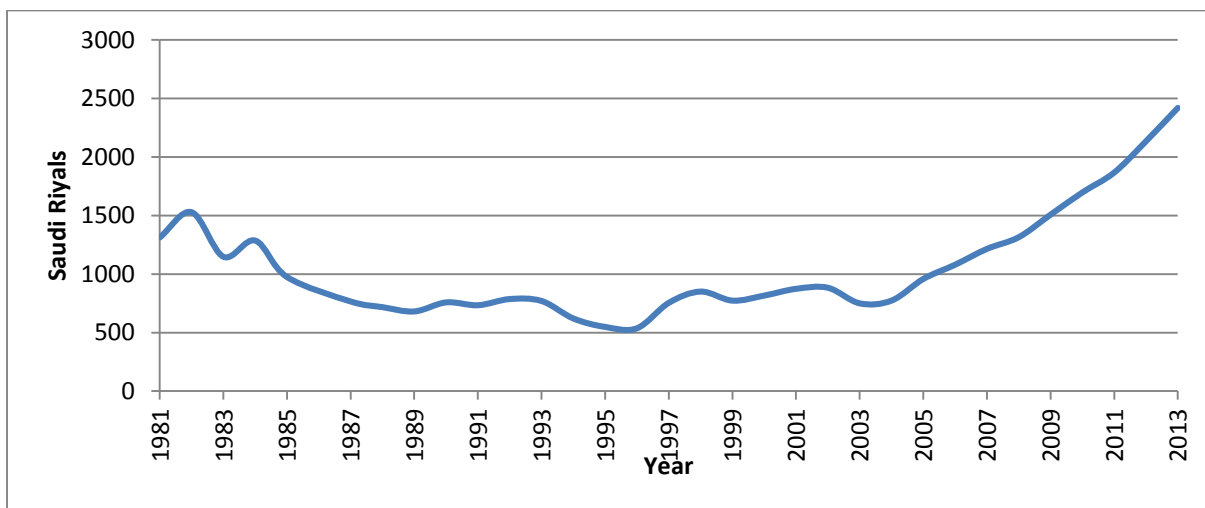
Note: 1990 and 1991 fiscal years were combined due to the second Gulf war.
 Source: Author's calculations based on the Saudi Arabian Monetary Agency Forty Ninth Annual Report data.

Figure 2: Real Government Capital vs. Current Expenditure Per Capita



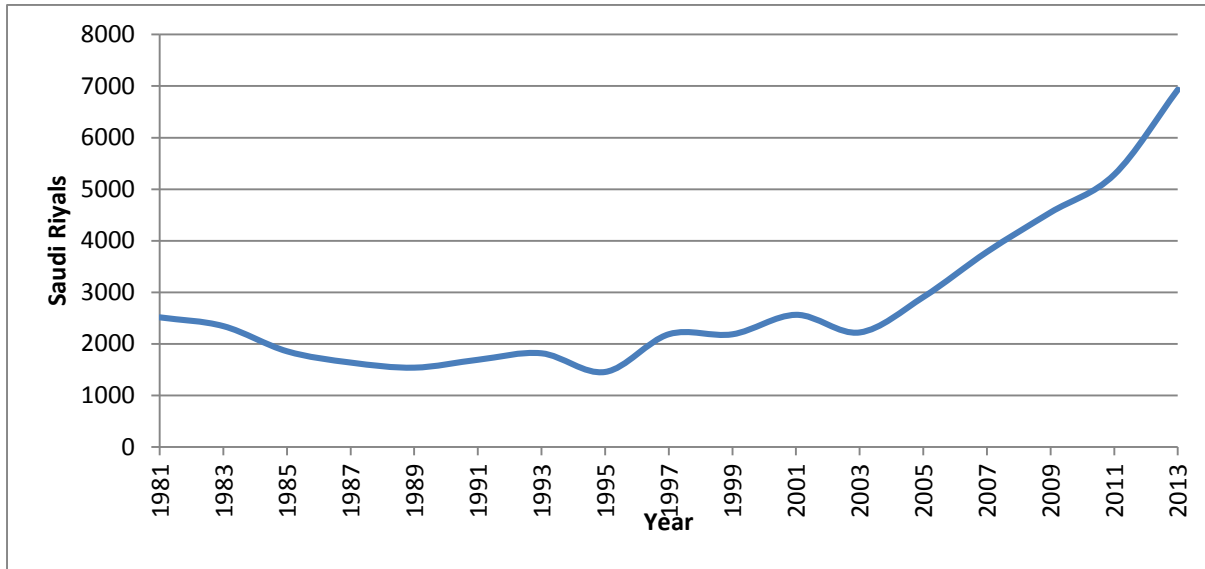
Source: Author's calculations based on the Saudi Arabian Monetary Agency Forty Ninth Annual Report data.

Figure 3: Government Health Expenditure Per Capita



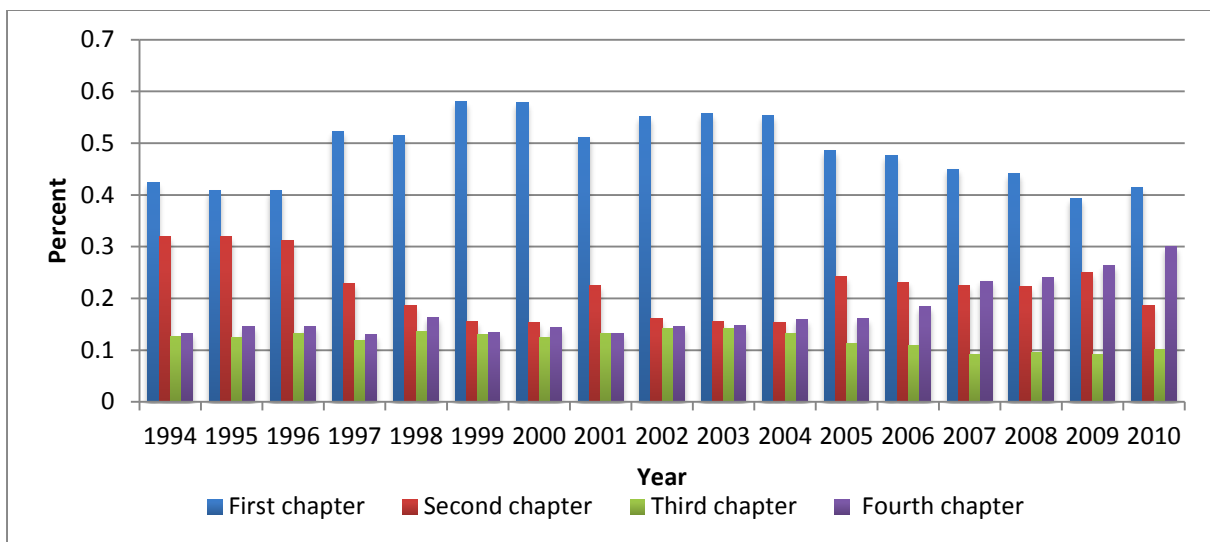
Source: Author's calculations based on the Saudi Arabian Monetary Agency Forty Ninth Annual Report data.

Figure 4: Government Expenditure on Human Development Per Capita



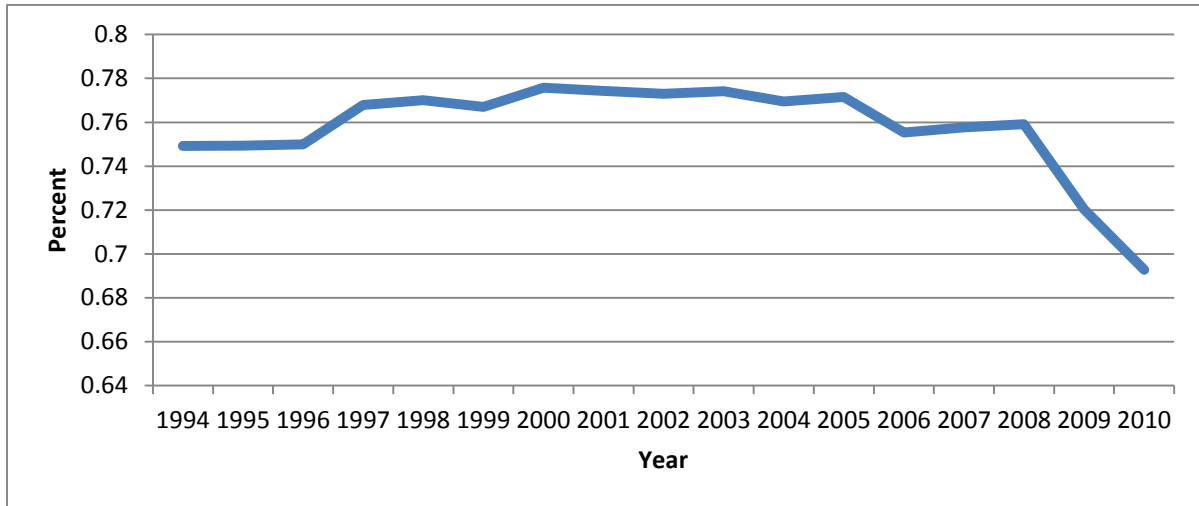
Source: Author's calculations based on the Saudi Arabian Monetary Agency Forty Ninth Annual Report data.

Figure 5: Percentage of Budget Chapters to Total Budget Outlays



Source: Author's calculations based on the Saudi Arabian Monetary Agency Forty Ninth Annual Report data.

Figure 6: Percent of Salaries to First Chapter Expenditure



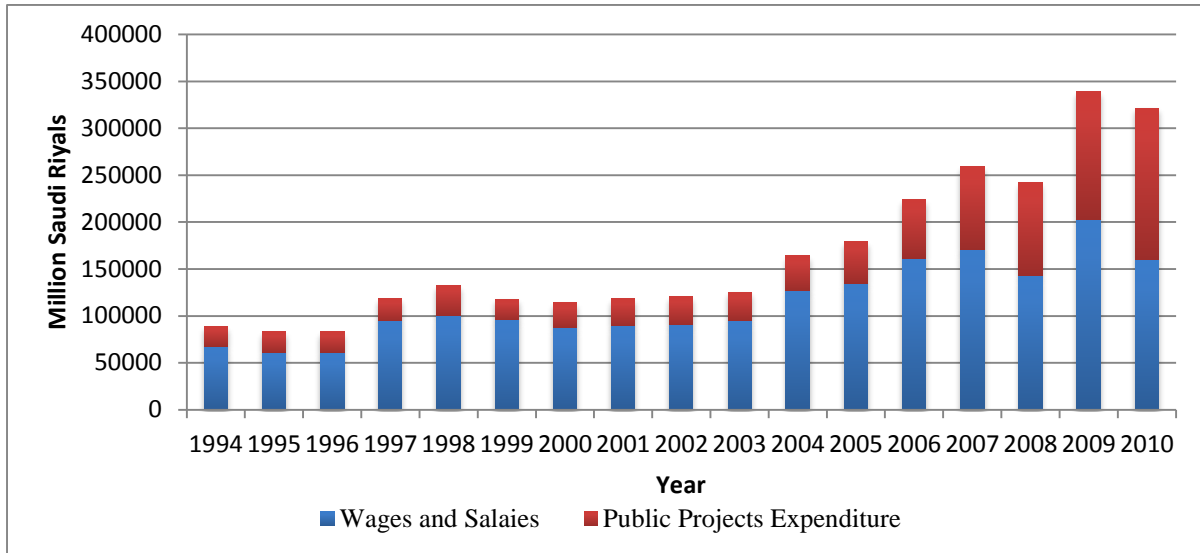
Source: Author's calculations based on the Saudi Arabian Monetary Agency Forty Ninth Annual Report data.

Figure 7: First Chapter Items Trends



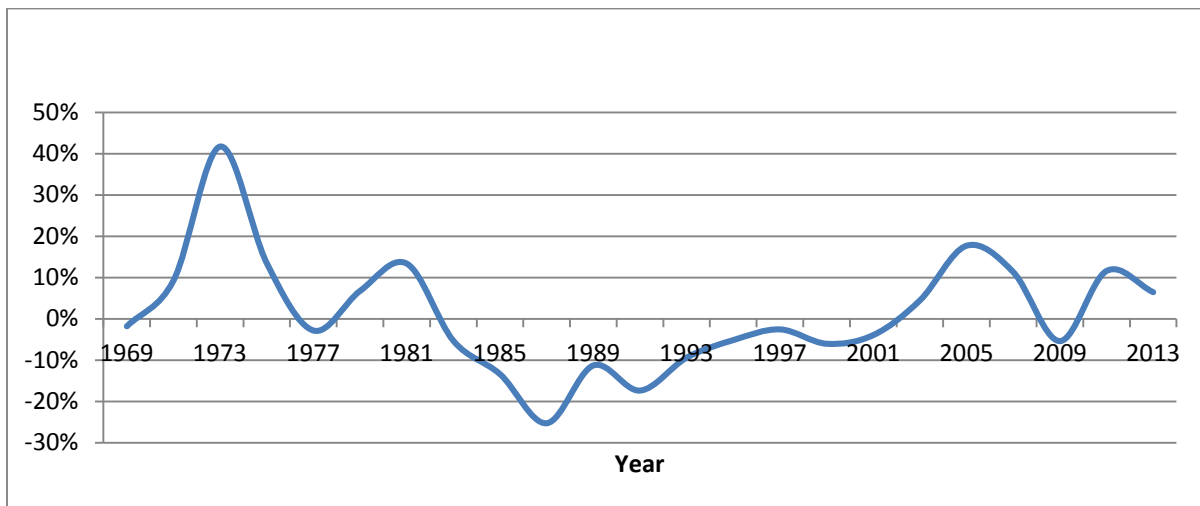
Source: The Saudi Arabian Monetary Agency Forty Ninth Annual Report data.

Figure 8: Wages and Salaries vs. Public Projects Expenditure



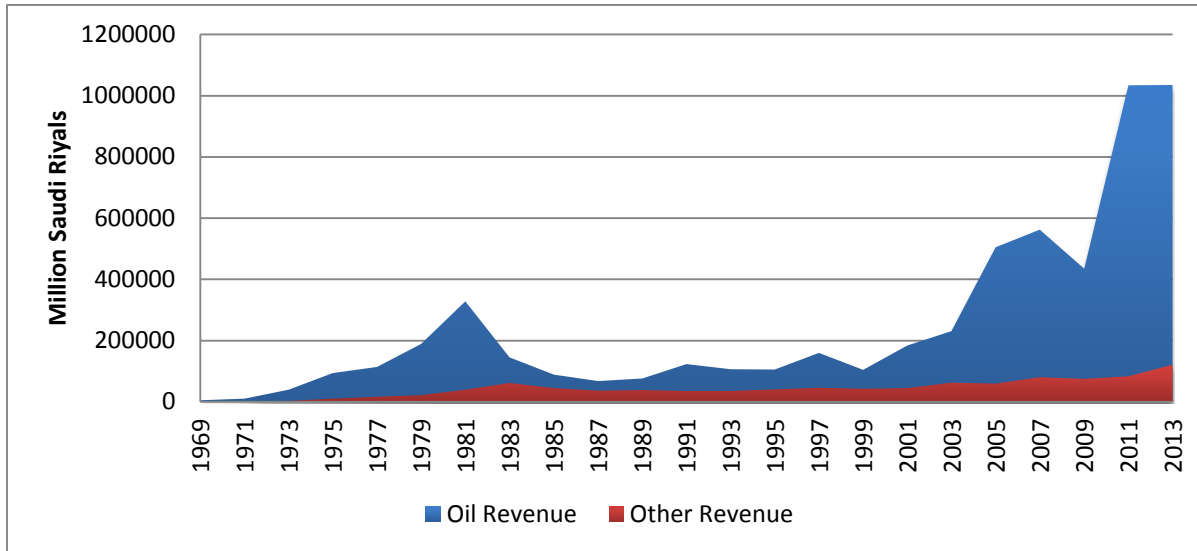
Source: Author's calculations based on the Saudi Arabian Monetary Agency Forty Ninth Annual Report data.

Figure 9: Budget Surplus / Deficit as a Percentage of GDP



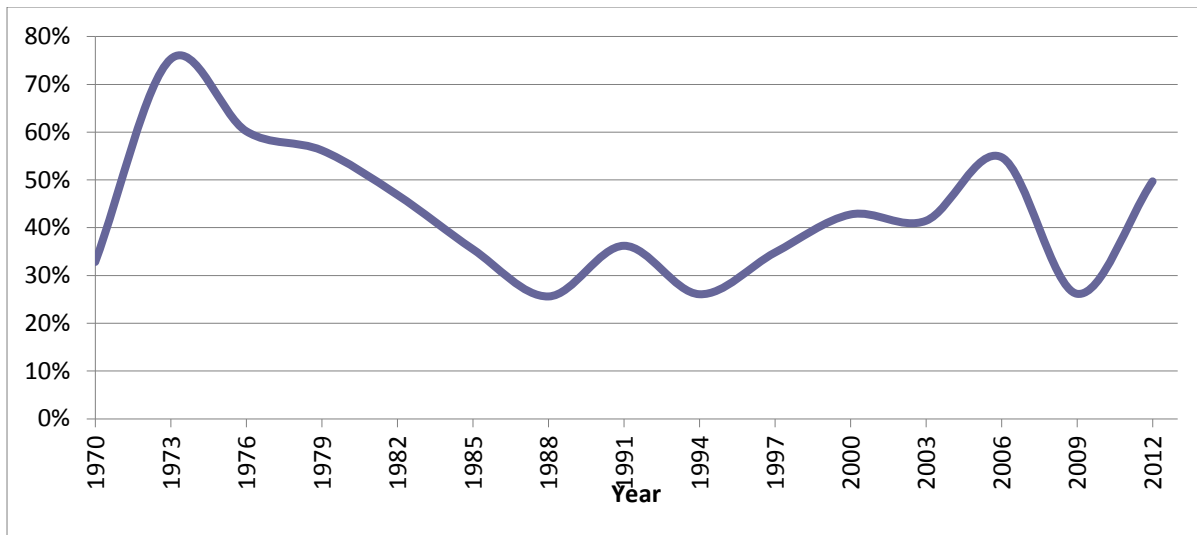
Source: Author's calculations based on the Saudi Arabian Monetary Agency Forty Ninth Annual Report data.

Figure 10: Oil vs. Non-Oil Revenue



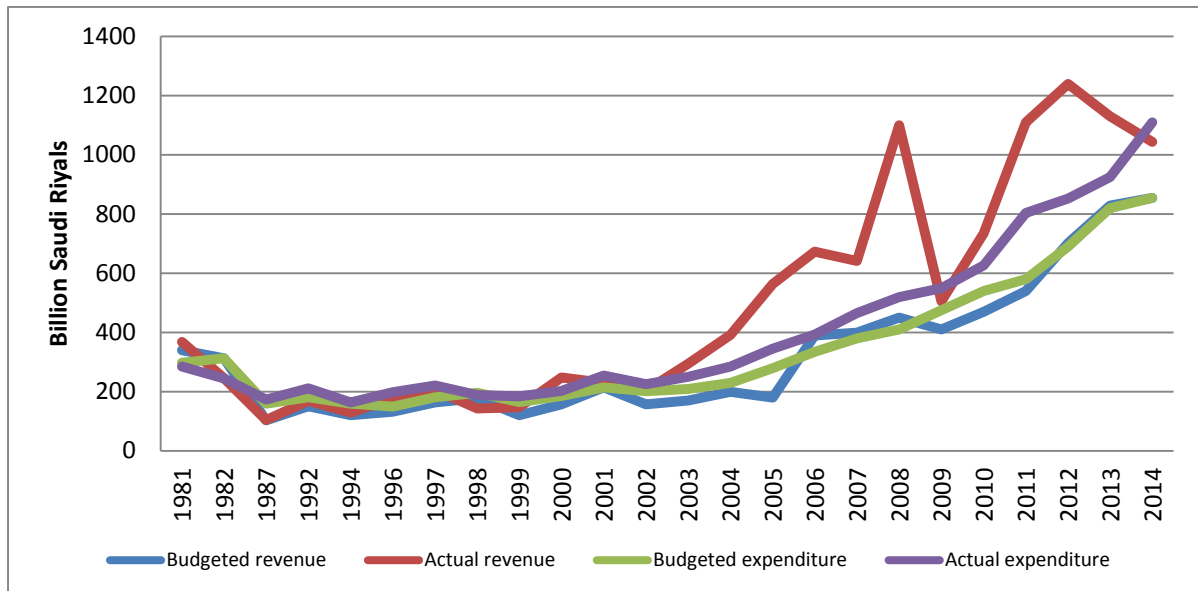
Source: Author's calculations based on the Saudi Arabian Monetary Agency Forty Ninth Annual Report data.

Figure 11: Government Revenue as a Percentage of GDP



Source: Author's calculations based on the Saudi Arabian Monetary Agency Forty Ninth Annual Report data.

Figure 12: Budgeted Versus Actual Government Expenditure and Revenue



Source: Saudi Arabia Ministry of Finance and the Saudi Arabian Monetary Agency annual reports.

Table 1A: Budget Institutions Index of Saudi Arabia: the Overall Stage Index

| Planning and negotiation sub-index | Budget approval sub-index | Budget implementation sub-index | Overall stage index score |
|------------------------------------|---------------------------|---------------------------------|---------------------------|
| 0.53 | 0.25 | 0.47 | 0.42 |

Table 1B: Budget Institutions Index of Saudi Arabia: the Category Index

| Centralization sub-index | Rules and controls sub-index | Sustainability and credibility sub-index | Comprehensiveness sub-index | Transparency sub-index | Overall category index score |
|--------------------------|------------------------------|--|-----------------------------|------------------------|------------------------------|
| 0.5 | 0.57 | 0.46 | 0.45 | 0.25 | 0.45 |

Table 2: ADF Test Results for Unit Roots

| Variable | Level | | First Difference | |
|---|--------------------------------|--|--------------------------------|--|
| | ADF Test t-Statistic Intercept | ADF Test t-Statistic Trend & Intercept | ADF Test t-Statistic Intercept | ADF Test t-Statistic Trend & Intercept |
| Real Non-Oil Private GDP Per capita | -1.726(7) | -1.593(7) | -2.93* (8) | -2.94* (8) |
| Real Government Consumption Expenditure | -2.22(6) | -2.385(6) | -8.12***(4) | -8.12***(4) |
| Real Government Gross Fixed Capital Formation Expenditure | -1.976(2) | -1.873(2) | -4.139***(1) | -4.137***(1) |
| Openness of Trade | -1.862(1) | -2.256(1) | -7.223***(7) | -7.153***(7) |
| Population | -1.141 (0) | -1.744(0) | -5.776***(0) | -5.669***(0) |
| Real Gross Private Fixed Capital Formation | -1.88(0) | -2.297(0) | -6.457***(4) | -4.317***(4) |

Notes: 1. The sample period runs from 1969 to 2014. 2. The number between brackets denotes the optimal lag order, which is calculated based on the Ng-Perron (1995) sequential t test. 3. (***) (**), and (*) denote significant at 1%, 5%, and 10% level respectively.

Table 3: Zivot-Andrews Structural Break Unit Root Test

| Variable | Break Year | Lags | t-Statistic |
|---|------------|------|-------------|
| Real Non-Oil Private GDP Per capita | 1982 | 1 | -4.738** |
| Real Government Consumption Expenditure (% Non-Oil GDP) | 1983 | 0 | -5.406*** |
| Real Government Gross Fixed Capital Formation Expenditure (% Non-Oil GDP) | 1995 | 2 | -4.365* |
| Openness of Trade (% Non-Oil GDP) | 1986 | 0 | -4.35* |
| Population | 1999 | 0 | -2.157 |
| Real Private Gross Fixed Capital Formation (% Non-Oil GDP) | 2002 | 0 | -3.483 |

Notes: (***) (**), and (*) denote significant at 1%, 5%, and 10% level respectively. The critical values for Zivot and Andrews test are -4.93, -4.42, -4.11 for model C at 1 %, 5 % and 10% levels of significance respectively.

Table 4: Statistics for Testing the Existence of A Long-Run Level Relationship Among the Variables in the ARDL model

| Test | 95% Lower Bound | 95% Upper Bound | 90% Lower Bound | 90% Upper Bound |
|----------------|-----------------|-----------------|-----------------|-----------------|
| F – Statistics | | | | |
| 7.52 | 3.97 | 5.26 | 3.33 | 4.46 |
| W- Statistics | | | | |
| 45.10 | 23.80 | 31.57 | 19.97 | 26.74 |

Note: If the statistic lies between the bounds, the test is inconclusive. If it is above the upper bound, the null hypothesis of no level effect is rejected. If it is below the lower bound, the null hypothesis of no level effect can't be rejected. The critical value bounds are computed by stochastic simulations using 20,000 replications.

Table 5: Autoregressive Distributed Lag Estimates (The Level Equation) ARDL (1,1,0,0,1,0) selected based on Schwarz Bayesian Criterion (Dependent Variable: Real Non-Oil Private GDP Per Capita)

| Regressor | Coefficient | T-Ratio[Prob] |
|--|-------------|---------------|
| log non-oil private GDP per capita (-1) | 0.964 | 10.89[.000] |
| log real government consumption expenditure | -0.117 | -2.11[0.045] |
| log real government consumption expenditure (-1) | 0.122 | 2.26[.033] |
| log real government fixed capital expenditure | 0.016 | 0.43[.671] |
| log real private fixed capital expenditure | 0.003 | 0.05[.959] |
| Log Openness | -0.005 | -0.9[.926] |
| Log Openness (-1) | 0.193 | 3.01[0.006] |
| Log population | 1.37 | 0.89[0.38] |
| D1 (1973) | 0.1 | 1.58[.127] |
| D2 (1983) | -0.04 | -1.03[0.31] |
| D3 (2003) | 0.125 | 3.71[.001] |
| Cons. | 0.562 | 0.61[0.548] |

Note: D1, D2, D3 are dummy variables representing the break points 1973, 1983, 2003.

Table 6: Error Correction Representation of the Selected ARDL Model (1,1,0,0,1,0) selected based on Schwarz Bayesian Criterion (The First Difference Equation) (Dependent Variable: Δ Real GDP Per Capita Growth)

| Regressor | Coefficient | T-Ratio[Prob] |
|--|----------------------|---------------|
| Δ Log real government consumption expenditure | -0.13939 | -3.0742[.005] |
| Δ Log real government fixed capital expenditure | 0.0027319 | .092387[.927] |
| Δ Log real private fixed capital expenditure | 0.081441 | 1.5514[.132] |
| Δ Log openness | 0.11111 | 2.3293[.027] |
| Δ Population | -0.89286 | -.61575[.543] |
| D1 (1973) | 0.015075 | .24945[.805] |
| D2 (1983) | -0.095448 | -2.5409[.017] |
| D3 (2003) | 0.10274 | 3.4605[.002] |
| ecm(-1) | -0.28956 | -4.8850[.000] |
| | .98991 | |
| SC: χ^2 (1) | 1.3446[.246] | |
| FF: χ^2 (1) | .017410[.895] | |
| N: χ^2 (2) | 2.0097[.366] | |
| H: χ^2 (1) | 1.5168[.218] | |

Note: SC is a test for serial correlation, FF a test for functional form, N a test for normality of the errors, and H is a test for heteroscedasticity.