Can Fiscal Policy Influence Current Account Deficit in Pakistan?

Fareeha Safdar[1]   Ihtsham Ul Haq Padda[2]   Attiya Y. Javid[3]

Abstract

The present study examined the impact of fiscal policy on the current account in Pakistan taking into consideration the data set from 1991 to 2018. The analysis is conducted using the Vector AutoRegression (VAR) approach. The results specify that fiscal policy shocks lead to an improvement in the current account balance and depreciate the real exchange rate, supporting the twin-divergence hypotheses. It is suggested that the government should focus on the polices to improve investment, which not only helps to minimize fiscal deficit but also leads to long-run growth.

Keywords: Fiscal policy, Current account deficit, Government spending, Impulse response, Variance decomposition

Introduction

The current account, as an important indicator of economic health, has kept its relevance to policymakers over the years. Knowing the mechanics of current account behavior becomes critical for inducing desired changes in the current account balance through policy actions. Consequently, the relation between fiscal policy and the current account deficit has been focused by economists and policymakers alike. The possibility of the existence of such a relationship has led to quite a few studies analyzing the twin deficit hypothesis. A question arises for many developing and emerging countries, with consistent current account imbalances, as to what extent any fiscal adjustment would impact external imbalance.

Two pertinent approaches, namely the Mundell-Fleming Model and the Ricardian Approach, are often used to explain the current account behavior. The Mundell-Fleming (1968) model affirms that the fiscal deficit, in turn, results in a deficit in the current account (Abell, 1990; Bahmani-Oskooee,1992). On the other hand, the Ricardian approach contests that financing the budget deficit by the issuance of bonds, or a reduction in taxes may not impact the current value of the wealth of the domestic consumer. This is because both the issuance of bonds and a transitory reduction in taxes would lead to higher taxes in the future (Enders & Lee, 1990; Evans, 1989; Kaufmann *et al.*, 2002).

---

[1] Assistant Professor at National University of Modern Languages & PhD Scholar at Federal Urdu University of Arts, Science and Technology.
[2] Federal Urdu University of Arts, Science and Technology, Islamabad.
[3] PIDE

Fiscal policy can impact the current account in different ways. One is the change in government expenditure on tradeable goods. This would affect the imports and hence would ultimately bring a change in the trade balance. On the other hand, as per the Keynesian approach, higher government spending would result in higher demand, not only for domestic but for foreign goods as well, and then the outcome is a higher deficit in trade. A decrease in government spending, on the other hand, can decrease the interest rate that affects the external debt, which ultimately improves the current account balance. Yet, the lower premium may lead to higher capital inflows that enhance the demand, resulting in exchange rate appreciation and deterioration of the current account.

Pakistan, with a large persistent imbalance on its current account, and fiscal deficit, warrants the same question, i.e. assessing the extent to which an adjustment in fiscal policy would assist in resolving external imbalances. The last two decades have seen the current account deficit ranging from a low of 0.83% to a high 5.8%. Whereas, during the same period, the fiscal deficit ranged between 2.3% to 8.8%. The causal link among fiscal deficit, and the current account has been the subject of few studies conducted on Pakistan (Burney & Akhter, 1992; Zaidi, 1995). There are more that test the twin-deficit hypothesis considering Pakistan (Burney & Akhter, 1992; Zaidi, 1995).

Most of the recent studies observed in the case of Pakistan normally focused on the long-run relation between the fiscal deficit and the current account deficit (Hassan *et al.*, 2015; Mudassar *et al.*, 2013; Tufail *et al.*, 2014). The present study wants to observe if the long-run relation between the government budget deficit and the current account deficit exists or not. So, the novelty of this study is to investigate the empirical relationship between fiscal policy, government spending, and the current account deficit for Pakistan, using the VAR technique on data pertaining to an eighteen-year period (1991-2018). The results support the twin-divergence i.e. increase in government spending results in higher output growth and improved current account position in the case of Pakistan. The rest of this paper has been divided into five further sections, covering the literature review, methodology, data and sources, results, and the conclusion.

Literature Review

The theoretical and empirical relationship between fiscal policy and the current account remains to draw the attention of policymakers and researchers since the last few decades. An appropriate question for many economies, where exists a large and persistent external imbalance, is that to what extent fiscal policy can contribute to minimizing the current account imbalances. Mainly there are two approaches that are used to explain the impact of fiscal policy on the current account deficit. Firstly, the Ricardian approach argues that the current value of household wealth may not be affected by the budget

deficits, which is financed either by decreasing taxes or issuing bonds. But the issuance of bonds to support the fiscal deficit leads to increased consumption due to the wealth effect and the increasing interest rates. This rise in interest rate results in the appreciation of the currency, and ultimately lacks competitiveness, along with increased consumption, leading to worsening of the current account. Secondly, the Keynesian approach, as well as the new open-economy models emphasize that during the short-run, a temporary rise in government spending would lead to not only a fiscal deficit but also a worsening of the current account deficit, and an appreciation of the exchange rate. During the long-run, however, the exchange rate effects could be reversed and over time, the current account is reverted, which ensures the nation's external liabilities. Nonetheless, it is identified by Baxter (1995), who suggested that a temporary decrease in the tax rate could result in an improved current account balance, even though the inter-temporal substitution effect might cause a larger effect on private savings relative to the earlier fiscal deficit. Obstfled and Rogoff (1995) proposed that a permanent shock in government spending can result in a higher demand during the short-run, causing a shift in output which will ultimately cause the real exchange rate and current account depreciation.

Most of the studies which observe the theoretical framework on the association between the fiscal balance and the current account balance generally have been based on the twin-deficit hypothesis. These empirical studies identify a strong relationship between government spending and the balance of trade, suggesting that an improvement in the fiscal budget can improve the current account. One of the recent studies, by Banday and Aneja (2016) empirically investigated the long-term association between the current account deficit and fiscal deficit, and identified a significant long-run causal link among these two variables. Mudassar *et al.* (2013) observed the existence of the twin-deficit considering Pakistan, and the results specified a presence of long-run association among government deficit and current account deficit.

In the case of emerging economies, Zamanzadeh and Mehrara (2011) specify the existence of a positive significant association between budget deficit, and current account deficit, considering the case of Iran. The results indicate the occurrence of the twin-deficit hypothesis, i.e. government expenditure and taxes can influence the current account deficit. Lau *et al.,* (2011) identify a long-run relation between fiscal deficit and current account deficit, indicating that fiscal discipline can result in an improvement in the current account in Asian emerging economies, but the strength of this relationship differs across countries. Furthermore, Baharumshah and Lau (2007) also identify the same long-run relation among fiscal balance, exchange rate, interest rate, and current account deficit, in the case of Thailand. The results suggest that a higher fiscal deficit can

lead to crowding out of private investment due to higher interest rate, which ultimately worsens the current account.

Some of the studies used the panel regression to observe the relationship between the government deficit and the current account deficit. For example, Abbas *et al.* (2011) observed a panel-data of 124 countries using the data from 1975-2004. The results indicate that in low-income and emerging countries with flexible exchange rates, there exists a positive significant association among fiscal deficit and the current account. Likewise, Leigh (2008) used panel-data and suggested that both in developed and developing economies rise in government spending is associated with the exchange rate appreciation. It is observed that the behavior of the exchange rate can determine the current account balances i.e. exchange rate appreciation would result in worsening of the current account balance. Furthermore, Beetsma *et al.* (2008) investigated a panel of fourteen European Union countries by employing the VAR technique, and the results specified an increase in the GDP, resulting in higher government spending. Furthermore, increasing imports and declining exports indicated the trade deficit's existence of the twin-deficit hypothesis. However, it is suggested that these generalized results may not be applicable to a single country. So, there is a need for case studies to identify the dynamics at the country level.

Yet, a divergent approach was introduced by Barro (1989), also recognized as Ricardian-Equivalence Hypothesis (REH). As stated by REH, any changes in tax and fiscal deficits do not influence the interest rate as well as the investment magnitude or the current account respectively. In addition, according to REH, there does not exist any link between the government deficit and the current account deficit. In addition, a panel data study by Hashemzadeh and Wilson (2006) examined six Middle East and North African economies by using the VAR technique, and the results did not support the twin-deficit hypothesis. A study by Bussière *et al.* (2005) considered a panel data of 21 OECD countries from 1960-2003 for country-specific factors and used panel regression. The result indicated that there exists an insignificant impact of budget balance on the current account balance, however, the productivity shocks have a larger influence on the current account.

Some of the recent studies in literature identify that expansion in fiscal policy may lead to an improvement in the current account i.e. twin divergence. Specifically, in developed countries where the financial systems are more liberal. For example, Rafiq (2010), Kim and Roubini (2008) and Muller (2008). These studies using the VAR model suggest that while controlling for the business-cycle effects, an expansion in fiscal policy can lead to improved current account and exchange rate depreciation. This view is against the twin-deficit literature and provides evidence that the relationship between fiscal

policy and the current account depends on the country's macroeconomic conditions and level of income.

Many studies have been undertaken, considering Pakistan, to investigate the causal link between the government deficit and the current account deficit. Hassan *et al.* (2015) explore the causal relationship between fiscal deficit and trade deficit, of Pakistan. The empirically estimated results specify the occurrence of the twin-deficit i.e. fiscal deficit and trade deficit are significantly and positively associated both in the short-run and long-run. Tufail *et al.* (2014) observed the long-run link between the trade deficit and budget deficit for Pakistan using the data set from 1972 - 2011. The results specify that trade openness, gross domestic product, and fiscal deficit have a significant and positive effect on the trade deficit. Javid *et al.* (2011) used the structural VAR technique to observe the impact of fiscal policy on the current account in Pakistan, indicating that an expansionary fiscal policy leads to an improved current account and a depreciation of the exchange rate. Furthermore, an output shock results in the twin divergence of the current account deficit and fiscal deficit. Aqeel and Nishat (2000) observed the fundamental link between government deficit and trade deficit while using the co-integration regression technique in Pakistan. The results reveal that CPI, money supply, and GNP have a positive impact on the trade deficit. Additionally, Burney and Akhtar (1992) studied the indirect and direct impact of government deficit on the exchange rate for the period 1971-1990; empirical results suggest that fiscal deficit, along its indirect link with prices, interest rate, and money supply have an indirect effect on exchange rate.

The literature discussed above provides a mixed result of the impact of fiscal policy on the current account. In the case of Pakistan, most of the studies included the effect of budget balance while observing the long-run relation between budget deficit and the current account deficit. The present study incorporates the effect of fiscal policy shock effect on the current account balance in the case of Pakistan.

Methodology and Data

Methodology

To explain the relation between fiscal policy and the current account balance, national income identity expresses the association as

$$Y = C + I + G + (X - M) \tag{1}$$

Where, Y is GDP (or national output), C is Consumption-spending, Investment-spending is indicated as I, Government-Spending is indicated as G, and Net-Exports is indicated as X-M.

Now, GDP can also be defined as,

$$Y = C + S + T \tag{2}$$

Here, Y is the GDP (or national output), Consumption-spending is indicated as C, Savings are shown as S, and lastly, taxes are shown as T. This is because, national-income equals to all individuals' income, and total-output, that either goes to consumption, being used for savings, or paying of taxes.

Since $Y = C + I + G + NX$ and $Y - C - T = S$, then $S = G - T + NX + I$

$CA(NX) = (S - I) + (T - G)$

In case of a balanced government budget, where $T - G = 0$, the current account then becomes equal to saving-investment gap or S - I.

$CA = S - I$

And if saving and investment are assumed equal i.e. $S = I$, then the current account would be shown as,

$CA = T - G$

$S - I = (G - T) + CA \rightarrow CA = (S - I) + (T - G)$

If saving is equal to investment, then the current account may be equal to fiscal balance. This indicates existence of causal link between current account balance and fiscal-balance. Therefore, a fiscal surplus (or $G > T$) would result in current account surplus and vice versa, fiscal deficit (or $T > G$) would as well result in worsening of current account.

To analyze the impact of fiscal policy on the current account balance, the present study follows Abbas *et al.,* (2011), Corsetti *et al.,* (2012) and Blanchard and Perotti (2002) and employs the VAR specification. Consider a vector $X_t = [gdp_t, gov_t, ca_t, rer_t]$ where gdp_t is the real gross domestic product, gov_t is government budget balance, ca_t is the current account balance, and rer_t is the real effective exchange rate. Considering a reduced VAR model;

$X_t = A(L)X_{t-1} + U_t$ -------------------------------- *(1)*

A(L) is the polynomial and $U_t = [u_t^{gdp}, u_t^{gov}, u_t^{ca}, u_t^{rer}]$ is the vector of reduce-form residuals and t is the time trend. By definition the structural shocks are uncorrelated with each other. The ordering of the variables considered important un VAR analysis. RGDP is ordered first and is included to indicate the economic performance, however, government-budget balance *(GOV)* is ordered second as the government revenues are likely to be affected by the current level of economic activities (Balnchard & Perotti, 2002; Rafiq, 2010). Current account (ca) is ordered third, which allows to assume that real GDP growth and current account are pre-determined regarding the real exchange rate. The real effective exchange rate *(RER)* is ordered last, assuming that real exchange rate is a forward-looking asset that responds to new information about demand and supply of real exchange activity. All these restrictions are consistent with the twin-deficit hypothesis and intertemporal approach of the current account (Rafiq, 2010).

Data and Source

The present study, to observe the effects of fiscal policy on current account deficit, is based on Pakistan's annualized data for the period under consideration i.e. 1991-2018. Here, the real gross domestic product *(GDP),* indicating the effect of business-cycle or output fluctuations, is calculated by the gross domestic product at 2010's constant prices in log terms. The government balance *(GOV),* indicating the difference between government revenues and taxes, is measured as a ratio of GDP in log terms. The current account deficit *(CA)* is taken as a percentage ratio to real GDP, measuring government budget balance and current account as a percentage of GDP as common in literature (Kim & Roubini, 2008; Rafiq, 2010). The real effective exchange rate *(RER)* is a weighted mean of the currency relative to an index adjusted for inflation and is measured in log terms.

Data for the present study has been sourced from World Development Indicators *(WDI),* except for the government budget balance *(GOV)* that was taken from several issues of the Economic Survey of Pakistan.

Empirical Results

The present analyzes the impact of fiscal shocks on real GDP, current account deficit, and real effective exchange rate, while employing the impulse response function (IRF) which is generated through the VAR technique, proposed by Blanchard and Perotti (2002) and Abbas *et al.,* (2011).

The study is initiated with a review of the descriptive statistics for Pakistan, as provided in Table 1. The data indicate that the maximum government budget deficit is 0.94 percent of the GDP, while the maximum current account deficit is 0.03 percent of the GDP. However, the average government budget deficit is 0.79 percent of GDP and the average current account deficit is -0.02 percent of the GDP, which indicates the effect of the budget deficit on the current account deficit. Whereas, variation in government budget stands higher at 0.13% against the 0.026% variation in current account deficit respectively.

Table 1: *Summary Statistics*

Variables	Mean	Standard Deviation	Minimum	Maximum
RGDP	0.3077	0.0089	0.2908	0.3238
Gov deficit	0.7942	0.1330	0.3617	0.9444
CA deficit	-0.0220	0.0264	-0.0921	0.0311
RER	2.0317	0.0418	1.9537	2.1078

Augmented-Fuller Unit-Root-Test is being employed to check the stationarity of data. The results are reported in Table 2.

Table 2: *ADF-Results*

Variables	Levels	Ist-difference
RGDP	-0.9813	-4.6079
CA Def	-1.9315	-4.9545
GOV Def	-2.3743	-5.6862
RER	-0.9625	-4.5776

These results specify that for all the variables, the null hypothesis (H_0) may not be rejected at the five percent significance level. Yet, at first-difference, all variables under consideration are stationary at order one i.e. $I(1)$[4]. To begin the analysis, one of the important and necessary criteria of VAR specification is to choose lag-length, at an appropriate point. Considering this, the Likelihood Ratio (LR), Akaike Information Criteria (AIC), Schwarz Information Criterion (SIC), and Ham Information Criteria (HQ) are used. The results are reported in Table 3. It is evident from the results that the optimum lag-length for this given model, according to LR, AIC, SIC, and HQ criteria is one.

Table 3: *Lag-Length Criteria*

Lag	LR	FPE	AIC	SIC	HQ
0	NA	1.40e-16	-25.15081	-24.9572	-25.0950
1	81.5534*	1.01e-17*	-27.8035*	-26.8357*	-27.5248*
2	16.7351	1.43e-17	-27.5571	-25.8152	-27.0555

Impulse Response

Figure 1 indicates the impulse response shock for each variable over a period of ten years. Column 1 shows the effect of output shocks on government budget deficit, current account deficit, and real effective exchange rate, respectively. It shows that due to positive output shock, initially there is a reduction in fiscal deficit and it continues to decrease till year three, which is at .009 percentage point and then becomes insignificant. However, due to positive output shock, the current account deficit is negative for the first two years and then remains insignificant for the time period under consideration, while the real exchange rate depreciates due to positive output shock. These results are consistent with the traditional theory of the current account which postulates that a rise in output in an economy increases the demand for imported goods, resulting in worsening of the current account deficit (Aristovnik, 2008; Calderon *et al.,* 2002). Kim and Roubinni

---

[4] Since all the variables are stationary at order one I*(1)*, cointegration is tested which indicates long relation does not exist among the discussed variables.

(2008) suggested a twin-divergence - fluctuations in output can result in improvement in fiscal balance but may lead to worsening of the current account balance.
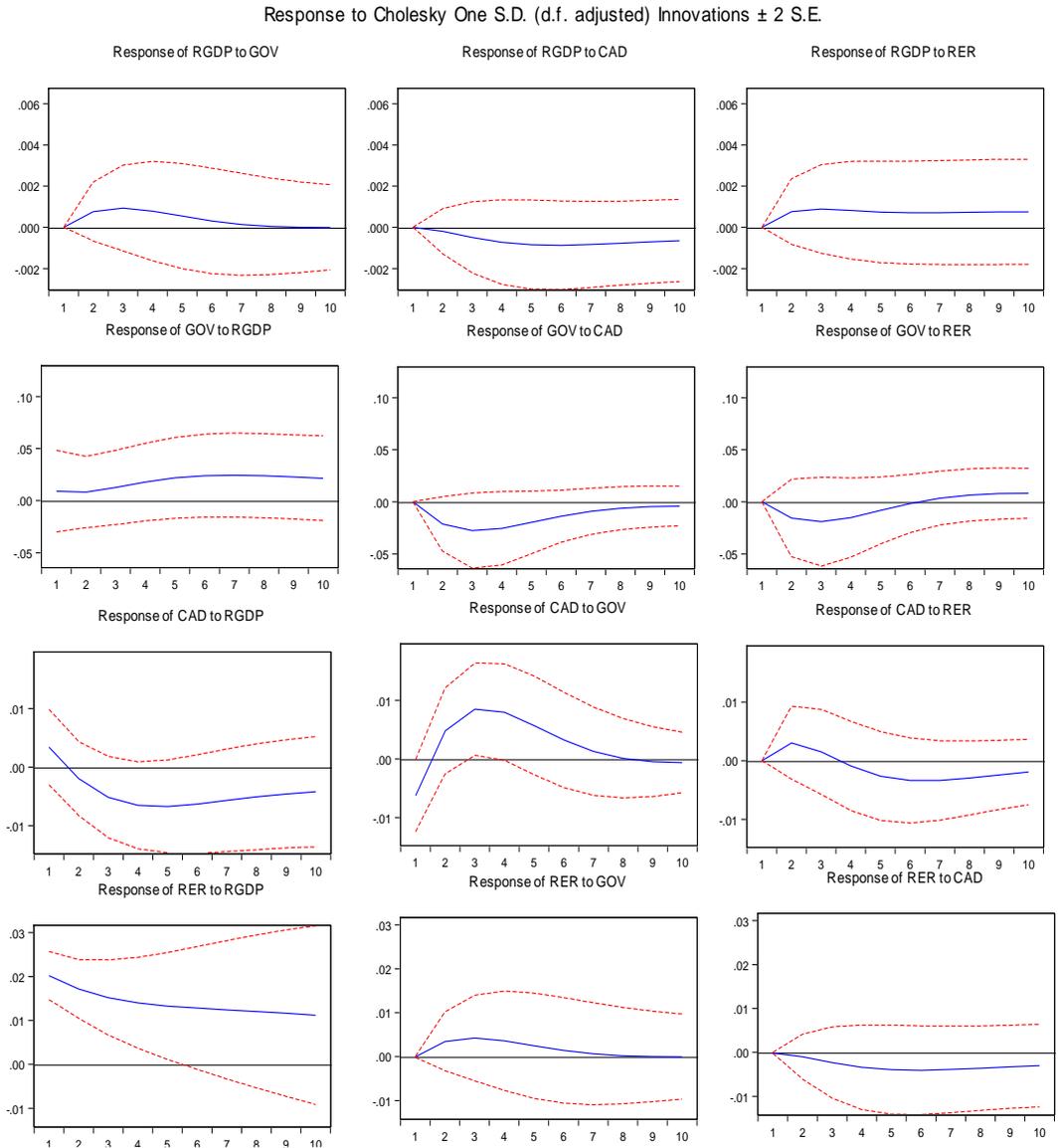
Fig. 1: *Impuse Response- Government Budget Deficit Shocks*

To observe the effects of the fiscal policy shocks on the current account and real effective exchange rate, the results are shown in column 2, which indicate that due to a positive fiscal shock, there is a consistent increase in output for the considered time

period. However, the effect on current account is insignificant, yet, the real effective exchange rate is intially insignificant, but after year 6, the real exchange rate deprecitaes for the rest of period under consideration. In order to observe the effects of the current account deficit shocks indicated in cloumn 3, illustrate that due to current account deficit shock on government budget deficit is initally ver small but positive till the year 4 which means that fiscal expansion improves the current account situation. These results are against the twin-deficit hypothesis i.e, a rise in government budget deficit would result in deterioration of current account and in the same manner an increse in current account defcit leads to the worsening of budget deficit. These results are consistent with Lau *et al.,* (2010) suggested that fiscal expansion can lead to an improvement in current account position.

In order to observe the impact of government budget deficit shock, this section will observe the effects of government spending shocks on current account. The effects of government spending shocks respond contemporaneously exogenous to other variables[Attiya *et al.,* (2011) & Blanchard & Perotti (1999)]. Therefore, the present study extend the basic model by using the government spending as a percentage of GDP. So, the model is {GOVX, RGDP, CAD, RER}. The impact of government spending shocks on current account are reported in figure 4.2.

Fig. 2: *Impuse Response- Government Spending Shocks*
Response to Cholesky One S.D. (d.f. adjusted) Innovations ± 2 S.E.
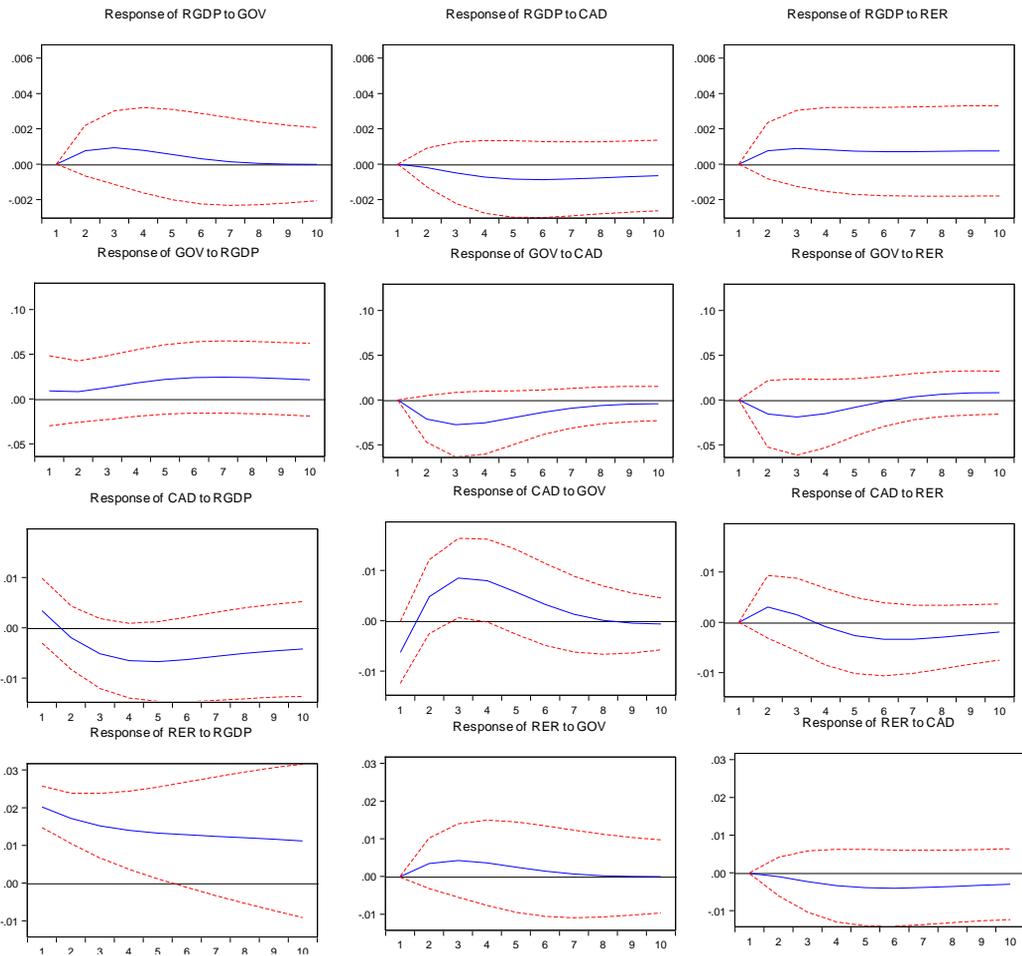
The results specify that positive government spending shock improves real GDP persistently for the given time period. While observing the effect on expansionary fiscal shock on current account deficit, it indicates improvement in current account position initially and then becomes insignificant, however, the real effective exchange rate depreciates with the positive fiscal spending shock. These results are consistent with the studies of Attiya *et al.,* (2011) and Kim and Roubini (2008) suggested that a rise in government spending, due to Ricardian effect there is a decrease in consumption and ultimately there will be no effect on current account. But in case of sticky-price models, in short-run a rise in government spending would lead to a higher output and resulting in an improved current account. Additionally, an increase in government spending can depreciate the real exchange rate because an expansion in fiscal spending may lead to a

higher interest rate that reduces the private consumption which eventually result in depreciation of exchange rate.

The impulse reponse functions discussed above indictae the total effects of shock but in order to know the contribution of each variable varoance decomposition is used reported in table 4.4.

Table 4: *Variance Decomposition*

VD of RGDP Period	RGDP	GOV	CAD	RER
2	96.3806	1.7604	0.1065	1.7524
5	90.1465	3.6039	2.2914	3.9580
8	88.7427	2.7513	3.9255	4.5803
10	88.2888	2.3862	4.2737	5.0510
VD of GOV Period	RGDP	GOV	CAD	RER
2	0.9882	94.4046	2.9963	1.6107
5	5.6414	78.1154	11.5723	4.6707
8	13.0534	70.6722	11.8292	4.4450
10	16.6470	67.1710	11.4051	4.7766
VD of CAD Period	RGDP	GOV	CAD	RER
2	3.2909	13.3134	81.3727	2.0228
5	15.6253	27.6470	54.3964	2.3312
8	23.4301	24.8680	46.4852	5.2165
10	26.0888	23.7247	44.2941	5.8922
VD of RER Period	RGDP	GOV	CAD	RER
2	96.2987	1.6428	0.1356	1.9279
5	90.1455	3.3772	2.3123	4.1648
8	88.7383	2.5772	3.9179	4.7664
10	88.2818	2.2344	4.2640	5.2196

While observing the contribution of all variables in column 1, it shows that fiscal deficit has a very small effect on GDP as the contribution is about 1.76% in the second year and it continue to be smaller which is 2.2% in year 10, however, the contribution of current account deficit is larger on output compared to government budget deficit which indicate the importance to manage current account position to stabilize the economy.

In the second block, the contribution of current account is 2.9% in first year to explain fiscal deficit and it consistently increases to 11% in year 10, even though the contribution of GDP shocks to explain fiscal deficit is initially low less than 1% but over the time it increases to 16.6% respectively, suggesting that fiscal deficit is affected by both shocks simultaneously.

In the same manner, observing the current account shocks in column 3, indicates that current account is mainly affected by its own shocks i.e. 81% but this contribution

reduces over the time. Current account is mainly affected by the fiscal shocks which is 13.3% during first year and then gradually rises to 23.7% in year 10 which means that expansionary government fiscal shock improves the current account. These results provide the evidence against twin-deficit hypotheses and are in line with the studies of Attiya *et al.,* (2011), Rafiq (2010) and Kim and Roubini (2008) support the twin-divergence.

Conclusion

The present study examined empirically the impact of fiscal policy on current account and in-Pakistan conspiring, the data-set from 1991 to 2018 using the vector autoregression (VAR) technique. The results specify that fiscal policy shocks lead to an improvement in current account balance and depreciate the real exchange rate, supporting the twin-divergence hypotheses i.e. an increase in government spending results in a higher output growth and improved current account position. Furthermore, the variance decomposition results indicate current account are largely affected by fiscal shocks which emphasise the importance of managing current account to stabilize economy. The study recommends that other than polices to reduce fiscal deficit government should also focus on polices that can result in higher investment which not only helps to reduce the deficit but may also lead to higher economic growth. Furthermore, the response of change in taxes on public and private savings and ultimately its possible impact on current account balance can also be observed.

References

Abbas, S. A., Bouhga-Hagbe, J., Fatás, A., Mauro, P., & Velloso, R. C. (2011). Fiscal policy and the current account. *IMF Economic Review*, *59*(4), 603-629.

Abell, J. D. (1990). Twin deficits during the 1980s: An empirical investigation. *Journal of Macroeconomics*, *12*(1), 81-96.

Aqeel, A., Nishat, M., & Qayyum, A. (2000). The Twin Deficits Phenomenon: Evidence from Pakistan [with Comments]. *The Pakistan Development Review*, *39*(4), 535-550.

Aristovnik, A. (2008). Short-term determinants of current account deficits: evidence from Eastern Europe and the former Soviet Union. *Eastern European Economics*, *46*(1), 24-42.

Barro, R. J. (1989). The Ricardian approach to budget deficits. *Journal of Economic perspectives*, *3*(2), 37-54.

Baxter, M. (1995). *International trade and business cycles* (No. w5025). National Bureau of Economic Research.

Baharumshah, A. Z., & Lau, E. (2007). Dynamics of fiscal and current account deficits in Thailand: An empirical investigation. *Journal of Economic Studies, 34* (6), 454 – 475.

Bahmani-Oskooee, M. (1992). What are the long-run determinants of the US trade balance? Journal of Post Keynesian Economics, 14, 85–97.

Banday, U. J., & Aneja, R. (2016). How budget deficit and current account deficit are interrelated in Indian economy. *Theoretical & Applied Economics*, *23*(1), 237-246.

Beetsma, R., Giuliodori, M., & Klaassen, F. (2008). The effects of public spending shocks on trade balances and budget deficits in the European Union. *Journal of the European Economic Association*, *6*(2-3), 414-423.

Blanchard, O., & Perotti, R. (2002). An empirical characterization of the dynamic effects of   changes in government spending and taxes on output. *The Quarterly Journal of Economics*, *117*(4), 1329-1368.

Burney, N. A., Akhtar, N., & Qadir, G. (1992). Government budget deficits and exchange rate determination: evidence from Pakistan [with Comments]. *The Pakistan Development Review*, *31*(4), 871-882.

Bussière, M., Fratzscher, M., & Müller, G. J. (2005). Productivity shocks, budget deficits and the current account. ECB Working paper series No. 509.

Calderon, C. A., Chong, A., & Loayza, N. V. (2002). Determinants of current account deficits in developing countries. *The BE Journal of Macroeconomics*, *2*(1), 1-31.

Corsetti, G., Meier, A., & Müller, G. J. (2012). Fiscal stimulus with spending reversals. *Review of Economics and Statistics*, *94*(4), 878-895.

Dickey, D. A., & Fuller, W. A. (1979). Distribution of the estimators for autoregressive time series with a unit root. *Journal of the American statistical association*, *74*(366a), 427-431.

Enders, W., & Lee, B. S. (1990). Current account and budget deficits: twins or distant cousins? *The Review of economics and Statistics*, 72(3), 373-381.

Evans, P. (1988). Do Budget Deficits Affect the Current Account?. *Unpublished, Ohio State University, Ohio*.

Hakro, A. N. (2009). Twin deficits causality link-evidence from Pakistan. *International Research Journal of Finance and Economics*, *24*, 54-70.

Hashemzadeh, N., & Wilson, L. (2006). The dynamics of current account and budget deficits in selected countries if the Middle East and North Africa. *International Research Journal of Finance and Economics,* 15, 111-129.

Junaida, H., Zyadi Md. T. & Azmafazilah, J. (2008). Double Deficit and its implication on the Economic Growth in Malaysia. *PROSIDING PERKEM III, JILID 1*. 439 – 447.

Javid, A. Y., Javid, M., Arif, U., & Sabir, M. (2010). Fiscal Policy and Current Account Dynamics in the Case of Pakistan [with Comments]. *The Pakistan Development Review*, 49(4), 577   592.

Kaufmann, S., Scharler, J., & Winckler, G. (2002). The Austrian current account deficit: Driven by twin deficits or by intertemporal expenditure allocation?. *Empirical Economics*, *27*(3),   529-542.

Kim, S., & Roubini, N. (2008). Twin deficit or twin divergence? Fiscal policy, current account, and real exchange rate in the US. *Journal of international Economics*, *74*(2), 362-383.

Knot, K., & de Haan, J. (1999). Deficit announcements and interest rates: Evidence for Germany. *Journal of Policy Modeling*, *21*(5), 559-577.

Lau, E., Mansor, S. A., & Puah, C. H. (2010). Revival of the twin deficits in Asian crisis-affected countries. *Economic Issues*, *15*(Part 1), 29-53.

Leigh, M. D. (2008). *Achieving a soft landing: The role of fiscal policy* (No. 8-69). International Monetary Fund.

Mudassar, K., Fakher, A., Ali, S., & Sarwar, F. (2013). Validation of twin deficits hypothesis: case study of Pakistan. *Universal Journal of Management and Social Sciences*, *3*(10), 33   47.

Obstfeld, M., & Rogoff, K. (1995). Exchange rate dynamics redux. *Journal of Political Economy*, *103*(3), 624-660.

Rafiq, S. (2010). Fiscal stance, the current account and the real exchange rate: Some empirical estimates from a time-varying framework. *Structural Change and Economic Dynamics*, *21*(4), 276-290.

Saleh, A. S. (2003). *The budget deficit and economic performance: A survey. Department of Economics, University of Wollongong* (pp. 1-56). Working Paper 03-12.

Tallman, E. W., & Rosensweig, J. A. (1991). Investigating US government and trade deficits. *Economic Review-Federal Reserve Bank of Atlanta*, *76*(3), 1- 11.