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Fiscal Shocks and Socioeconomic Indicators: An Analysis of Welfare State of Pakistan's Economy

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ABSTRACT

The Pakistan's current scenario obstructs the government and its authorities to have the objectives, goals and strategies for public interest and the development of its economy. In view of this, the research paper is designed to examine the impact of government policies on the economic and social welfare of the economy. In this context the impact of fiscal policy shocks (i.e., government expenditure shocks and tax revenues shocks) on GDP growth rate, poverty, inequality and GDP pe capita (as measure of economic well-being) is being assessed. The research paper has employed SVAR econometric model from the period 1990 to 2022 to assess the impact of fiscal policy shocks on the economic and social welfare.

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1. Introduction

Government decisions on fiscal policy play a crucial role in promoting economic growth, reducing the level of poverty and inequality and improving the social well-being of the economy. In case of Pakistan, fiscal policy used as a key tool for achieving the development objectives. However, the fiscal policy framework has been criticized over the past years for its limited impact on economic growth, poverty and inequality reduction and social development.

In Pakistan, the relationship between fiscal policy and economic growth, poverty, inequality and social welfare has not been clearly identified. In literature, number of studies are available that has studied the relationship between fiscal policy and economic growth and fiscal policy and economic development. The present study aims to contribute to the existing literature by examining the impact of fiscal policy on economic indicators (i.e., GDP growth rate) and social indicators (i.e., poverty rate ad inequality rate) leading towards the welfare of the economy. In order to observe the fiscal policy shocks impact, the present study has employed the econometric technique of SVAR. The findings of the study in this regard will provide the insight for policymakers to design and implement effective fiscal

strategies that promote the sustainable economic growth and development, reduce poverty and inequality and improve the social well-being of Pakistan.

Global Integration literature survey in Pakistan (2015) highlights the number of findings on the fiscal policy shocks by stating that the government expenditure changes have a strong impact on the growth of the economy, education and the exchange rate in the long run while on other side tax revenues stock affect the education, income distribution and the growth. The results of literatures stress the need of designing effective fiscal policies which based on stable and understandable goals that further enhance the economic growth by considering the needs of the society. Due to discretionary nature of fiscal decision, the unexpected changes in government expenditures and taxation results in economics shocks in country.

In recent scenario of Pakistan during the financial year 2021-2022, Pakistan has faced numerous challenges including pandemic which further resulted in inflationary recession, Russian Ukraine war, cataclysmic flood, the constraint budgetary measures and fraudulent inflationary pressure these all causes government to become more stringent. All these challenges not only disturbed the production capacity of the economy but also the quality of life of people. All these issues made imperative for the government to have more stringent plan for the current financial year as all these have influenced the GDP of the country and also the quality of life of people. Present study in this regard has incorporated the social economics variables to assess the impacts resulting from the fiscal policies shocks in Pakistan. Present study is designed to give more clear view of fiscal policy shocks affecting the growth of economy and welfare of the people of economy. It will also provide insight to policymakers to design policy by keeping in view the effects of these shocks and their impact on the economic as well as social perspective of the country in order to advance the sustainable and equitable economic development. The present study has employed the time series data from the period of 1990 to 2022 in order to scrutinize the effect of fiscal policy shocks on the social and economic indicators and hence societal welfare.

Nourzad &Vrieze (2017), Hauptmeier et al. (2018) and Heitger (2018) have studied the endogenous interaction of fiscal policy with macro-economic variables by using panel data and employing SVAR econometric technique. The present study has employed the approach pioneered by Blanchard & Perroti (2002) to assess the impact of shocks by using the SVAR model in order to check the impact of fiscal policy shocks on growth and development of economy. The present study has employed further the Sen Index to look at the impact of fiscal shocks on welfare of the economy in various ways. Shafique and Rashida Haq (2018) has employed Sen Index to assess the effect of macroeconomic policies on the quality and quantity aspects of social welfare. The following study has used the Sen Index to assess the impact of unusual tremors of fiscal shocks on the welfare of Pakistan economy and its social and economic life.

In light of above discussion, the present study aims at examining the impact of fiscal policy shocks (i.e., government expenditures shocks and tax revenues shocks) on socioeconomics indicators (i.e., GDP growth rate, poverty rate, income inequality). Moreover, to examine the impact of these social economic indicators and the fiscal policy shocks on the welfare state of Pakistan economy.

2. Review of Literature

Fiscal policy role cannot be denied as the important stabilizing instrument to smooth out the fluctuation of the economy domestically and internationally. This chapter highlight the literature work about the impact of fiscal policy shocks on different macroeconomic variables of the economy to get a

clearer picture of variables that how they react when there are fluctuations and unprecedented changes in the fiscal decisions and further their impact on the quality of life of people examining through their welfare state.

There are numbers of studies (Karimi & Khosravi 2010; Dauda, 2010; Yousaf & Mohd, 2020; Ibrar et al., 2021; Abdulkarim & Saidatulakmal, 2021) that showed that productive pending by the government affect the GDP growth rate of the country positively while unproductive spending does not have any impact over the growth of the economy. Literatures further highlight that instability in the macroeconomic variables shatter the growth of the economy. It is further well argued in literatures that in presence of economic uncertainties the impact of fiscal policy gets intensified which resultant in lowering the growth of economy. Ibrar et al., (2021) studied the dynamic effects of fiscal adjustments on the output growth of the economy in case of Pakistan. The results indicate that fiscal policy is the important instrument to affect the ambient of the economy.

(Barro, 1990; Levine, 1999 and Barro & Sala-i-Martin 1992, 1995) stated that fiscal policy has great influence on the national income of the economy both in the developed and developing countries' economies. The stability that occurs in macroeconomic variables trough the fiscal decisions channel the overall growth of the economy and also advance the living standards of the people of the economy.

In developing countries fiscal policy role in achievement of growth has been more emphasized than achieving the equity, however it is strongly needed that fiscal policy should be designed in a way to lessen the poverty and inequality from the economy. Haynes and Vidal (2015) studied the role of fiscal policy in reducing the income inequality in case of USA. They discussed the possible effects of fiscal policy to facilitate in decreasing of income disparities in USA. Causa and Hermansen (2017) further stated in their study that a sound fiscal policy plays a crucial role in reducing poverty and income inequality. According to Lustig (2017) stated that fiscal policy with the implementation of right framework could effectively address inequality and poverty by ensuring that government spending should reached to the right individuals. Zulfiqar (2018) stated that fiscal policy in terms of expenditures and taxes stimulates the inclusive growth of the economy by eradicating income inequality, fight with the poverty and enhancing the job opportunities. Rodriguez Takeuchi and Wai-Poi (2024) studied the impact of fiscal policy on inequality and poverty in case of Jordan. Results revealed that the current fiscal system of Jorden is moderately progressive towards the growth and development of county.

Moreover, to establish the relationship among social economic indicators with the welfare state of the economy Sen Index welfare is employed in the study. The welfare cost of fiscal policy depends not only on the distortion of taxes but also the allocation of government revenues that must be spent in order to advance the living standards of people of economy.

There are strands of literature (Hauptmeier et al. (2018); Heitger (2018); Hynes and Vidal (2015); Iaona (2015)) that used the SVAR model to examine the impact oof fiscal shocks on the macroeconomic variables as SVAR model is considered more potent in identification of numerous shocks in structural system of economic variables.

In the light of above discussion, number of literatures are being discussed that highlighted the efficacy of fiscal policy in advancement of growth and development of a country. In fiscal year 2022 it has observed that government of Pakistan has adopted tight budgetary condition due to high volatile and challenging economic environment; the geopolitical tension, devastating impact of floods, high inflationary pressure and the tight financial condition these all put the substantial impact over the

growth expectations of the economy. By understanding the importance of fiscal policy in order to achieve sustainable growth, the present study in this regard will serve to remove the gap exist in literatures that focused only on assessing the impact of fiscal policy in growth perspective. The primary focus of this study is to assess the effects of fiscal policy shocks on social and economic indicators leading to the welfare and sustainability of the economy.

3. Methodology

The present study has designed to check the impact of unprecedented changes in fiscal policy instruments including government expenditures and tax revenues on the social and economic indicators of the economy including GDP growth rate, poverty and inequality. The present study has employed SVAR econometric model to examine the impact of fiscal shocks on GDP growth rate, income inequality and poverty rate from the period 1990 to 2022 in case of Pakistan. The methodology of present study is comprised of two sections; one is about to check the impact of fiscal policy shocks (i.e., government expenditure shocks and tax revenues shocks) on the social economic indicators (i.e., GDP growth rate, poverty rate and income inequality) while the other is about to check the impact of fiscal policy shocks and social economic indicators on the overall welfare of the economy.

3.1 Fiscal Policy Shocks and Social Economic Indicators

To observe the impact of fiscal policy shocks on the GDP growth of the economy, the present study has used the growth model forged by Barro (1990) & Barro & Salai Martin (1992) which observed how the performances of economic growth affected by the public policies. The growth model is used in study in reference of its structure to check the impact the economic growth through fiscal policy shocks. The model is designed to check the impact of fiscal policy shocks including government expenditure shocks and the tax revenues shocks on the GDP growth rate of the economy. Osebo, Getachew and Petros (2017) has used this model to check the connection between fiscal policy and economic growth in case of Ethiopia. The equation derived for this model is as:

$$lnGDP = \alpha_0 + \alpha_1 lnGCE + \alpha_2 lnGTR + \mu_1 \quad (3.1)$$

Equation is derived to check the impact of GCE government consumption expenditures and GTR government tax revenues on the GD growth of the economy.

Moreover, to check the impact of fiscal policy shocks on poverty and inequality, Musgrave (1995) model has used in present study which stated that fiscal policy has strong effect on the macroeconomic variables including poverty rate and inequality Samson A. & Aladejare (2013) has employed this model in their study to assess the relationship between fiscal variables and other macroeconomic variables in case of Nigeria. Furthermore, Asrat Tsegaye, Forget Mingiri & Simbarashe (2022) has used Musgrave theory and stated that poverty, inequality and employment get greatly affected by the fiscal policy instruments.

$$lnPOV = \beta_0 + \beta_1 lnGCE + \beta_2 GTR + \mu_2 \quad (3.2)$$
$$lnGINI = \gamma_0 + \gamma_1 lnGCE + \gamma_2 lnGTR + \mu_3 \quad (3.3)$$

The following equations are derived to check the impact of fiscal policy shocks including government expenditure shocks and tax revenues shocks on the poverty and inequality rate of the economy. According to Musgrave theory, if government want to affect the welfare state of its economy, it can do by reducing the inequality and poverty rate from the economy and for that government needs to make it fiscal policy strong in order to achieve its long run objectives. Mathew Wai Poi and Rodriguez

(2021) studied the relationship among fiscal policy instruments, poverty and inequality in case of Jordan and results were helpful to understand the importance of bringing reform in fiscal policy to achieve long run growth objectives.

3.2 Fiscal Policy Shocks and Wellbeing of the Economy

In this section of the study welfare of the state is taken as an important goal for the policies initiatives. For this section of the study Bradshaw's and Sizrek Sen Index of Welfare has used with other conventional indicators to show that social welfare is multilateral. Shafique & Rashida Haq (2008) used Sen Index of welfare in study to analyze the effects of macroeconomic variables on the quantity and quality of welfare of the economy. The present study in this regard is expected to contribute to addition of Sen Index of welfare by evaluating the impacts of fiscal shocks on the welfare state of the economy. The present study has used the Sen index of welfare as:

$$W_t = Y_t + (1 - G_t)^{\beta} \quad (3.4)$$

W is used to indicate the welfare state of the economy, while Y indicate the output growth of the economy, G indicates he index for income while β indicates the income distribution share in growth welfare of the economy.

$$W_t^* = ln\mathrm{Y_t} + \beta ln(1 - Gt)^{\beta\text{-}1} \quad (3.5)$$

The log transformation of above equation indicates that growth rate of welfare can be illustrated by the output growth rate comprised of government spendings and government revenues and the growth rate of reduction in poverty and inequality. Moreover, the impact of social economic indicators on growth of economy can be observed as:

$$\frac{Y^*}{Y} = a_0 + \sum_{j=1}^{k} \mathrm{bjSj} + \sum_{j=1}^{l} \mathrm{cjEi} + U \quad (3.6)$$

Sj (j=1……k) indicates the impact of social indicators on the growth rate of economy while Ei (i=1…….k) indicates the impact of economic indicators on the growth rate of economy, while U shows the random economic shocks.

4. Estimation Technique

Pakistan being developing country is striving hard to attain stable economic planning to arise the growth and development of the country. In this view SVAR model is considered most appropriate to analyze the fiscal policy shocks impact on the growth and the development of the economy as this model generally considered suitable to assess the effectiveness of public policies. Khalid, Malik & Sattar (2007) used the SVAR model to examine the effectiveness of fiscal policy mechanism during boom and recession periods in case of Pakistan the results revealed that fiscal policy in case of Pakistan is contemporaneous and backward looking rather it needs to be futuristic and innovative. In present study Blenchard and Perroti (2002) approach for using SVAR has used to avoid identification problem. The following system of equations are considered under SVAR model as: (4.1)

$$\begin{aligned}
y_t + a_{11}t_t + a_{12}g_t &= b_{10} + \gamma_{11}y_{t-1} + \gamma_{12}t_{t-1} + \gamma_{13}g_{t-1} + .. + \gamma_{1k}y_{t-t} + \gamma_{1k+1}t_{t-t} + \gamma_{1k+2}g_{t-t} + \varepsilon_{yt} \\
t_t + a_{21}y_t + a_{22}g_t &= b_{20} + \gamma_{21}y_{t-1} + \gamma_{22}t_{t-1} + \gamma_{23}g_{t-1} + .. + \gamma_{2t}y_{t-t} + \gamma_{2t+1}t_{t-t} + \gamma_{2k+2}g_{t-t} + \varepsilon_{tt} \\
g_t + a_{31}y_t + a_{32}t_t &= b_{30} + \gamma_{31}y_{t-1} + \gamma_{32}t_{t-1} + \gamma_{33}g_{t-1} + .. + \gamma_{3t}y_{t-t} + \gamma_{3t+1}t_{t-t} + \gamma_{3t+2}g_{t-t} + \varepsilon_{gt}
\end{aligned}$$

In SVAR methodology, Schwarz and Akaike Criterion is used for the selection of lag length. The error terms in above equation shows the unexpected occurrences of shocks in the model.

$$\begin{aligned} Y_t &= b_{10} - a_{11}t_t - a_{12}g_t + \gamma_{11}y_{t-1} + \gamma_{12}t_{t-1} + \gamma_{13}g_{t-1} + \cdots + \gamma_{1t}y_{t-t} + \gamma_{1t+1}t_{t-t} + \gamma_{1t+2}g_{t-t} + \varepsilon_{yt} \\ t_t &= b_{20} - a_{21}y_t - a_{22}g_t + \gamma_{21}y_{t-1} + \gamma_{22}t_{t-1} + \gamma_{23}g_{t-1} + \cdots + \gamma_{2t}y_{t-t} + \gamma_{2t+1}t_{t-t} + \gamma_{2t+2}g_{t-t} + \varepsilon_{tt} \\ g_t &= b_{30} - a_{31}y_t - a_{32}t_t + \gamma_{31}y_{t-1} + \gamma_{32}t_{t-1} + \gamma_{33}g_{t-1} + \cdots + \gamma_{3t}y_{t-t} + \gamma_{3t+1}t_{t-t} + \gamma_{3t+2}g_{t-t} + \varepsilon_{gt} \end{aligned} \quad (4.2)$$

The matrix form of these equations can be written as:

$$\begin{bmatrix} 1 & a_{12} & a_{13} & a_{14} \\ a_{21} & 1 & a_{23} & a_{24} \\ a_{31} & a_{32} & 1 & a_{34} \end{bmatrix} \begin{bmatrix} y_t \\ t_t \\ g_t \end{bmatrix} = \quad (4.3)$$

$$\begin{bmatrix} b_{10} \\ b_{20} \\ b_{30} \end{bmatrix} + \begin{bmatrix} \gamma_{11} & \gamma_{12} & \gamma_{13} & \gamma_{14} \\ \gamma_{21} & \gamma_{22} & \gamma_{23} & \gamma_{24} \\ \gamma_{31} & \gamma_{32} & \gamma_{33} & \gamma_{34} \end{bmatrix} \begin{bmatrix} y_{t-1} \\ t_{t-1} \\ g_{t-1} \end{bmatrix} + \cdots + \begin{bmatrix} \gamma_{1k} & \gamma_{1,k+1} & \gamma_{1,k+2} & \gamma_{1k+1} \\ \gamma_{2k} & \gamma_{2,k+1} & \gamma_{2,k+2} & \gamma_{2k+3} \\ \gamma_{3k} & \gamma_{3,k+1} & \gamma_{3,k+2} & \gamma_{3k+3} \end{bmatrix} \begin{bmatrix} y_{t-k} \\ t_{t-k} \\ g_{t-k} \end{bmatrix} + \begin{bmatrix} e_{yt} \\ e_{tt} \\ e_{gt} \end{bmatrix}$$

In above matrices, the coefficients are used to capture the effect of contemporaneous variables on each other's. The variances and covariances used in reduced form errors are written as:

$$\sum = \begin{cases} var(e_{rt}) & covar(e_{rt}e_{gt}) & covar\,(e_{rt}e_{yt}) & covar\,(e_{rt}e_{tt}) \\ covar(e_{gt}e_{rt}) & var(e_{gt}) & covar(e_{gt}e_{yt}) & covar(e_{gt}e_{tt}) \\ covar(e_{yt}e_{rt}) & covar(e_{yt}e_{gt}) & var(e_{yt}) & covar(e_{yt}e_{tt}) \\ covar(e_{tt}e_{rt}) & covar\,(e_{gt}e_{tt}) & covar\,(e_{yt}e_{tt}) & var(e_{tt}) \end{cases} \quad (4.4)$$

The e_t in above equation is assumed to have zero mean and uncorrelated with the variance and their errors are considered to be correlated contemporaneously. Moreover, the reduced form errors are taken as composite of four structural shocks. Furthermore, Perroti (2002) showed that reduced form errors because of the linear combination of structural shocks have economic consequences. Random discretionary shocks make the third component in order to deal with economic condition.

$$\begin{cases} e_{yt} = a_1e_{tt} + a_2e_{gt} + a_3e_{rt} + \varepsilon_{yt} \\ e_{tt} = b_1e_{yt} + b_2e_{gt} + b_3e_{rt} + \varepsilon_{tt} \\ e_{gt} = c_1e_{yt} + c_2e_{tt} + c_3e_{rt} + \varepsilon_{gt} \\ e_{rt} = d_1e_{yt} + d_2e_{tt} + d_3e_{gt} + \varepsilon_{rt} \end{cases} \quad (4.5)$$

In above equation, structural errors are assumed to be uncorrelated with each other and can be recoverable with the nexus of fiscal policy shocks. On other side, e_{tt} and e_{gt} are used to show the unexpected movement of fiscal policy variables caused by the unexpected shocks in government expenditures and government tax revenues. While the coefficients d_1, d_2, d_3 *and* d_4 in above equation shows the fiscal measures reduced form shocks.

4.1 Impulse Response Function:

To estimate the reaction of variables when SVAR is identified, we use impulse response function to examine the structural shocks by imposing restrictions on it. In order to build the time path in VAR to deal with the structural shocks, to transform VAR into VMA is compulsory. Therefore, VAR in backward iteration can be written as:

$$X_t = (1 + A_1 + \cdots + A_1^n)A_0 + \sum_{i=0}^{n} A_1^i(e_{t-1}) + A_1^{n+1}(X_{t-n-1}) + \varepsilon_{t-1} \quad (4.6)$$

The VAR in VMA form can be written as:

$$\begin{bmatrix} yt \\ tt \\ gt \end{bmatrix} = \begin{bmatrix} \overline{yt} \\ \overline{tt} \\ \overline{gt} \end{bmatrix} + \sum_{i=0}^{\infty} A_1^i B^{-1} \varepsilon_{t-1} \quad (4.7)$$

The variables in equation when plotted are used to display how these variables react to different structural shocks. The impulse response function can be written as in its final form:

$$\begin{bmatrix} yt \\ tt \\ gt \end{bmatrix} = \begin{bmatrix} \overline{yt} \\ \overline{tt} \\ \overline{gt} \end{bmatrix} + \sum_{i=0}^{\infty} \begin{bmatrix} \varphi_{11}^i & \varphi_{12}^i & \varphi_{13}^i \\ \varphi_{21}^i & \varphi_{22}^i & \varphi_{23}^i \\ \varphi_{31}^i & \varphi_{32}^i & \varphi_{33}^i \end{bmatrix} \varepsilon_{t-1} \quad (4.8)$$

4.2 Variance Decomposition

Variance decomposition for each sector production of economy can be assessed as:

$$\sigma_{si,n}^2 = \sigma_{yi}^2\left(\varphi_{11,0}^2 + \varphi_{11,1}^2 + \cdots + \varphi_{11,y-1}^2\right) + \sigma_{gi}^2\left(\varphi_{21,0}^2 + \varphi_{21,1}^2 + \cdots + \varphi_{21,g-1}^2\right) + \sigma_{ti}^2\left(\varphi_{31,0}^2 + \varphi_{31,1}^2 + \cdots + \varphi_{31,t-1}^2\right) \quad (4.9)$$

The above equation is used to check the occurrences of proportion of variables due to the variables own shocks that increases and decreases over time.

5. Estimation Results

This section of the study comprised of the results on the basis of above discussed models. In first model relationship between fiscal policy shocks and economic growth is assessed, while in second model, the impact of fiscal policy shocks on social indicators are assessed. In third model the relationship of social economic welfare is assessed in response to fiscal policy shocks.

5.1 Unit Root Test

Augmented Dickey Fuller unit root test is conducted on the variables to check the stationarity of data used in the model. The results of Augmented Dickey Fuller unit root test at 5% level of significance at level and Ist difference are given below:

Table 1: Unit Root Test Results

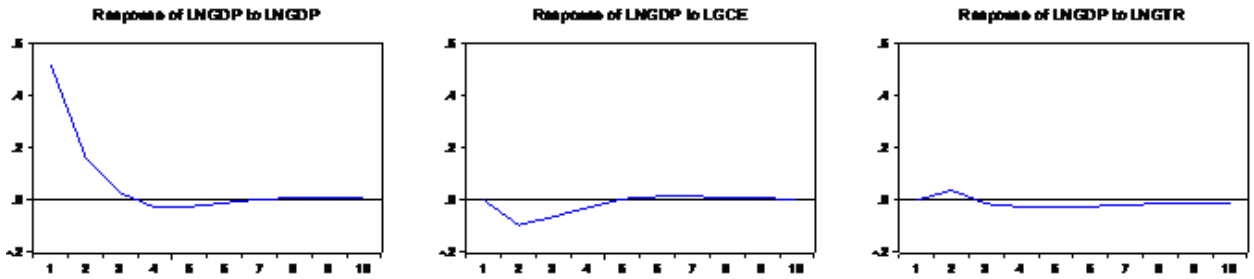
Sr No.	Variables	P-value at level	P- value at Ist Difference
1.	GDP growth	0.0027*	0.0000*
2.	Poverty	0.1509*	0.0165*
3.	Inequality	0.0444*	0.0003*
4.	Government consumption expenditures	0.0006*	0.0000*
5.	Government tax revenues	0.9009*	0.0524*
6.	GDP per capita	0.0115*	0.0000*

The above result shows the stationary of the variables where GDP growth rate, inequality, government consumption expenditures and GDP per capita is stationary at level while Poverty rate and government tax revenues are stationary at first difference. Moreover, Impulse response function is being conducted to discuss the impact of shocks on the variable's adjustment path.

5.2 Impact of fiscal policy shocks on GDP growth of the economy

The study aimed to discuss the impact of government expenditure shocks and tax revenues shocks on the GDP growth of the economy as the fiscal decisions of government disrupts the aggregate demand by altering its purchases, changes its tax types and through revising its transfer payments.

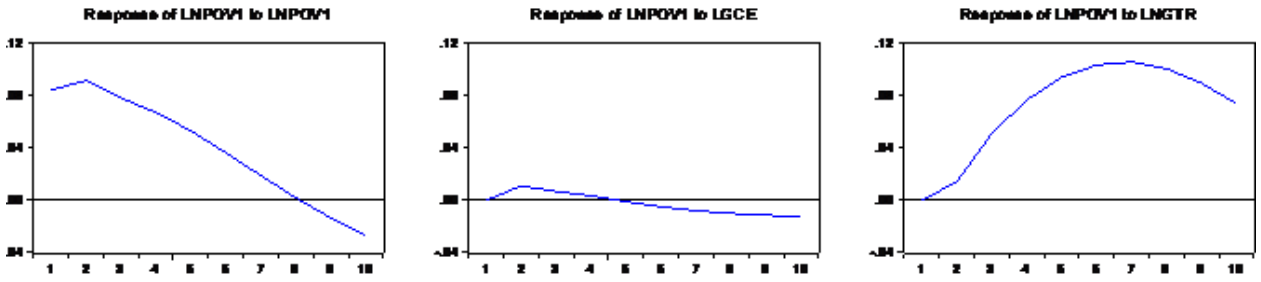
Figure 1: Impact of government expenditure and tax revenues shocks on GDP growth rate



Tax revenues shocks and government expenditures shocks both effect the GDP growth of the economy negatively which shows that tax shocks hinder the growth of economy of Pakistan. The findings of Romer and Romer (2008) also suggests that in the US economy the higher tax rate declined the output growth of the economy. Hassard & Hubbard (2002) finds that high tax rate reduces the economic growth of the country by obstructing its incentives for investment. According to Blanchard & Perroti (2002) there exists negative relationship between the tax revenues and GDP growth rate of the country. Government expenditure shocks also showed the regressive effect on the GDP growth rate but in subsequent period when government expenditure increases and tax revenues decreases, GDP growth rate also increased. According to crowding out theory Barro (1989) government expenditures tends to crowd out the private investment which leads to reduce the growth of the economy.

5.3 Impact of fiscal policy shocks on poverty

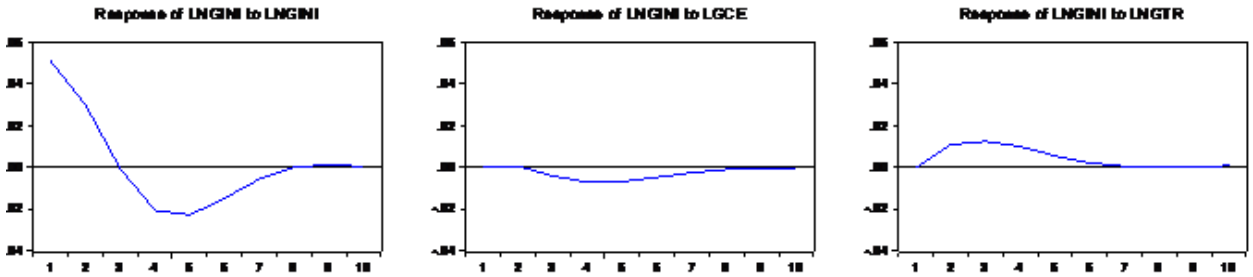
Figure 2: Impact of government expenditure and tax revenues shocks on Poverty rate



The results show that tax revenues shock and poverty rate hold the positive relation which means that increase in government tax revenues increases the poverty rate of Pakistan. Musgrave (1959) proposed the progressive taxation theory which suggested that higher imposition of progressive taxes leads to reduce the poverty rate of the country and thus increases the tax revenues of the government. While government consumption expenditure shocks show regressive effect shocks on the poverty which means that increase in government expenditures decreases the poverty rate in the economy. Okun (1975) suggested in redistributive public theory that government spendings can be used for the redistribution of income and thus leads to decrease the poverty from the country.

5.4 Impact of Fiscal Policy Shocks on Inequality Rate

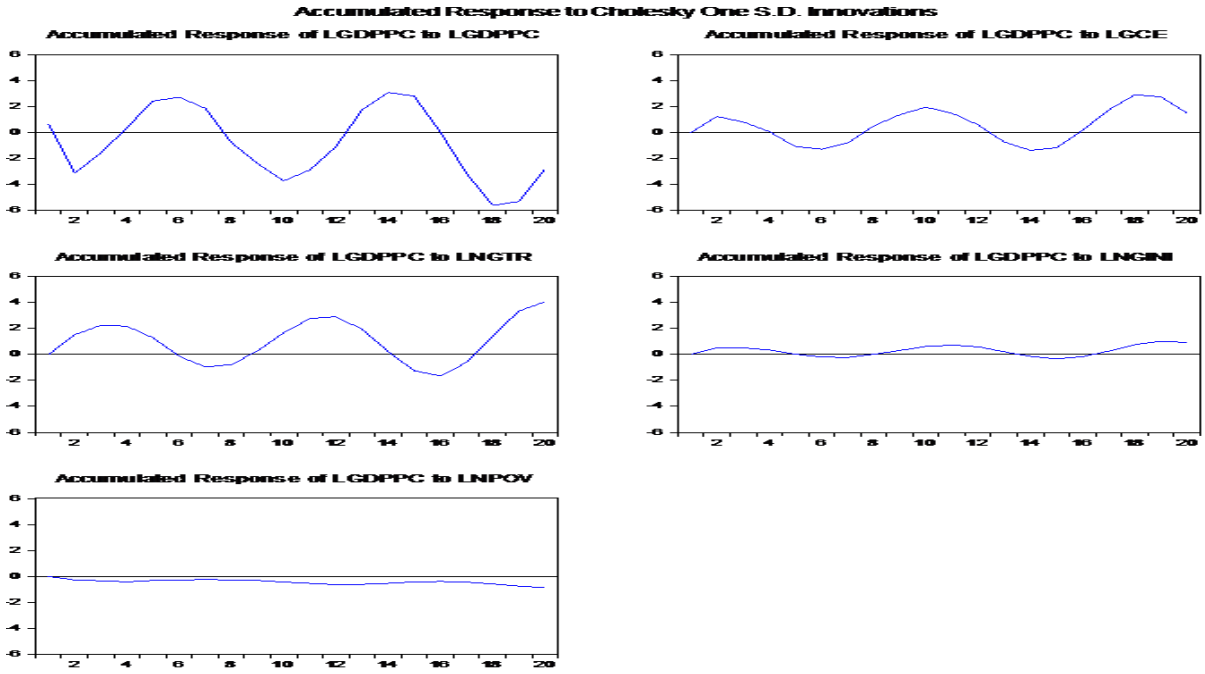
Figure 3: Impact of government expenditure and tax revenues shocks on Inequality Rate



The impulse response function shows that government consumption expenditure shocks have negative impact on the inequality rate which means that increase in consumption expenditures decrease the inequality rate. Lindert (2004) finds the negative relationship between government expenditures and inequality rate. while tax revenues shocks have positive effect on inequality till third period then it declines and shows the negative trend which shows that increase in taxes has mixed effect on the inequality rate due to the nature of tax type.

5.5 Impact of fiscal policy shocks on well-being of the economy

Figure 4: Impact of poverty, inequality, government expenditure and tax revenues shocks on GDP per Capita



GDP per capita in response to its own shocks shows the mix trend of upward and downward. Government consumption expenditure shocks effect the GDP pe capita in both positive and negative way, the impulse response function shows the mix trend while tax revenues shocks also effect the GDP pe capita in both ways positively and negatively although the results showed more inclined toward upward which means that tax shocks affect the GDP per capita positively. Frecknall-Hughes (2014) stated that tax revenues are the most important financial tool of the government which raises its spending therefore increase in taxes increases the welfare of the economy depending on the type of

taxes. Inequality has slight effect on the GDP per capita while poverty effect it negatively which means that increase in poverty decreases the well-being of the economy.

6. Conclusion

The present study is designed to examine the impact of fiscal policy shocks on GDP growth of the economy, social indicators (i.e., poverty rate and inequality rate) and welfare of the economy. The results showed that government consumption expenditure shocks effect the GDP growth rate positively while tax revenues shocks hinder the growth of the economy. Furthermore, government expenditure shocks effect the poverty rate negatively while tax shocks increase the poverty growth rate of Pakistan. Okun (1975) suggested in redistributive public theory that government spendings can be used for the redistribution of income and thus leads to decrease the poverty from the country. While on other side, in context of inequality, the government expenditure shocks decrease the inequality while on other side tax revenues shocks increases the inequality. Furthermore, the results showed that government consumption expenditure shocks effect the GDP per capita in both positive and negative way. According to Barro (1989) crowding out theory government expenditures crowd out the private sector investment leads to reduce the economic growth of the country and lowers the GDP per capita. The results further showed that tax revenues shocks effect the GD per capita of the economy positively. Arthur Laffer (1974) suggested in Laffer curve theory that increase in tax rate initially and then decrease as high rate discourages the economic activity while increase in taxes at moderate rate increases the GDP per capita of the economy.

6.1 Policy Recommendations

The study recommends the following suggestion in order to increase the welfare of the economy:

1. In case of Pakistan, the relation between government expenditures and output growth of the economy does not seems strong as suggested by results of present study therefore it is high time for the government to accentuate its spending on the productive sector of the economy to reap more benefits from it.
2. To deal with the issue of inequality, government should divert its attention towards progressive taxes in its policies; to deal with inequality, government should support progressive spending by spending on healthcare, education and social welfare programs.
3. In fiscal decisions of government, it is recommended that government should adopt long term perspective over short term gains by prioritizing the sustainable growth and development of its economy.
4. Government should adopt better policies for its spending in order to achieve social well-being of the economy by adopting pro poor policies and making its investment in education and healthcare program to benefit the poor more.

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