

Impact of Monetary and Fiscal Policies of Inter Provincial Growth Disparities

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Abstract

Standard growth theories assume that capital, labor, and knowledge are inputs, and these are combined to produce output in a country. Study estimates the determinants of economic growth in Pakistan at provincial level and the role of Fiscal and Monetary variables on the regional (province) growth in Pakistan. The study uses the data from 1990-to 2015 on provincial GDP growth, government expenditures, private final consumption expenditures, investment and money supply. The study has used the panel data analysis and fixed effect model to estimate the impact of fiscal and monetary policy on regional growth. First of all, the model shows that provincial current and development expenditures, federal expenditures and money supply are key determinates of growth in Pakistan. Study also finds that the decentralized fiscal policy reduces regional disparities in Pakistan. It reduces growth disparities by eliminating the expenditure gap across provinces. Study also finds that monetary policy increases the regional growth disparities. The main reason is the huge differences in the financial development across provinces in Pakistan. Based on the findings study suggest that centralized monetary policy would be more beneficial if the level of financial development reduced across regions in Pakistan.

Introduction

An important question that economist tried to analyze is the growth differential within a country and across countries. Solow, (1956) and Swan, (1956), Ramsey (1928), Cass (1965), and Koopmans (1965) and Diamond (1965) develop the models to analyze the cross country economic growth differences. They assume that capital, labor, and knowledge are inputs, and these are combined to produce output in a country. It also assumes that labor and knowledge grow at a constant rate and saving is exogenous. The models show that saving rate has a level effect on output but not growth effect. The underlying assumption of above models that all factors of production and saving rate is same for all areas in a country which may not be true. These assumptions may be true at country level and may differ across regions, but the assumption of homogenous factors of production across all regions of a country and constant saving rate for all regions, may not be applicable for regions. Secondly, the assumption of free mobility of factors of production within a country may also be not true because some areas or sectors within country are suitable for certain type of activities and those activities requires certain amount of some factors of production, so it is not possible to shift all factors of production if return from other activities has increased.

In Pakistan, before the 18th amendment in the constitution, the major chunk of resources was in the hand of federal government. Thus, fiscal and monetary policies were the driving force for economic growth in Pakistan.

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The provinces of Pakistan have not been benefitted equitably, from the national development plans and policies. As a result, some provinces are left behind in the development process.

Particularly, the small provinces like Baluchistan are a victim of such unbalanced economic policies

The people of these provinces feel deprived and this deprivation has reached to a level that separation movement has been emerged in this provinces. In other words, the fruits of economic growth have not been equitably distributed among the provinces of Pakistan. Many theories have been developed to understand sources of economic growth, as well as, these theories set a path to economic growth i.e. Balanced and Unbalanced Economic Growth Theories etc. Similarly, one of the major goals of regional development is equitable economic development. Given the above background, this study is focused to analyze the growth differentials at Province (regional) level and the impact of fiscal and monetary policy on the regional growth in Pakistan.

The provinces are governed by separate provincial governments and have unitary authorities. However, they depend upon National Finance Award, for their major financial needs. So, the national economic growth depends on the economic policies adopted by the central government and provincial government. On the other hand, the central bank design the monetary policy for the country as whole.

Objectives of the Study |

As discussed above the main focus of this paper is to estimate the growth differentials between provinces and estimating the factors that contributes into the regional disparities in Pakistan. In this regard, the study will answer the following research question:

- I. Does the centralized Fiscal and Monetary policies lead to economic growth differentials between Provinces?
- II. Study will estimate the determinants of economic growth at provincial level and the role of Fiscal and Monetary variables on the regional (province) growth in Pakistan.

The study contributes into existing literature by identifying the role of centralize policies in economic disparities within country. The need for equitable distribution of the fruits of economic growth is highlighted on the basis of empirical evidences.

The paper is organized as follows: Section II, reviews the literature on the subject. Section III, describes the methodology and the data. Section IV, presents the results and discussion, and section V, presents the conclusions and policy recommendations.

Literature Review

The economic growth process was considered a result of capital accumulation (Roll (1938), Hahn and Matthew (1964), Madison (1991)). The rationale was save more and invest more, which is driving force for growth. The availability of capital helps to have an access to improved machinery which raises productivity of workers; the integrated process leads to accelerate economic growth of a country. So, to promote investment, capital will be supplied by higher rates of saving. Harrod (1939) and Domar (1947a, 1947b) used Keynesian model assumed constant rate of saving and capital output ratio in deriving a simple formula for economic growth. In their model, the rate of growth of output related to the rate of saving and capital

output ratio, Solow, (1956) and Swan, (1956), Ramsey (1928), Cass (1965), and Koopmans (1965) and Diamond (1965) further developed their models to analyze the cross country economic growth differences. They assumed that capital, labor, and knowledge are inputs, and these are combined to produce output in a country. It also assumed that labor and knowledge grow at a constant rate and savings are exogenous; although others considered that savings are related to income. The models showed that saving rate has a level effect on output but not growth effect. The underlying assumption of above models that all factors of production and saving rate is same for all areas in a country, which may not be true.

(Ajisafe and Folorunso, 2002) analyzed the role of demand switching policies on the economic growth. The multiplier effect is used to estimate the impact of fiscal and monetary policies on the economy. In macroeconomic policy framework fiscal and monetary policies are of huge essence. Relative policy importance for macroeconomic stability has been subjected to debate for a long period of time. The debate starts with Keynesian framework and monetarist proposition and it never ends.

Cyrus and Elias (2014) verified fiscal dominance in economic growth. While Wagner (1890) claimed reverse causation among these variables imply endogeneity of fiscal policy also proved by (Ansari, Gordon and Akuamoah, 1997). Neoclassical tradition about crowding out effect on output challenged Keynesian proposition (Spencer and Yohe, 1970). Monetarists support monetary policy dominance in output and inflation determination (Scarth, 2014).

Armstrong and Taylor (2000) discussed the regional output growth as a result of three important variables. In above diagram three block (I) Growth of capital stock (II) Growth of labor force (III) Technical progress is discussed by authors that explain the output growth of any particular region. Whenever, there is an increase in the rate of return of the capital stock of a region relative to other, it will eventually lead to net inflows of capital to that region thus, increasing the capital stock of that particular region. The other channel of the growth in capital stock is increase in saving rate of the region, which will increase the investment of the residents and will eventually increase the capital growth of the region.

Regional Disparities in Pakistan

The growth of provinces and their regional differences was discussed by Pasha (2015). The author argued that during Musharraf period, the economic growth of Sindh was highest as around 6 percent, which was more than the growth of national economy. Therefore, the growth rate of Sindh has declined significantly; as it was 2 percent from 2008-09 to 2012-13. Recently, again some improvement was seen in Sindh. In Punjab during Musharraf period, economic growth was lower than the national economy. Surprisingly the KPK has maintained its growth rate around 5 percent in last fifteen years and Baluchistan turned out to be struggling economy as its growth rate did not exceed 3 percent in last fifteen years. As a result, the people of Baluchistan are now suffering from great deprivation and exclusion in today time period. Hardly, any focused policy was there to integrate the deprived provinces.

Hussain (1993) argued that in Pakistan overtime, there has been a lot of changes in the income of provinces but at the same time the inequality has also been increased both in interprovincial and intra-provincial. Further, this inequality has led to the increase in poverty within regions and across regions. Such an outcome leads to deprivation and neglect of specific segment of the

society and area which is undesirable fruits of economic growth. The author quoted different studies that highlights the fact that regions which has high infrastructure development have attained high per capita income over time as compared others. In 1959-60, Karachi accounted for 39 percent of the value added industry followed by Lahore and Faisalabad, hence the total value added industry in these three districts accounts for 60 percent of the total industrial activities in Pakistan. On the other hand, industrial sector in Baluchistan was almost neglected. But with the passage of time, in addition to above cited developed districts, the surrounding districts also enjoyed agglomeration economics and caught up more industrial activities i.e. in Faisalabad, Sialkot, Gujranwala and Sheiku-pura and Gujrat etc., in Punjab. Karachi still accounts for 35 percent of the value added in industrial output and the central Punjab that includes Sheikhpura and northern Punjab that includes Jhelum accounts for 19 percent of the industries in Pakistan. However, in Sindh only growth has been taken place in Dadu and Hyderabad. The provinces of Baluchistan and KPK were not able to benefit from such industrial activities.

Jamal (2015) estimated the spatial disparities in socio economic development of Pakistan and found that the in urban areas, the per capita income of urban Sindh was highest and urban Baluchistan was lowest among provinces. But with rural per capita income, the case is little different as the rural per capita income of KPK and Baluchistan was slightly higher than Sindh; mainly due to agricultural dominated activities and lack of industrialization.

Nazir, M and Yasin, H.M (2011) analyzed economic growth and regional convergence in Pakistan. The authors found that in Pakistan, the regional disparities are not only due to difference in culture or demography but much of the regional disparities lies in the diversities of social and economic development among regions. The authors used the data set from 1979 to 2005 in a panel form to find out the absolute and conditional convergence among regions. The authors found that only the period of 1979-1988 showed convergence which is due to the fact that economic performance was better during the period, as growth rate was high and inflation was low. Besides an increase in worker's remittances increased the living standards of the people, across provinces.

Data, Theoretical Framework and Methodology

Province wise data is hardly available. What so ever the data is there, it is compiled from national data base, therefore, no such data is available which may have good quality and based upon field survey. Now some data for provinces like GDP data, is available, which is used for macroeconomic analysis.

Data Sources

Bangalli (1995) made very first attempt to decompose the national GDP into province wise GDP. The study gives estimate for province wise GDP from 1973 to 1990 at 1980-81 prices. Bangalli (2005) updated the estimate of province wise GDP from 1973 to 2000. The IPR (2015) provides recent estimate of the province wise GDP from 2000 to 2015 at base of 2005-06. The first task is to construct a consistent series of province wise GDP from 1973 to 2015. We have used standard rebasing method for construction of a consistent series. Equation one below is utilized for this purpose. Table 3.1, below, presents the list of important variables, indicators and data sources for provinces pertaining to private consumption, investment level and money supply etc. Whenever

data is not available, such gaps are filled by using appropriate methodology to carryout research on issues for which regional information is not available.

Table 3.1: Province-wise Indicators and Data Sources

| Variable | Allocators* | Data Source |
|---|---|--|
| Province wise GDP | | SPDC and IPR |
| Province wise Household Consumption | | Household Integrated Economic Survey (HIES), by Pakistan Bureau of Statistics (PBS). |
| Province Wise Private Gross Fixed Capital Formation | Share in bank Credit and Advances | State Bank of Pakistan, publication year (SBP) |
| Province wise Public Gross Fixed Capital Formation | Share of Provincial ADP and Allocation of Federal PSDP by origin and Population | Fiscal Operations, Provincial and Federal Budgetary Documents |
| Province wise employment | Employment in numbers | Labour Force Survey, PBS |
| Province wise Money Supply | Share in bank Credit and Advances | SBP |

*where data is available at aggregated level, decompose data by province by using relevant indicators.

Theoretical Framework

Equation 1 below is the standard equation used by Solow (1996) and many studies which have extended to incorporate other determinate of economic growth.

$$Y_t = f(A_t L_t K_t) \dots \dots \dots (1)$$

Where, at time t; Y_t is the output in an economy, A_t is efficiency of the production function of a country, L_t is the amount of labor available in a country, K_t is the amount of capital available in a country. The equation 2 is the more general which incorporates more determinates of output used by various studies:

$$Y_t = f(X_t, G_t, M_t, FT_t, FS_t, INS_t) \dots \dots \dots (2)$$

Where, at time t; Y_t is the output in an economy, X_t is the vector of supply side determinates of output an economy, G_t is the vector of demand side and fiscal determinates of output in an economy, M_t is the vector of monetary determinates of output in an economy, FT_t is the vector of foreign sector determinates of output in an economy, FS_t is the vector of financial sector determinates of output in an economy, INS_t is the vector of institutional determinates of output in an economy.

After identifying the conventional growth determinants from the theory, the first model will estimate the growth determinants of Provinces. There are two ways of estimating the conventional model, first we estimate equation for each province separately and then do coefficient comparisons. But the disadvantage of this method is that we are not able to analyze the different impact of Federal Policies which are same for all regions, like tax rate, policy rate, etc. on different regions.

The above problem can be resolved by using a panel data analysis. Then equation 2 can be written as follows:

$$Y_{it} = f(X_{it}, G_{it}, M_{it}, FT_{it}) \dots \dots \dots (3)$$

Where, at time t ; Y_{it} is the output for i^{th} province, X_{it} is the vector of supply side determinates of output in an economy, G_{it} is the vector of demand side and fiscal determinates for i^{th} province, M_{it} is the vector of monetary determinates for i^{th} province, FT_{it} is the vector of foreign sector determinates for i^{th} province.

In the above equation 3, variables of financial sector and institutional has been dropped as they were present in equation 2. The reason is that equation 2 identifies the determinants of growth which different studies have been opted but as in the present study model 1 is using data on provinces within time period across cross-sections for all provinces. So, the non-availability of information regarding institutional and financial data at provincial level might disturb the model, hence the basic model has eliminated these variables.

Methodology

The study uses panel data for analysis, we have four provinces (cross sections) and data from 1990 to 2015. Since the GDP growth estimates are developed by different studies from 1973 to 2015 as explained above.

To test the impacts of fiscal and monetary policies, we have estimated the equation 4. This enables us the estimation and analysis of differential impacts of fiscal and monetary policies on provincial growth.

$$Y_{i,t} = \alpha_i + Z_{i,t}\beta_1 + PFP_{i,t}\beta_2 + FFP_t\beta_3 + MS_{i,t}\beta_4 + \mu_i \dots \dots \dots (4)$$

$Z_{i,t}$ is the vector of controlled variables. $PFP_{i,t}$ is the vector for province-wise fiscal policy variable, FFP_t is the federal fiscal policy variables vector and $MS_{i,t}$ is province-wise monetary policy variables vector. α_i allows us to estimate the impact of different variables on different provinces.

Firstly, I decompose total expenditures into current and development expenditures for provincial government and federal government separately and analyze the impacts of both on provincial growth.

Estimation Technique

As explained above that we have data for four provinces from 1990 to 2015 which implies that we will use panel data estimation technique rather than time series analysis. The biggest advantage of panel data is that it allowed us to capture the province specific effects and differential impact of a particular variable on province. On the basis of the Hausman test, this study adopts the Fixed Effect model.

Empirical Evidences and their implications

This section presents the findings of the study. The fixed effect coefficients of the equation given in the previous section are shown in below table 4.1. The values of the coefficients show that from Model 1 to Model 4, the fixed coefficients are relatively stable. When fiscal expenditures are included in model 5 the coefficient values relatively show some improvements and the disparities among provinces are slightly reduced. However, in model 6 when the monetary variable is included the coefficient values changes significantly and the disparities

among provinces increased. The large provinces Punjab and Sindh benefited more than the small provinces KPK and Baluchistan, due to the inclusion of monetary variable. The final model 6 shows that GDP growth of the provinces are monetary phenomenon rather than fiscal and the growth differentials between large and small provinces increased due to the monetary factors. The economy of small province like Baluchistan is hardly integrated into the financial markets. The monetary institutions are also not widely spread in the province.

Table 4.1: Fixed effect coefficients of the Growth models

| Provinces | Fixed Effect Coefficients | | | | | |
|-------------------------------|---------------------------|---------|---------|---------|---------|---------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
| Baluchistan | -0.011 | -0.004 | -0.005 | -0.004 | -0.004 | -0.019 |
| KP | 0.008 | 0.008 | 0.008 | 0.007 | 0.007 | -0.008 |
| Punjab | 0.003 | -0.001 | -0.001 | 0.000 | -0.001 | 0.014 |
| Sindh | 0.000 | -0.002 | -0.003 | -0.003 | -0.003 | 0.013 |
| Difference Punjab-Sindh | 0.0022 | 0.0008 | 0.0022 | 0.0022 | 0.0019 | 0.0007 |
| Difference Punjab-KP | -0.0048 | -0.0092 | -0.0086 | -0.008 | -0.0077 | 0.0213 |
| Difference Punjab-Baluchistan | 0.0134 | 0.0025 | 0.0043 | 0.0038 | 0.0031 | 0.0323 |
| Sindh-KP | -0.007 | -0.01 | -0.0108 | -0.0102 | -0.0096 | 0.0206 |
| Sindh-Baluchistan | 0.0112 | 0.0017 | 0.0021 | 0.0016 | 0.0012 | 0.0316 |
| KPK – Baluchistan | 0.0183 | 0.0117 | 0.0129 | 0.0118 | 0.0108 | 0.0111 |

Source: Author's estimate

As explained in methodology, cross sectional dummy variables in the fixed effect model allows to estimate the impact of particular variables across cross sections. The table above (4.1) shows the fixed effect coefficients for each model. The difference between two coefficients shows the difference in growth in the presence of particular set of variables. Further, the change in the coefficients by introducing a new variable in the model gives the impact of that particular variable on the GDP growth of that particular province.

Each column in the above table shows the impact of a particular variable on the regional growth differential. The model is used as the base model and it may be said that it indicates growth differential among the provinces. The result shows that Punjab has a higher growth rate as compare to Sindh and Baluchistan, because the difference between fixed effect coefficients is positive. However, the growth of Punjab is less than KPK; as the values of coefficients from model 1 to 5 are negative and less than the growth of KPK. The final model i.e model 6 shows the coefficient differentials are positive showing that growth of Punjab was higher than KPK province.

Provincial Current Expenditure

The model 3 is the first model that capture the impact of provincial current expenditure on the growth of the province.

Punjab and Sindh

According to model 2 the difference between Punjab and Sindh growth is 0.0008 percent this implies that the growth of provincial private investment expenditures affected positively more to the GDP growth of Sindh than GDP growth of Punjab. The provincial current expenditures added in model 3 the differential in GDP growth increased to 0.0022 percent.

Punjab and KPK

The GDP growth disparities between Punjab and KPK show that in basic model 2 growth differences was -0.0092 percent showing that GDP growth of KPK more than the GDP growth of Punjab if we have same level of investment in Punjab and KPK.

When we have added the growth of provincial current expenditures model 3 the GDP growth differential reduced to -0.0086 percent in model 3 as compared to -0.0092 percent in model 2. This shows that the provincial current expenditure has reduced the growth differential among Punjab and KPK.

Punjab and Baluchistan

The GDP growth difference of Punjab and Baluchistan in basic model 2 show that the GDP growth difference between Punjab and Baluchistan was 0.0025 percent. The model 3 shows that the provincial current expenditures has increase the growth disparities between Punjab and Baluchistan. The growth differential has slightly raised to 0.0043 percent. This means provincial current expenditures effect GDP growth of Punjab more than the GDP growth of Baluchistan.

Sindh and KPK

The GDP growth difference of Sindh and KPK was -0.01 in model 2 percent indicating that growth of provincial private investment expenditures is affecting GDP growth of KPK more than Sindh. Further, when growth of provincial current expenditure is added in model 3 the disparity further increases to -0.0108 percent indicating that provincial current expenditures are effecting more significantly to the GDP growth of KPK than Sindh.

Sindh and Baluchistan

The GDP growth differentials of Sindh and Baluchistan is 0.0017 percent in model 2 and by adding growth of provincial current expenditures it has increased and become 0.0021 percent in model 3. It means that provincial growth of current expenditures increases GDP growth of Sindh over Baluchistan.

Baluchistan and KPK

The GDP growth difference of KPK and Baluchistan in model 2 is 0.0117 percent and when growth of provincial current expenditure is added in the model 3 the GDP growth disparities increased to 0.0129 percent indicating that growth of provincial current expenditures is effecting GDP growth of KPK more than Baluchistan.

The table 4.2 gives the per capita expenditures by province from 1990 to 2015. It is important to note that the Punjab has the lowest per capita expenditures and Baluchistan has the highest per capita expenditures both in 1990 and 2015. This shows that the province with the higher level of current expenditure is not having that much GDP growth rate this shows that the structural differences the efficiency in utilizing the expenditure is very important for the growth.

Table 4.2: Per capita current provincial expenditures 1990-2015 (Rs.)

| | 1990 | 2015 | Average annual Growth |
|-------------|-------------------------|---------------------------|-------------------------|
| Punjab | 421 (4 th)* | 6,374 (4 th) | 11.5 (3 rd) |
| Sindh | 530 (3 rd) | 8,335 (3 rd) | 11.6 (2 nd) |
| KP | 661 (2 nd) | 8,598 (2 nd) | 10.8 (4 th) |
| Balochistan | 826 (1 st) | 13,325 (1 st) | 11.8 (1 st) |

*ranking on the basis of per capita expenditures and rate of growth.

Source: Handbook of Pakistan Economy and Author's estimate

Provincial Development Expenditure

The model 4 in the table 4.1 shows the impact of provincial development expenditures on the regional growth differential among provinces.

Punjab and Sindh

The growth differential between Punjab and Sindh in model 3 remained unchanged by adding the provincial development expenditure into model 4. So, development expenditure does not change the growth differential among Punjab and Sindh.

Punjab and KPK

The GDP growth disparities between Punjab and KPK in model 3 was -0.0086 percent and by adding the provincial development expenditure it has decreased to -0.008 percent. This shows that the provincial development expenditure has reduced the growth differential among Punjab and KP.

Punjab and Baluchistan

The GDP growth difference of Punjab and Baluchistan in model 3 was 0.0043 percent and when growth of provincial development expenditure is added in model 4 the GDP growth disparities reduced to 0.0038 percent. This means provincial development expenditure effect GDP growth of Punjab more than the GDP growth of Baluchistan.

Sindh and KPK

The GDP growth difference of Sindh and KPK was -0.0108 percent in model 3 and after adding provincial development expenditures the difference between GDP growth rates of two provinces has decreased to -0.0102 percent in model 4.

Sindh and Baluchistan

The GDP growth differentials of Sindh and Baluchistan in model 3 was 0.0021 percent and it has become 0.0016 in model 4 by adding provincial development expenditures.

Baluchistan and KPK

The GDP growth difference of KPK and Baluchistan in model 3 was 0.0129 percent and it has become 0.0118 in model 4. This indicates that growth of provincial development expenditures is affecting GDP growth of KPK more than Baluchistan.

The above analysis shows that the provincial development expenditure has decrease the regional difference significantly and the main reason is the higher development expenditures by small provinces like Baluchistan and KPK. The table 5.4 given below the per capita development expenditures by four provinces from 1990-2015. The growth in per-capita development expenditure is highest in Sindh followed by KPK, Punjab and Baluchistan for the time period of 1990-2015.

Per Capita provincial development expenditures from 1990-2015. (Rs.)

| | 1990 | 2015 | Growth Rate (%) |
|-------------|------|-------|-----------------|
| Punjab | 122 | 2,019 | 11.9 |
| Sindh | 129 | 2,892 | 13.2 |
| KP | 225 | 4,072 | 12.3 |
| Balochistan | 436 | 5,126 | 10.4 |

Source: Handbook of Pakistan Economy. State Bank of Pakistan (SBP)

Federal Expenditures

After looking at the impact of provincial expenditure now we are looking at the federal expenditures and their impact on regional disparities in Pakistan. Model 5 in table 4.1 give the parameters and fixed effect coefficients for the federal Expenditure.

The model 4 in the table 4.1 shows the impact of provincial development expenditures on the regional growth differential among provinces.

Punjab and Sindh

The growth differential between Punjab and Sindh in model 4 was 0.0022 percent and by adding federal expenditure the growth differential decreased to 0.0019 percent in model 5. This shows that the federal development expenditures has reduced the growth differential between Punjab and Sindh.

Punjab and KPK

The GDP growth disparities between Punjab and KPK in model 4, is -0.0080 percent. The federal expenditure has reduced the GDP growth disparities between Punjab and KP to -0.0077 percent in model 5.

Punjab and Baluchistan

The GDP growth difference of Punjab and Baluchistan in model 4, is 0.0038 per cent and it has decreased to 0.0031 percent in model 5. So the federal expenditure has reduced the regional difference between Punjab and Baluchistan.

Sindh and KPK

The GDP growth difference of Sindh and KPK was -0.0102 percent in model 4 and it has decreased to -0.0096 percent in model 5.

Sindh and Baluchistan

The GDP growth differentials of Sindh and Baluchistan in model 4 was 0.0016 percent and it has decreased to 0.0012 percent in model 5.

Baluchistan and KPK

The GDP growth difference of KPK and Baluchistan in model 4 was 0.0118 percent and it has decreased to 0.0108 percent in model 5. The growth differential among Baluchistan and KP has decreased due to federal government expenditures.

The above analysis reveals that the federal government expenditures reduced the regional growth differential between provinces. The findings by Khan, R. and B. Jabeen Hashmi (2015) also

confirm that federal government expenditures are very important for reducing the income inequality among household

Punjab and Baluchistan

The GDP growth difference of Punjab and Baluchistan in basic model 2 show that the GDP growth difference between Punjab and Baluchistan was 0.0025 percent. The model 3 shows that the provincial current expenditures has increase the growth disparities between Punjab and Baluchistan. The growth differential has slightly increased to 0.0043 percent. This means provincial current expenditures effect GDP growth of Punjab more than the GDP growth of Baluchistan.

Sindh and KPK

The GDP growth difference of Sindh and KPK was -0.01 in model 2, indicating that growth of provincial private investment expenditures is affecting GDP growth of KPK more than Sindh. Further, when growth of provincial current expenditure is added in model 3, the disparity further increases to -0.0108 percent; indicating that provincial current expenditures are affecting more significantly to the GDP growth of KPK than Sindh.

Sindh and Baluchistan

The GDP growth differentials of Sindh and Baluchistan is 0.0017 percent in model 2 and by adding growth of provincial current expenditures, it has increased to 0.0021 percent in model 3. It means that provincial growth of current expenditures increases GDP growth of Sindh more as compared to Baluchistan.

Baluchistan and KPK

The GDP growth difference of KPK and Baluchistan in model 2 is 0.0117 percent and when growth of provincial current expenditure is added in the model 3 the GDP growth disparities increased to 0.0129 percent indicating that growth of provincial current expenditures is effecting GDP growth of KPK more than Baluchistan.

The major chunk of development expenditure is with the federal government and it also implement mega projects. Therefore, it is important to analyze the federal expenditures and their impact on regional disparities in Pakistan. Model 5 in tables 4.1 provides the results of fixed effect coefficients for the federal Expenditures.

Impact of Federal Public Expenditure

The growth differential between Punjab and Sindh in model 4 was 0.0022 percent and by adding federal expenditure the growth differential decreased to 0.0019 percent, in model 5. This shows that the federal development expenditures have reduced the growth differential between Punjab and Sindh, which are the largest provinces.

The GDP growth disparities between Punjab and KPK in model 4, is -0.0080 percent. The addition of federal expenditure has reduced the GDP growth disparities between Punjab and KP to -0.0077 percent in model 5.

The GDP growth difference of Punjab and Baluchistan in model 4, is 0.0038 per cent and it has slightly decreased to 0.0031 percent in model 5. So the federal expenditure has slightly reduced the regional difference between Punjab and Baluchistan.

The GDP growth difference of Sindh and KPK was -0.0102 percent in model 4 and it has slightly decreased to -0.0096 percent in model 5.

The GDP growth differentials of Sindh and Baluchistan in model 4 was 0.0016 percent and it has also slightly decreased to 0.0012 percent, in model 5.

The GDP growth difference of KPK and Baluchistan in model 4 was 0.0118 percent and it has also slightly decreased to 0.0108 percent, in model 5. The growth differential among Baluchistan and KPK has decreased due to federal government expenditures, but this affect was not very significant.

The above analysis reveals that the federal government expenditures slightly reduced the regional growth differential between provinces. The findings by Khan, R. and B. Jabeen Hashmi (2015) also confirm that federal government expenditures are very important for reducing the income inequality among household. The evidences that indicate that federal public expenditures did not lead to disparities among provinces; rather it helped to slightly reduce it.

The Impact of Money Supply growth and Financial Market

The financial market and money supply may have impact on regional growth difference. The empirical evidences indicated that the money supply has a significant impact on the GDP growth, but its impact on regional difference needs to be explored. The model 6 in the table 4.1 provides the impact of money supply on regional growth difference in Pakistan. The details are given below

Punjab and Sindh

The growth differential between Punjab and Sindh in model 5 was 0.0019 percent. The growth differential has further decreased to 0.0007 percent, when money supply was added to the model. This shows the money supply effects the growth of Punjab more as compare to growth of Sindh, the growth differentials have been reduced significantly between the two large provinces.

Punjab and KPK

As well as Punjab and KPK is concerned, the GDP growth disparities between Punjab and KPK in model 5 was, -0.0077 percent, but when money supply is added to the model, the GDP growth differences between Punjab and KPK has increased to 0.0213 percent, in model 6, showing that monetary policy benefited GDP growth of Punjab more than KPK. The drastic positive impact of monetary policy upon growth of Punjab has increased the growth differentials at higher rate between Punjab and KPK. It was pointed out that Punjab being the larger province, it has relatively developed financial market, which turn out to be contribute more to its growth. As a result, the smaller province (KPK) was affected and regional disparities increase between these provinces.

Punjab and Baluchistan

The GDP growth difference of Punjab and Baluchistan in model 5 was, 0.0031 percent and it increased to 0.0323 percent in model 6; after including money supply variable. That again shows that money supply benefited Punjab more than Baluchistan. The case of monetary policy with Punjab and Baluchistan is similar to that of Punjab and KPK. The monetary policy has significantly increased the growth of Punjab, which resulted into the increasing of growth differentials between Punjab and Baluchistan. In nutshell, larger province (Punjab) and small province KPK and Baluchistan happen to increase inequalities in growth due to different level of money supply and development of financial markets.

Sindh and KPK

The GDP growth difference of Sindh and KPK was -0.0096 percent in model 5 and it has increased to 0.0206 percent in model 6. This shows that the monetary policy benefited Sindh more than KPK. The growth differentials between Sindh and KPK increased due to monetary phenomenon.

Sindh and Baluchistan

The GDP growth differentials of Sindh and Baluchistan in model 5 was 0.0012 percent and it increased to 0.0316 percent in model 6. Such increase in growth differentials reveal the impact of monetary policy on provincial growth of Sindh as compared to Baluchistan. The above cited evidences indicated that growth differential increased between Sindh, KPK and Baluchistan.

KPK and Baluchistan

The GDP growth difference of KPK and Baluchistan in model 5 was 0.0108 percent and it almost remained same i.e. to 0.0111 percent in model 6. Thus monetary phenomenon was not very affective in the small provinces.

The above analysis indicated that the monetary policy has increased the growth differential among provinces. As already pointed out that that the fiscal policy did not increase the growth inequalities between provinces in Pakistan. However, the monetary policy has widened the growth difference between provinces; particularly the small provinces did not benefit from it.as a result growth differential increased among small provinces and larger provinces.

The following table 4.4 below shows the variation in the financial development in the Provinces. It is important to note that there is a significant variation in deposits and advances between provinces. The distribution of advances is more skewed towards large provinces as compare to deposits. Moreover, the growth of deposits and advances are high in Punjab and Sindh as compared to, KPK and Baluchistan. This justify earlier findings regarding the impact of monetary policy and financial market on growth of provinces.it also indicates that informing financial markets in small province could benefit them, and it could also help to reduce growth differential among provinces.

Table 4.4: Share of provinces in deposits and advances (%).

| | Deposits | Advances |
|-------------|----------|----------|
| Punjab | 53.1 | 55.5 |
| Sindh | 36.0 | 43.1 |
| KP | 8.5 | 1.2 |
| Balochistan | 2.3 | 0.2 |

Source: Handbook of Pakistan Economy SBP and estimated by author

In brief, the above analysis reveals that the fiscal policy did not contribute to regional difference in terms of growth among provinces in Pakistan, but the monetary variables has led to increase in the regional growth differences in Pakistan. The main reason is the financial development across provinces.

Conclusions and Recommendations

The empirical evidence indicated the fiscal development could slightly help to reduce growth differentials among provinces. The fiscal expenditure policies adopted by federal government almost equitably affected all provinces.

However fiscal expenditure policies opted by the provincial governments could reduce growth differentials among provinces; if these are made a formulated carefully. The provincial expenditures are by respective provincial governments has increased growth differentials between Punjab, Sindh and small provinces. The increase in growth differentials between Punjab and Sindh appear to be the result of an increase in provincial expenditures. Punjab is the largest province among all provinces, so to carry out provincial affairs high amount of the provincial expenditures are spent on current expenditures. These current expenditures do not contribute significant to the growth of the provincial economy. Therefore, its impact towards growth differential was not in this respect. The coefficients of provincial development expenditures indicated that by adding provincial development expenditures the parameter values from Punjab to Sindh remained unchanged. There is also a need to improve development expenditures for all provinces, particularly, small provinces need to bring in to the main framework of development. The monetary variables show entirely different picture as shown by fiscal variables. The inclusion of monetary variable in the model, it indicated a reduction growth differential between Punjab and Sindh. However, the growth differentials between Punjab and two small provinces KPK and Baluchistan have increased. Moreover, the growth differentials between Sindh and other two small provinces KPK and Baluchistan have also increased. Even the growth differentials between the two small provinces have increased too. Thus, monetary variables explained more about growth differential among provinces.

This analysis revealed two important findings. Firstly, fiscal policies did not contribute growth differentials between provincial economies. However, monetary policies increased growth differentials between large provincial economies, and also between large and small provinces.

The above findings help to improve fiscal and monetary policies for provincial economies. The governments should adopt fiscal measures more to reduce provincial growth inequalities. Moreover, effective use of both fiscal policy and monetary policy can help to improve growth differential among provinces. It has also been pointed out that financial developments in Punjab and Sindh have led to improve the economies of large provinces. So to achieve overall high growth and for equitable distribution of the fruits of economic growth it is important to improve more fiscal measure for all provinces. However monetary policy as it is centrally controlled and easily managed in comparison to fiscal policy, actually shows its benefits to small provinces. To reduce these growth differentials between large and small provinces, in most of the cases government may opt for policy mix; along with monetary and fiscal policy

References

- Aghion, Philippe, and Howitt, Peter. (1992). A Model of Growth through Creative Destruction. *Econometrica* 60 (March): 323–351.
- Asteriou, D., Agiomirgianakis, G.M. (2001). Human capital and economic growth: time series evidence from Greece, *Journal of Policy Modeling*, 2001, Vol. 23, No 5, p. 481-489.
- Azam, M. & Khattak (2009). Empirical Analysis of The Determinants Of Economic Growth In

Pakistan, 1971-2005. *Sarhad J. Agriculture*. Vol.25, No.2, 2009.

Baer, W. (1964). Regional Inequality and Economic Growth in Brazil. *Economic Development and Cultural Change*, 12(3), 268-285. Retrieved from <http://www.jstor.org/stable/1152261>.

Belton, F., Haizheng, L., & Min Qiang Zhao (2010), Human capital, economic growth, and regional inequality in China. *Journal of Development Economics*, Volume 92, Issue 2, July 2010, Pages 215-231.

Cass, David. (1965). "Optimum Growth in an Aggregative Model of Capital Accumulation." *Review of Economic Studies*. 32 (July): 233-240.

Chaudhary M. Aslam, (1989), Agricultural Development and public Policies in Pakistan, Izhar Sons, Lahore.

Chaudhary M. Aslam, (1990), Economic Growth and Regional Disparity in Production Activities in Pakistan), *Pakistan Economic & Social Review*.

Diamond, Peter A. 1965. "National Debt in a Neoclassical Growth Model." *American Economic Review* 55 (December): 1126-1150.

Grossman, Gene M., and Helpman, Elhanan. 1991a. Innovation and Growth in the Global Economy. Cambridge, MA: MIT Press.

Iqbal, Z., & Malik, N. (1993). Institutional Variations in Saving Behaviour in Pakistan. *The Pakistan Development Review*, 32(4), 1293-1311. Retrieved from <http://www.jstor.org/stable/41259735>.

Iqbal, Z., & Zahid, G. (1998). Macroeconomic Determinants of Economic Growth in Pakistan. *The Pakistan Development Review*, 37(2), 125-148. Retrieved from <http://www.jstor.org/stable/41260096>.

Jenkins, H. (1995). Education and production in the United Kingdom, Oxford: Nuffield College, (Economics discussion paper, No 101)

Khan, Jangraiz (2012), The Role Of Human Capital In Economic Growth Of Pakistan (1971-2008).

Ph. D. thesis, University of Peshawar, Peshawar.

Koopmans, Tjalling C. (1965). On the Concept of Optimal Economic Growth. In *The Economic Approach to Development Planning*. Amsterdam: Elsevier.

Ramsey, F. P. (1928). A Mathematical Theory of Saving. *Economic Journal* 38 (December): 543-559.

Romer, Paul M. (1990). "Endogenous Technological Change." *Journal of Political Economy*.

Shabbir, T., and A. Mahmood (1992) The Effects of Foreign Private Investment on Economic Growth in Pakistan. *The Pakistan Development Review*. 31:4 831-841.

Solow, Robert M. (1956). "A Contribution to the Theory of Economic Growth." *Quarterly Journal of Economics*. 70 (February): 65-94.

Swan, T. W. (1956). "Economic Growth and Capital Accumulation." *Economic Record* 32 (November): 334–361.

Ullah, S., Khan, S. & Ullah, F. (2014). "Assessment of key determinants for economic growth in Pakistan", *Journal of Theoretical and Applied Economics*, Volume XXI (2014), No. 9(598), pp. 103-114.