J. King Saud Univ., Vol. 21, *Admin. Sci.* (1) (2), pp. 13-22, Riyadh (2010/1431H.)

Budget Deficits and the Behavior of the Real Exchange Rate: The Case of Saudi Riyal

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(Received 17/10/1429H; accepted for publication 1/4/1431H)

Abstract. Using Autoregressive Distributed Lag (ARDL) approach to cointegration and error correction models, the paper empirically examine the relationship between budget deficits, among other macroeconomic variables, and the real exchange rate in Saudi Arabia for the period of 1970 -2006. The results indicate that there exists a long run relationship between the real exchange rate and the variables under investigation. The findings of the study suggest that both nominal and real macroeconomic shock have direct effects on the real exchange rate of riyal. The paper also demonstrates that external shock affecting oil market has important role in explaining fluctuations in the real exchange rate.

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1. Introduction

Concerns over budget deficits play an important role when setting up monetary and fiscal policies in many economies, especially the developing ones. It is widely believed that large budget deficits tend to cause harmful impacts on many macroeconomic variables, including interest rates, investments, exchange rates and thus trade performance. The question the current study attempts to answer is how did the real exchange rate of Saudi Riyal react with respect to variations in the budget deficits?

Currencies of developing economies are usually more vulnerable to fiscal shocks than those of the developed economies. Traditionally, monetary variables and equilibrium in international financial markets are considered the crucial determinants of exchange rate dynamics. Recent studies, however, have challenged this view stressing the importance of fiscal variables in determining the time pattern of exchange rates. Nevertheless, economists have not reached a conclusive evidence on the impact of budget deficits on the value of domestic currency. Economic theory, and perhaps reality, suggests that a budget deficit has a direct impact on interest rates and exchange rates because it affects the demand for loanable funds. This direct effect occurs when government enter into the capital market seeking funds to finance its expenditure. When the government finances its increasing spending through borrowing from commercial banks, it is competing in this case with the private sector in the capital market. This competition puts upward pressures on interest rates causing a crowding-out effect of private investment, and consequently leading the domestic currency to appreciate. On the other hand, a reduction in the deficits would result in exchange rate depreciation. Such a mechanism suggests the existence of a positive correlation between budget deficits and currency value. The link comes through the substitution of domestic securities with foreign ones. The rise in domestic interest rates, caused by the increase in the budget deficit, boosts the demand for domestic securities. Such a movement towards domestic securities entails exchanging foreign currencies with domestic currency, which leads to exchange rate appreciation.

Many industrial countries have experienced what is known as the “twin deficits”, i.e. budget deficits combined with current account deficits, during the past two decades. The increases in budget deficits came with an increase in interest rates and currency appreciation, worsening, therefore, the position of the current account.

Theoretically, the experience of the U.S. with "twin deficits" in the 1980s and in the 2000s, have led many economists to argue that a fiscal expansion should results in a deterioration in the current account and an appreciation of the real exchange rate. The question, however, is to what extent we can maintain the notion of the positive relationship between the budget deficit and the real exchange rate based on the experience of the U.S.

The primary aim of this paper is to explore the link between budget deficits and the real exchange rate in Saudi Arabia, using the recently developed Autoregressive Distributed Lag (ARDL) approach to cointegration and error correction models. The paper is structured as follows. Section 2 provides an outline of the literature relating budget deficits and real exchange rate. A brief outlook of the Saudi budget deficit and the real exchange rate is presented in section 3. The model specifications and data sources are given in section 4 while Section 5 presents the empirical results. Section 6 presents some concluding remarks.

2. Budget Deficit and the Real Exchange Rate: A Survey of the Evidences

While many studies empirically examine the relationship between the current account and budget deficits, there are, however, a few studies that explicitly focus on the impacts of budget deficits on currency value. Empirical findings on the relationship between the budget deficit and exchange rate are mixed. Some studies, for example Feldstein (1986) and Abell (1990), find that budget deficits have significant and positive effects on the real exchange rate; others, like Evans (1986) and Karras (1993), end up with nonsignificant or negative effects. Some economists argue that a budget deficit reduction could lead to exchange rate appreciation, others assert that deficits reduction would lead to exchange rate depreciation. A rise in the budget deficit tends to appreciate the exchange rate as a result of capital inflows. Some studies, for example, Evans (1986), could not find any evidence of the presence of any correlation between budget deficits and exchange rate.

By contrast, Feldstein (1986), Melvin et al. (1989) and Bahmanee-Oskooee and Payesteh (1993) showed that higher budget deficits have been followed by an appreciation of the dollar and vice versa. In general, it is not easy to find a solid empirical evidence on the nature of the effect of deficits reduction on exchange rates. In some countries, it was found that domestic currency appreciates as a result of the reduction, while for other countries currencies experienced a depreciation. From a theoretical point of view, budget deficits reduction has different effects on exchange rates; some effects lead to exchange rates appreciation, while others lead to depreciation. Ball and Mankiw (1995) argue that an increase in budget deficit increases the demand for loans, which put upward pressure on interest rates and then attracts foreign capital. The theory of the balance of payments suggests, however, that the resulting capital surplus will be offset by a decrease in current account surplus, which require exchange rate appreciation. On the other hand, Ize and Ortiz (1987) show that increases in the budget deficit stimulate capital outflow and real exchange rate depreciation.

Dornbusch (1980) presents a good analysis of the Mundell-Fleming model (M-F-M) which provides a theoretical basis for the effects of fiscal policy on the value of domestic currency. In summary, M-F-M postulates that an increase in budget deficits could either appreciate or depreciate the real exchange rate.

Hutchison and Throop (1985), Feldstein (1986), Melvin et. al. (1989), and Thorbecke (1993) among others find positive effects of US budget deficits on the dollar value. Abell (1990a, 1990b) uses a VAR model to test the relationship between budget deficits and the dollar value. His results provided additional evidence of the positive correlation between these two variables through their effect on the interest rate. Applying similar technique, i.e. VAR model, on Korean data, Chen and Hsing (2005) examined the impact of budget deficits, among other variables, on exchange rate. They find a positive effects of the deficit on exchange rate. Evans (1986) challenges Feldstein's argument and rejects the conclusion that an increase in budget deficit appreciates exchange rate. He found that a budget deficit has actually an insignificant negative effect on the exchange rate. A similar conclusion was also reached by Nyahoho (2006). He uses data from OECD countries to test the relationship between budget deficits and exchange rates, and concludes that countries with large deficits did not experience exchange rate appreciation or depreciation.

Pentecost, *et. al.* (2001) estimated the relationship between budget deficits and currency value for several EU States for the period 1980-1994. They found that budget deficits lead to a stronger currency value. Piersanti (2002) used a general-equilibrium model to examine the effects of budget deficits on the value of domestic currency. He found a positive correlation between budget deficits and the real exchange rates. Anticipated future budget deficits, brought about by a tax cut, would result in an increase in interest rates and real exchange rate appreciation.

However, the Ricardian Equivalence Proposition (REP, henceforth) states that not only the demand for loanable funds will shift right, but also its supply will shift right as well. In this case, according to Ricardo, the shift in demand will be offset by an equivalent movement in the supply leaving the interest rate, and thus the exchange rate, unchanged. According to the REP, budget deficits and taxes are equivalent measures of financing government expenditures. Consequently, if government spending remains stable, budget deficits will not cause real harm to the domestic economy. Plosser (1987), Evans (1987), and Barro (1989) found empirical support for REP of no significant correlation between budget deficits and interest rate, and hence exchange rates.

On the other hand, Krugman (1979) proposed a different approach that is based on the balance of payments model. According to him, an increase in the budget deficit leads to a rise in the expectations of a future devaluation of the domestic currency. He argues that there exist a negative relationship between budget deficits and future exchange rates. According to his analysis, if a country adopts a pegged exchange rate system, as the case for Saudi Arabia, then if the government finances its budget deficits through increasing money supply, a downward pressure on the domestic currency will take place. Therefore, the government has to intervene in the exchange market exhausting the country's foreign exchange reserves in order to maintain its predetermined pegged exchange rate. In some cases, a government may experience a shortage in the needed foreign exchange reserves which leads, in turn, to the inability to defend the desired exchange rate level. However, what is important for policy makers is to determine the magnitude of the change in the exchange rate. As the direct and indirect effects work in the opposite direction, it is important to know which effect dominates.

Hakkio (1996) built up a simultaneous model that contains both positive and negative effects of budget deficits on exchange rates. He argues that macroeconomic theory suggests that a positive direct effect of budget deficits is associated with domestic currency appreciation. On the other hand, budget deficits can also have negative effects on currency value through three possible indirect channels: the expected inflation rate, the risk premium, and the rate of return. Since these two forces, direct and indirect forces, are working simultaneously in the opposite directions, the net effect of budget deficits on exchange rates remains an empirical issue.

Apergis (1998) used a cointegration approach to examine the presence of a correlation between real budget deficits and exchange rates for several industrial countries for the period1980 to 1995. His results show evidence of the effect of budget deficits on exchange rates.

3. A Brief Outlook of Saudi Economy

Saudi Arabia is the world's leading oil producer and exporter and a major economic player in the Middle East region. The economy is dominated by the oil sector, which accounts for around 35-40 percent of GDP. The industrial sector is also influenced by oil, as the main supplier of hydrocarbon resources. Petroleum refining accounts for more than 30% of industrial output, and the petrochemicals industry relies on gas for its needs of feedstock. As an exclusive owner of petroleum resources, oil proceeds constitute the largest portion (estimated at 73% , in average) of government revenue. As a result, developmental programs are planned and implemented according to the size of oil revenue, which in turn depends on exogenous factors prevailing in the international oil market. Saudi Arabia continues to face some important economic challenges, including a high rate of unemployment and the limited base of the domestic economy. Moreover, the government has run budget and trade deficits for many earlier consecutive years. However, the recent increases in oil prices assisted the government to bring down its public debt from around 120% of GDP in early 1990s, to about 19% at the end of 2007.[1]

Even though the economic system of Saudi Arabia is built on the principal of free economy, the government ownership of the natural resources, especially oil and gas, combined with the weak capacity of the private sector, necessitates the government to play a major role in domestic economic activities. As a result of the financial resources accumulated by the government, and because of the very limited role of other fiscal policies instrument, in particular taxes, it was obvious that government spending was the most important tool used to achieve economic objectives. Therefore, the budget is seen as a reflection of economic and social programs of the government, and as a basic tool for project planning and resources allocation. Monetary policy is also another tool available for Saudi government to influence economic activities, through utilizing the relationship between budget deficits and money supply .

[1] All figures in this part are taken from Saudi Arabian Monetary Agency, Annual Report, 2008.

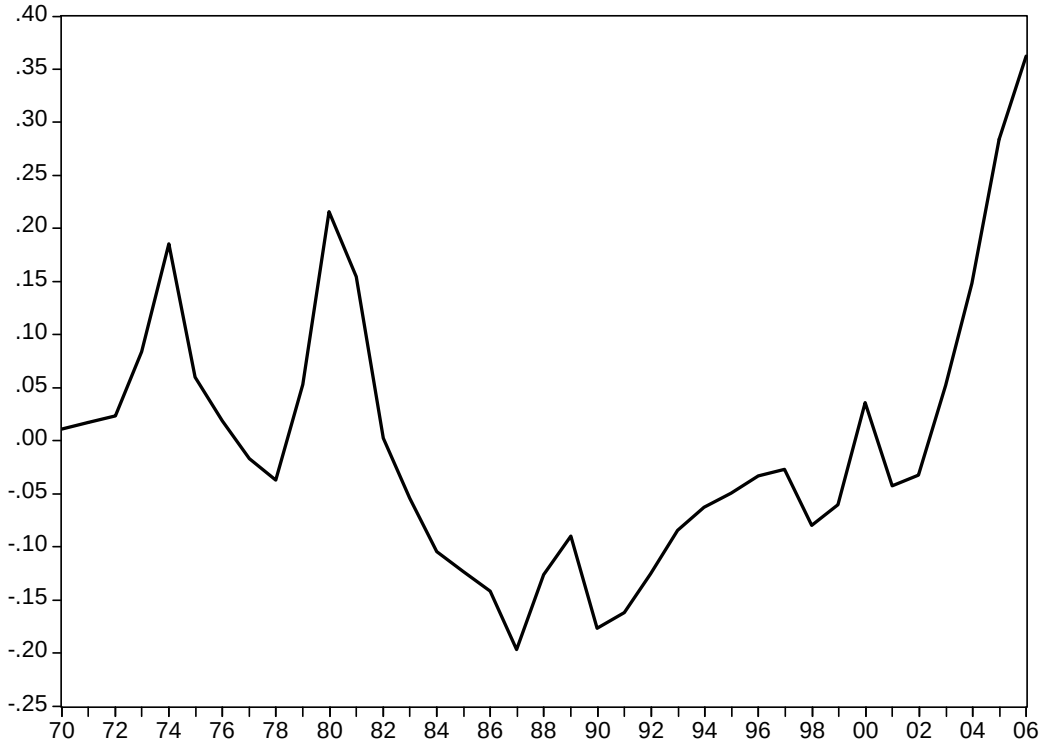

Fig. 1. Budget surplus and deficits as a ratio of GDP in Saudi Arabia, 1970-2006.

Fig. 1 shows the remarkable fluctuations in the government budget as a ratio of GDP during the last three and half decades. The budget depends largely on revenues acquired from selling petroleum. In 1974, oil revenue constituted more than 94% of total budget revenues. In general, the contribution of oil sales fluctuates between 70 and 90 percent of total revenues. As a result, the government budget is characterized by high instability due to the volatility of oil market.

To finance its deficit, the government has used various methods, ranging from exhausting on its foreign reserves to borrowing and selling bonds to local and foreign commercial banks and financial institutions.

Considering exchange rate policy in Saudi Arabia, one can identify three stages: The first, which lasted from 1927-1959, was characterized by the fixed exchange rate regime in which the value of Saudi riyal was based on the rule of silver and gold, where Saudi money units (The Arabian Silver Riyal and The Saudi Pound) were set equal to a specific weight of silver and gold. This policy was not able to bring about the monetary stability that authorities were seeking. In 1960, and immediately after the establishment of the Saudi Arabian Monetary Agency (SAMA), the exchange rate policy entered its second stage when SAMA issued the Saudi riyal and set its parity value to 0.197482 grams of pure gold. As a result of this parity, the riyal was pegged to the US dollar at the rate of 4.5 riyals for each US dollar. This pegged rate was subject, however, to several changes in the 1970s and 1980s as a result of international developments that occurred in the world monetary system. The third stage started March 1973 when the Saudi government officially decided to peg its currency, riyal, to the Special Drawing Rights (SDR) at a rate equal to 4.28255 riyal for each unit of SDR.

Even though the Saudi riyal is formally pegged to the SDR, in reality it has been in parity with the US dollar for more than three decades. Since 1986, the exchange rate of the riyal has been fixed at 3.754 riyals for each US dollar. This pegging system indicates that Saudi riyal market rates will tend to fluctuate around dollar rates.

As Fig. 2 shows, the real exchange rate of Saudi Riyal against the US dollar has been growing steadily since 1978. It reached its lowest level in 1977, when the exchange rate dropped from 3.45 riyals in 1971 to 1.39 riyals in 1977. This can be attributed to the fact that the Saudi Riyal was pegged to the US dollar. Stockman (1988) argues that real exchange rate volatility is less under pegging than floating exchange rate regimes.

Figure (2): The behavior of Real Exchange Rate of the Saudi Riyal, 1970-2006

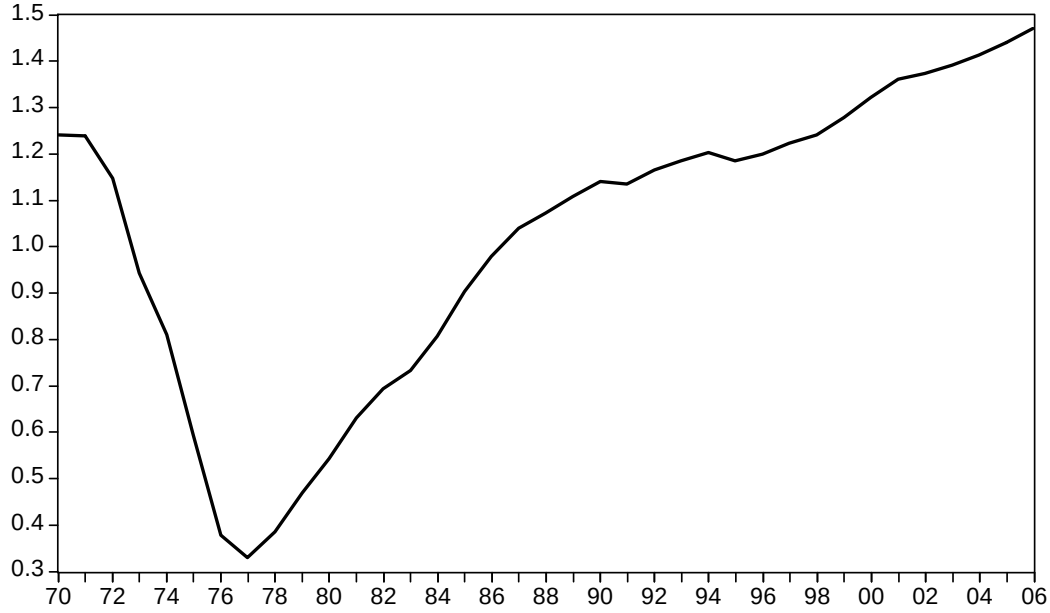

Fig. 2. The behavior of Real Exchange Rate of the Saudi Riyal, 1970-2006.

4. Model Specification, Data and Methodology

The focus of this study is to examine the factors affecting the real exchange rate of Saudi riyal, with a special attention to the effect of budget deficits. The model under investigation includes five variables; real exchange rate, budget deficits, real per capita income, money supply growth, and oil export. As mentioned earlier, we are interested mainly in testing whether budget deficits in Saudi Arabia have significant influence on the movements of the real exchange rate of the national currency, riyal. It is assumed that a rise in real per capita income is likely to appreciate the real exchange rate through the effects on prices. Monetary policy carried by SAMA is represented by money supply growth, broadly defined . Finally, since Saudi economy is heavily reliant on the export of a primary commodity, oil, a variable on oil export is included given that an increase in oil export revenues, ceteris paribus, leads to an increase in government spending on all goods and services, which increases domestic prices relative to foreign prices, causing a rise in the real exchange rate. The study, therefore, specifies the reduced form of the real exchange rate function for Saudi riyal as below:

$$LRER_t = a + b_1 LPCI_t + b_2 BDR_t + b_3 LMSG_t + b_4 LOEX_t + v_t \quad (1)$$

Where $LRER_t$ denotes the logarithm of the real exchange rate of riyal, $LPCI_t$ is the logarithm of real per capita income, BDR_t is the budget deficit as a ratio of GDP, $LMSG_t$ is the logarithm of the money supply growth, $LOEX_t$ is the logarithm of oil export and v_t is the error term.

All data used in the study are taken from the Saudi Arabian Monetary Agency, Annual Report, 2008, and from the IMF International Financial Statistics (IFS), covering annual period from 1970 to 2006.[2]

The paper employs the autoregressive distributed lag (ARDL) approach of Pesaran and Pesaran (1997) and Pesaran et al. (2001). Since there seems to be some degree of uncertainty concerning the time series properties of the variables in question, the use of ARDL bounds test approach to cointegration is an appropriate technique choice, since it does not require the assumption that both series are I(1). Pesaran and

[2] Because figures on Saudi budget for the years 1990-1991 are combined in SAMA Annual Report, a simple linear interpolation was employed to compute budget figure for each year [see, for example, Intriligator (1978)].

Pesaran (1997) argue that this approach can be applied to series irrespective of whether they are I(0), I(1), or mutually cointegrated. In addition, the ARDL approach has better small sample properties in contrast to other techniques. The Bounds test procedure is robust for cointegration analysis with a small sample study. Kremers et al. (1992) noted that for data with small sample size, no cointegration relation can be made among variables that are nonstationary, I(1). Lastly, the ARDL approach helps in eliminating the problems resulting from non-stationary time series data (Laurenceson and Chai, 2003). Stock and Watson (2003), for example, argue that non-stationary time series data lead to spurious regression coefficients that are biased towards zero.
Empirically, the ARDL bounds test approach to cointegration involves estimating the following conditional error correction version of the ARDL model:

$$\begin{aligned}\Delta LRER_t &= \alpha + \beta_1 LRER_{t-1} + \beta_2 BDR_{t-1} \\ &+ \beta_3 LPCI_{t-1} + \beta_4 LMSG_{t-1} \\ &+ \beta_5 LOEX_{t-i} + \sum_{i=1}^{p} \beta_{6i} \Delta LRER_{t-i} \\ &+ \sum_{i=0}^{q} \beta_{7i} \Delta BDR_{t-i} + \sum_{i=0}^{n} \beta_{8i} \Delta LPCI_{t-i} \\ &+ \sum_{i=0}^{m} \beta_{9i} \Delta LMSG_{t-i} \sum_{i=0}^{r} \beta_{10i} LOEX_{t-i} + \varepsilon_t \end{aligned} \quad (2)$$

Where L denotes the natural logarithm and Δ denotes the first differences of the variable. α and ε_t are the drift component and the white noise errors, respectively. The real exchange rate is defined as the value of national currency -the riyal- in terms of US dollar, and is calculated by: $RER_t = E_t(P_{t/P}t)$, where RER_t is the real exchange rate, E_t the nominal exchange rate of riyal per US dollar, P^*_t is the price index of US and P_t is the Saudi's price index. An increase in the RER indicates, citrus paribus, an improvement in Saudi's competitiveness.

As Eq. (2) indicates, the ARDL model states that the real exchange rate is explained by lags of itself and current and lagged values of the explanatory variables. The lagged values of the dependent variable are included to account for the slow adjustment in the real exchange rate in response to changes in the explanatory variables. Thus, the ARDL model enables us to separate short- from long-run effects. The model procedure entails two steps. In the first step, we estimate the existence of a long-run equilibrium relationship in levels among the variables. If this equilibrium exists, then we move to the second step which involves the estimation of the parameters of the long-run equilibrium relationship and the short-run dynamic error correction model.

5. Empirical Results

Before examining the existence of long run relationship among variables, we investigate the properties of the variables by applying unit root tests to determine the order integration of each variable to ensure that all variables are not integrated of order higher than 1. This is important since the bound test would be spurious in the presence of I(2) because the critical values of the F-statistics computed by Pesaran et al.(2001) are based on the assumption that the variables are I(0) or I(1) (Odhiambo, 2009). Table 1 reports results on Augmented Dickey-Fuller (ADF) and Phillip-Perron (PP) tests for non-stationarity of the model variables. All variables appear to be I(1) at at least 5% significance level. It seems, therefore, appropriate to employ the ARDL bounds testing approach.

Table 1. Unit Root Tests

Variable	ADF	PP
LRER	-2.13 (1)	-1.08 (4)
Δ LRER	-3.27 (3)	-2.62 (2)
LPCI	-1.95 (1)	-1.88 (3)
ΔLPCI	-3.03 (1)	-2.90 (2)
BDR	-1.39 (1)	-0.86 (1)
ΔBDR	-4.30 (1)	-4.19 (3)
LMSG	-1.55 (1)	-3.06 (3)
ΔLMSG	-13.12 (0)	-13.57 (1)
LOEX	-2.60 (1)	-2.33 (0)
Δ LOEX	-3.49 (1)	-4.98 (1)
Critical Values:		
1%	-3.63	-3.63
5%	-2.95	-2.95
10%	-2.61	-2.61

Notes: The number of lags used are shown in parentheses. The estimated equations are with intercept and trend. The critical values are the finite sample values suggested by Mackinnon (1991). The Phillips–Perron (PP) test is the estimated Dickey–Fuller regression with a non-parametric correction for serial correlation.

To test for the existence of a long-run relationship, Pesaran et al. (2001) employ two statistics: an F-test (or Wald-test) on the joint null hypothesis that the coefficients on the lagged level variables are jointly equal to zero (i.e. *H0*: β1 = β2 = β3 = β4 = β_5=0), i.e. no cointegration exists, against

the alternative test *HA*: $\beta 1 \neq 0$, $\beta 2 \neq 0$, $\beta 3 \neq 0$, $\beta 4 \neq 0$, $\beta 5 \neq 0$. The second test is a t-test for the null hypothesis *H0*: $\beta 1=0$. Two asymptotic critical value bounds are suggested by Pesaran et al. (2001) to test for cointegration depending on whether variables are I(1), I(0) or a mix of the two. If the computed F-statistics exceed their respective upper bound of the critical values then we can reject the null hypothesis of no cointegration. If the test statistics fall below the lower bound of the critical values then we cannot reject the null hypothesis of no cointegration. The asymptotic critical value bounds for the F-statistic and t-statistic are cited in Pesaran et al. (2001).

Table 2 presents the bound test for the real exchange rate equation, where the estimated F-statistic was found to be 6.09, which is higher than the upper bound critical value (5.06) computed by Pesaran et al. (2001) at 1% level. For t-statistic, which is used mainly as a confirmative statistic for F-results, lies in the inconclusive area.[3] Thus the null hypothesis of non-existence of a stable long-run relationship was rejected.

Table 2. Bounds tests for the existence of a long run relationship

Estimated Statistics	Critical values			
	1%		5%	
	Upper bound	Lower bound	Upper bound	Lower bound
F-statistic = 6.09	5.06	3.74	4.01	2.86
t- statistic = -3.32	-4.60	-3.43	-3.99	-2.86

Notes: The *F*-statistic is used to test for the existence of a long-run relationship, i.e. to test for the joint significance of the coefficients of the lagged levels in the ARDL model. The *t*-statistic is used to test for significance of the coefficient of the lagged dependent variable. The asymptotic critical values bounds for the F-statistic and t-statistic are taken from Pesaran et al. (2001).

The long-run coefficients estimates from the ARDL specification along with the short-run dynamics are shown in Table 3. The coefficients on the long run, shown in panel I, are all significant, except for the budget deficit, which, nevertheless, is correctly signed, indicating that an increase in the budget deficit leads to a reduction in the competitiveness of Saudi non-oil exports. The finding of this study of negative effect of budget deficits on the real exchange rate of Saudi riyal gives supports to the findings of many previous studies on the relation between budget deficits and real exchange rates. A rise by 1% in budget deficit leads to a reduction of 7% in the real exchange rate of Saudi riyal, causing therefore a deterioration in the country's competitive position. This is consistent with the Feldstein hypothesis of the "twin deficits" (Feldstein, 1985, 1987). According to his hypothesis, the current account deficit was caused by large public deficits. The negative relation between budget deficits and the exchange rate of riyal implies that government debt imposes a high pressure on riyal. This is Per capita income is found significant and correctly signed. A rise in per capita income boosts domestic demand for goods and services leading therefore to an increase in domestic prices compared to foreign prices. As a result, real exchange rate appreciates. On the other hand, the results on monetary policy in Saudi Arabia, presented by money supply growth, are consistent with traditional link between monetary policy and exchange rates (Devereux, 1997). A rise in money supply growth leads to a real depreciation in the exchange rate. Finally, Revenues generated from exporting oil show significant effect on the volatility of the real exchange rate of riyal. This result lends support to the widely believed view that a country depending on exportation of a single product will be vulnerable to external shock. The result on this variable, however, contradict the Dutch Disease Hypothesis, which expect that the rise in oil export revenue leads to a rise in the price of nontraded goods relative traded goods, causing therefore an appreciation of the exchange rate.

The short-run dynamics of the RER function are reported in panel II of Table 3. The results are generally consistent with the long run findings, except for the budget deficit variable which appeared with positive sign indicating that the government may increased money supply to finance the increase in the deficit. This policy would result in a depreciation in riyal, but, in the short run, the government intervenes in foreign exchange by exhausting on the country's foreign reserves in order to maintain the predetermined nominal pegged exchange rate. The magnitudes of all the coefficients are smaller than their long-run counterparts, suggesting that these variables have stronger effects on the real exchange rate of riyal in the long run. The error correction term ECM(-1), which measures the speed of adjustment to restore equilibrium in the dynamic model following a disturbance in the long run equilibrium relationship, is found to be negative and statistically significant at the 1 percent level. This implies that an error-correction mechanism exists in the real exchange rate function so that the deviation from long-run

[3] Many studies, in fact, do not report t-statistic. They base their conclusion on the existence of cointegration mainly on F-statistic [see, for example, Agrawal et al. (2009), Houqe and Yusp (2010), Tang (2003) and Coe and Serletis (2002), among others].

equilibrium has a significant impact on the growth rate of real exchange rate. This provides some evidence supporting the presence of the underlying relationship in the long run. The error correction term, of -0.41 suggests that convergence to equilibrium after a shock in the right hand variables takes nearly two and half years.

The validity of the estimated equations is confirmed by employing various diagnostic tests of the full estimations, including the Lagrange multiplier test of residual serial correlation, the Ramsey RESET test for functional form mis-specification, the Jarque–Bera test for the normality of residuals and Engle's autoregressive conditional heteroscedasticity (ARCH) test. These tests suggest that the ARDL model has desired econometric properties and the estimates are robust and reliable.

6. Conclusion

The debate on the relationship between budget deficits reduction and exchange rates has received much attention amongst economists. The conventional economic theory predicts that an increase in the budget deficit will result in capital inflow and an appreciation of exchange rate. The empirical evidences, however, indicate that exchange rates may appreciate in some cases and depreciate in others, depending on the case at hand. This study has attempted to investigate the link between budget deficits and the real exchange rate in Saudi Arabia, using the Autoregressive Distributed Lag (ARDL) 'Bounds test' approach to cointegration and error correction models. The finding of this study indicates that in the short run, an increase in budget deficits results in real exchange rate depreciation of Saudi riyal. In the long-run, however, the real exchange rate showed a tendency to appreciate, citrus paribus.

It was found also that external shock affecting oil exports revenue play important role in explaining movements in the real exchange rate. This result, which can be attributed to the limited economic base of Saudi economy, has important economic policy implications. The government, in this regard, is invited to take serious measures to manage oil revenue, in order to minimize the adverse effect of oil revenues instability.

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عجز الميزانية وسلوك سعر الصرف الحقيقي: حالة الريال السعودي

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(قدم للنشر في ١٧/ ١٠/ ١٤٢٩هـ؛ وقبل للنشر في ١/ ٤/ ١٤٣١هـ)

ملخص البحث. تقوم هذه الدراسة، باستخدام نموذج الانحدار الذاتي للتوزيعات المتباطئة، باختبار العلاقة بين عجز الميزانية، من ضمن متغيرات اقتصادية كلية أخرى، وسعر الصرف الحقيقي في المملكة العربية السعودية خلال الفترة الزمنية ١٩٧٠-٢٠٠٦م. وتشير النتائج إلى وجود علاقة توازنية طويلة الأجل بين متغيرات النموذج وسعر الصرف الحقيقي، كما وجدت الدراسة أن الهزات الحقيقية والاسمية كلاهما تؤثران بشكل مباشر على سعر صرف الريال الحقيقي. بالإضافة إلى ذلك، أظهرت نتائج الدراسة أن سعر الصرف الحقيقي للريال يتأثر بشكل معنوي بالهزات الخارجية التي تحدث في أسواق النفط العالمية.