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# The Dynamic Effect of Fiscal Decentralization on Economic Growth: Role of Governance and Macroeconomic Stability

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**Abstract** *This study investigates the effects of decentralization on output growth in the case of South Asian countries over the period of 1996 to 2018. Further, the study investigates the existence of complementarities between fiscal decentralization with the quality of institutions and macroeconomic stability is affecting economic growth. In order to obtain some flawless results, the study uses a more state-of-the-art technique. The results of Westerlund's cointegration test confirm the existence of a long run equilibrium between economic growth and its determinants such as decentralization, human capital, investment, budget deficit, trade openness, governance, and macroeconomic stability. The results of the CS-ARDL method confirm that fiscal decentralization is positively linked with growth, as suggested by the theory. The results further show that the decentralization - growth nexus is strengthened with the improvement in governance and macroeconomic stability. Hence, it is not only fiscal decentralization but its interaction with other factors that enhance output growth.*

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## Introduction

Public policies are vital to enhance the potential for growth and efficient allocation of resources by improving governance issues (Curristine *et al.*, 2007). Fiscal decentralization is one of the most important initiatives that have been taken in developing countries. Fiscal decentralization as a tool to enhance economic growth, improvement in public service delivery, improved governance is a debatable issue among public policy experts. There are contradictory empirical evidences regarding the positive and negative effects of fiscal decentralization. Devolution authorizes the lower unit of the State more powerful in terms of financial and administrative autonomy and makes lower units of the state more innovative and efficient (Khattak et al. 2010). According to Suhendra and Amir (2006), fiscal decentralization promotes democracy and makes government more efficient by limiting the power of authority in the federal government. Most of the industrialized and industrializing countries are agreed on the transfer of fiscal autonomy from federal to local governments (Ebel and Yilmaz, 2002).

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According to Rodrigues et al., (2009), in countries with a high level of current expenditures as compared to productive expenditures, decentralization results in lower level of economic growth.

Different countries have embarked upon fiscal decentralization policy in order to achieve the desired goals through fiscal reforms. In the present study, we attempt to explore the role of complementary factors such as macroeconomic stability and governance in the decentralization-led growth phenomena. Fiscal decentralization is also expected to erode or at least minimize corruption in the country. Corruption, which is the abuse of public offices for private gain, is an impediment in the way of economic growth and stability and has been considered one of the most serious problems in developing countries.

With the intentions of improvement in public service delivery and macroeconomic performance, many countries have adopted the policy of fiscal decentralization with a broad decentralization program and have made remarkable progress. Fiscal decentralization leads to low corruption levels because of increased competition between different regions of the state. The governance system of the country also determines the relationship between decentralization and output growth. Therefore, it is essential to examine the decentralization-led growth phenomena in the presence of institutional quality.

The effectiveness of fiscal decentralization also depends on factors such as the governance system and macroeconomic stability of the country. Countries with better quality of governance and macroeconomic stability get more advantages from the process of fiscal decentralization. Hence, it is not only fiscal decentralization but its interaction with other factors that enhance output growth. Moreover, the study aims to investigate the existence of complementarities between fiscal decentralization with the institutional quality and macroeconomic stability in affecting growth. The main objective of this study is to empirically estimate the effects of revenue and expenditure decentralization on output growth in the case of South Asian countries over the period of 1996 to 2018. Moreover, this study examines the complementarities between fiscal decentralization with the quality of institutions and macroeconomic stability that is affecting economic growth. Further, this study examines the causal relationship between fiscal decentralization and corruption.

The study is planned as: the next section presents a literature review. The methodology is given in section 3. Section 4 present the estimation and interpretation of the results. The last section presents the conclusion and policy recommendations.

## Literature Review

The literature on fiscal decentralization is divided into the first-generation theory and the second-generation theory (Oates, 2005). Among others, the most notable work is done by Samuelson (1954, 1955), Arrow (1970), and Musgrave (1959). The issue of fiscal decentralization in affecting macroeconomic performances is investigated by many authors (Ebel et al., 1995; Bird and Vaillancourt, 1997; World Bank, 1999, Thieben, 2001; Wallich, 1994; and Martinez-Vazquez and Ahmad and Hofman, 2001; Bird et al., 2001, Stein, 1997; Burki et al, 1999; Sow and Razafimahefa, 2015; Rodrigues-Pose, et al., 2009; Ahmad et al., 2005; Mello and Barenstein, 2001; Yushkov, 2015). However, the bulk of theoretical and empirical research has not been reached to a conclusion regarding the effectiveness of

fiscal decentralization in the case of developing countries. There are several pieces of evidence which indicate that fiscal decentralization did not provide evidence of affecting output growth in developing countries (Bahl & Linn, 1994). However, this statement may not be widespread for all countries, and there are studies that confirm that fiscal decentralization positively affects growth. Many studies analyzed the effects of decentralization on government's effectiveness (Ahmad et al., 2005; Rodrigues-Pose et al., 2009); governance (Mello & Barenstein, 2001). Sow and Razafimahefa (2015) worked on fiscal decentralization to find its effects on public service delivery effectiveness. The stochastic frontier model was employed in the paper to evaluate the coefficients and investigate the fiscal decentralization effects on efficiency coefficients. It was concluded from the findings that the effectiveness of public service delivery can be improved by fiscal decentralization but solely under a certain environment. First, the process of decentralization needs sufficient institutional and political conditions. Second, to achieve positive outcomes, an adequate amount of expenditure decentralization seems essential. Third, expenditure decentralization requires to be followed by adequate decentralization of revenue. In the absence of those conditions, the public service delivery can be poor by fiscal decentralization.

Rodrigues et al. (2009) investigated the impacts of fiscal decentralization on government efficiency and output growth for the US, Mexico, Spain and India. The authors empirically tested the hypothesis that whether transfers of powers in resources to lower tiers of government allows for efficient allocation of resources. The authors found that countries with a high level of current expenditures as compared to productive expenditures, decentralization result in a lower level of economic growth. Ahmad, Devarajan, Khemani, Shah (2005) evaluated the benefits and costs of diverse outlooks to decentralization in terms of service delivery. The authors find that the association between decentralization and public service delivery is complicated, but however, countries are pursuing decisions that influence the wellbeing of citizens.

Yushkov (2015) worked on the association between decentralization and Russian regional economic progress for the time span of 2005-2012. Panel data were used in the study. Davoodi-Zou's diagnostic structure was employed in the study. The empirical investigation of the regions showed that extreme expenditure decentralization, which was not attended by the respective revenue decentralization level, is pessimistic and significantly associated to regional economic expansion. On the contrary, regional reliance on interstate fiscal allocations from the national center is affirmatively related with the growth of the economy. Khattak et al (2010) analyzed the impacts of decentralization on the economic betterment in the long run. For this cause, time-series data was employed for the time span 1980-2007. Stata-9 and EViews-6 was utilized for the analysis of data. The research showed various matters in the procedure of resource sharing in Pakistan. The crucial matter is that the NFC follows the single principle of the population for the distribution of resources. The study showed that with the passage of time, the addition of some additional taxes in the divisible pool and enlargement in tax collection extended the resource pool. It is concluded that in the past, the resource sharing procedure in Pakistan is not successful to affect economic growth affirmatively in the long run. Sow and Razafimahefa (2015) worked on decentralization to find its effects on public service delivery effectiveness. The

stochastic frontier model was employed in the paper to evaluate the coefficients and investigate the decentralization effects on efficiency coefficients. It was concluded from the findings that the effectiveness of public service delivery can be improved by decentralization but solely under a certain environment. First, the process of decentralization needs sufficient institutional and political conditions. Second, to achieve positive outcomes, an adequate amount of expenditure decentralization seems essential. Third, expenditure decentralization requires to be followed by adequate decentralization of revenue. In the absence of those conditions, the public service delivery can be poor by decentralization.

To sum up, many studies investigated the effectiveness of fiscal decentralization in the case of different economies. However, this study is unique in its nature as it investigates the nonlinear relationship of fiscal decentralization with growth in the presence of governance and macroeconomic stability. The study will add something new to the existing body of knowledge related to fiscal decentralization and its effectiveness by utilizing advanced econometric techniques such as the CS-ARDL approach.

## Research Methodology

### Model Specification

This study analyzes the role of fiscal decentralization in determining the regional economic growth of South Asian countries over the period of 1990 to 2018. The empirical equation is modeled as:

$$y_{it} = \alpha_0 + \alpha_1 Y_o + \alpha_2 FD_{it} + \alpha_3 X_{it} + \alpha_4 GOV_{it} + \alpha_5 MES_{it} + v_t + \mu_{it} \quad (1)$$

Following Barro (2015), the convergence growth equation is augmented by the fiscal decentralization and government size variables.

In order to analyze the role of fiscal decentralization in the wake of high macroeconomic instability, the model is augmented by the interaction terms of fiscal decentralization with macroeconomic instability. Hence, this study utilizes the following equation:

$$y_{it} = \alpha_0 + \alpha_1 Y_o + \alpha_2 FD_{it} + \alpha_3 X_{it} + \alpha_4 GOV_{it} + \alpha_5 MES_{it} + \alpha_6 (FD * MES_{it}) + \mu_{it} \quad (2)$$

Further, to analyze the role of fiscal decentralization in the presence of governance, the model is augmented by the interaction terms of fiscal decentralization with governance. Hence, this study utilizes the following equation:

$$y_{it} = \alpha_0 + \gamma + \alpha_1 Y_o + \alpha_2 FD_{it} + \alpha_3 X_{it} + \alpha_4 GOV_{it} + \alpha_5 MES_{it} + \alpha_6 (FD * GOV_{it}) + \mu_{it} \quad (3)$$

Where i and t indicate province and year, respectively. y represents the real GDP growth rate, X is the growth determinants (such as the degree of openness, budget deficit, investment rate, etc.). GOV represents governance variables from Worldwide Governance Indicators (WGI), MES represents macroeconomic stability. To examine the role of both governance and macroeconomic stability in the association between decentralization and growth, this study includes the interaction terms of both decentralization with governance and macroeconomic stability. Hence, the comprehensive model is given as:

$$y_{it} = \alpha_0 + \alpha_1 Y_o + \alpha_2 FD_{it} + \alpha_3 X_{it} + \alpha_4 GOV_{it} + \alpha_5 MES_{it} + \alpha_6 (FD * GOV_{it}) + \alpha_7 (FD * MES_{it}) + \mu_{it} \quad (4)$$

The descriptions of variable are given as:

## Econometric Methodology

### Unit Root Tests

Before finding the integration order, this study checks Cross-sectional dependence (CSD) and slope heterogeneity (SH) tests respectively. This study uses Cross Sectionally Augmented IPS (CIPS)

statistics, popularized by Pesaran (2007). The general form for the regression is given below as:

$$\Delta W_{i,t} = \varphi_i + \varphi_i Z_{i,t-1} + \varphi_i \bar{W}_{t-1} + \sum_{l=0}^{p} \varphi_{il} \Delta \overline{W_{t-l}} + \sum_{l=1}^{p} \varphi_{il} \Delta W_{i,t-l} + \mu_{it} \quad (5)$$

Where $\bar{Z}_{t-1}$ and $\Delta \overline{Z_{t-l}}$ are the cross-section averages. The CIPS statistic is presented in the following manner:

$$\overline{CIPS} = N^{-1} \sum_{i=1}^{n} CDF_i \quad (6)$$

## Westerlund (2007) Cointegration Test

In order to check the cointegration among variables in models 1 to 4, this study uses Westerlund's (2007) cointegration test. The test uses two group-mean statistics and two-panel statistics.

$$G_\tau = \frac{1}{N} \sum_{i=1}^{N} \frac{\hat{\alpha}_i}{SE(\hat{\alpha}_i)}$$

$$G_\alpha = \frac{1}{N} \sum_{i=1}^{N} \frac{T\hat{\alpha}_i}{\hat{\alpha}_i(1)}$$

$$P_\tau = \frac{\hat{\alpha}}{SE(\hat{\alpha})}$$

$$P_\alpha = T\hat{\alpha}$$

Where $SE(\hat{\alpha}_i)$ represents the standard error of $\hat{\alpha}_i$ .

## Cross-Sectionally Augment ARDL (CS-ARDL)

The next stage is to determine the cointegration vector, which will allow us to assess the long-term impact of decentralization on growth in South Asian countries. This is accomplished through the application of the CS-ARDL approach, which was popularized by Chudik and Pesaran (2013a).

This study estimates the following CS ARDL regression (for model 1):

$$y_t = \alpha_0 + \sum_{j=1}^{p} \lambda_{it} y_{i,t-j} + \sum_{j=0}^{p} \acute{\alpha}_{it} FD_{i,t-j} + \sum_{j=0}^{p} \beta_{it} X_{i,t-j} + \sum_{j=0}^{p} \gamma_{it} GOV_{i,t-j} + \sum_{j=0}^{p} \varphi_{it} MES_{i,t-j} + \sum_{j=0}^{3} \ddot{\upsilon}_{it} \bar{Z}_{i,t-j} + \mu_{it} \quad (7)$$

Where $\bar{Z}_t = (\Delta \bar{y}_{it}, \bar{X}_t', \overline{FDI}_{it}', \overline{GOV}_{it}, \overline{MESI}_{it})'$ and $X_{it} = (L_{it}, K_{it}, CON_{it}, TO_{it})'$.

This study estimates the following CS ARDL regression (for model 2):

$$y_t = \alpha_0 + \sum_{j=1}^{p} \lambda_{it} y_{i,t-j} + \sum_{j=0}^{p} \acute{\alpha}_{it} FD_{i,t-j} + \sum_{j=0}^{p} \beta_{it} X_{i,t-j} + \sum_{j=0}^{p} \gamma_{it} GOV_{i,t-j} + \sum_{j=0}^{p} \varphi_{it} MES_{i,t-j} + \sum_{j=0}^{p} \delta_{it} (FD * MES)_{i,t-j} + \sum_{j=0}^{3} \ddot{\upsilon}_{it} \bar{Z}_{i,t-j} + \mu_{it} \quad (8)$$

Where $\bar{Z}_t = (\Delta \bar{y}_{it}, \bar{X}_t', \overline{FDI}_{it}', \overline{GOV}_{it}, \overline{MESI}_{it}, \overline{FD * MES})'$ and $X_{it} = (L_{it}, K_{it}, CON_{it}, TO_{it})'$.

This study estimates the following CS ARDL regression (for model 3):

$$y_t = \alpha_0 + \sum_{j=1}^{p} \lambda_{it} y_{i,t-j} + \sum_{j=0}^{p} \acute{\alpha}_{it} FD_{i,t-j} + \sum_{j=0}^{p} \beta_{it} X_{i,t-j} + \sum_{j=0}^{p} \gamma_{it} GOV_{i,t-j} + \sum_{j=0}^{p} \varphi_{it} MES_{i,t-j} + \sum_{j=0}^{p} \delta_{it} (FD * GOV)_{i,t-j} + \sum_{j=0}^{3} \ddot{\upsilon}_{it} \bar{Z}_{i,t-j} + \mu_{it} \quad (9)$$

Where $\bar{Z}_t = (\Delta \bar{y}_{it}, \bar{X}_t', \overline{FDI}_{it}', \overline{GOV}_{it}, \overline{MESI}_{it}, \overline{FD * GOV})'$ and $X_{it} = (L_{it}, K_{it}, CON_{it}, TO_{it})'$.

This study estimates the following CS ARDL regression (for model 4):

$$y_t = \alpha_0 + \sum_{j=1}^{p} \lambda_{it} y_{i,t-j} + \sum_{j=0}^{p} \acute{\alpha}_{it} FD_{i,t-j} + \sum_{j=0}^{p} \beta_{it} X_{i,t-j} + \sum_{j=0}^{p} \gamma_{it} GOV_{i,t-j} + \sum_{j=0}^{p} \varphi_{it} MES_{i,t-j} + \sum_{j=0}^{p} \vartheta_{it} (FD * MES)_{i,t-j} + \sum_{j=0}^{p} \delta_{it} (FD * GOV)_{i,t-j} + \sum_{j=0}^{3} \ddot{\upsilon}_{it} \bar{Z}_{i,t-j} + \mu_{it} \quad (10)$$

Where $\bar{Z}_t = (\Delta \bar{y}_{it}, \bar{X}_t', \overline{FDI}_{it}', \overline{GOV}_{it}, \overline{MESI}_{it}, \overline{FD * MES}_{it}, \overline{FD * GOV}_{it})'$ and $X_{it} = (L_{it}, K_{it}, CON_{it}, TO_{it})'$.

## Results

This study is to investigate the impacts of decentralization on growth. Furthermore, the study seeks to determine whether there are any complementarities between decentralization and the quality of institutions as well as macroeconomic

stability in terms of effecting economic growth. Primarily, the study examines CSD and SH, both of which are protentional econometric problems associated with panel data. This study uses the CSD test. The results of the CSD test, which are provided in Table 1, demonstrate the dependence of cross-sections on one another. The test statistics show that the there is evidence of CSD. Correlation coefficients ranging from 0.50 and 0.90 further demonstrate the existence of cross-sectional correlation in the data set.

**Table 1.** Results of Cross-Section Dependence (Pesaran, 2015) Test and Correlation

| Variable | CD-test | Correlation |
|---|---|---|
| Y | 9.75*** | 0.710 |
| ED | 12.69*** | 0.512 |
| RD | 11.93*** | 0.431 |
| L | 16.73*** | 0.643 |
| K | 19.55*** | 0.754 |
| INF | 19.18*** | 0.901 |
| GOV | 5.38*** | 0.584 |
| MES | 17.84*** | 0.633 |
| GS | 11.97*** | 0.38 |
| CE | 11.75*** | 0.421 |

The slope heterogeneity test of Pesaran and Yamagata (2007) is also used in this investigation. The findings show that all four models include slope heterogeneity. All four models have significant test statistics for delta ($\widetilde{\Delta}$) and adjusted delta ($\widetilde{\Delta}_{adjusted}$) implying that these models include slope heterogeneity.

**Table 2.** Results of Slope Heterogeneity Test

| Models | Statistics | Values |
|---|---|---|
| Model-1 | $\tilde{\Delta}$ | 8.541*** |
| | $\tilde{\Delta}_{adjusted}$ | 8.112*** |
| Model-2 | $\tilde{\Delta}$ | 7.187*** |
| | $\tilde{\Delta}_{adjusted}$ | 7.363*** |
| Model-3 | $\tilde{\Delta}$ | 8.911*** |
| | $\tilde{\Delta}_{adjusted}$ | 8.715*** |
| Model-4 | $\tilde{\Delta}$ | 6.091*** |
| | $\tilde{\Delta}_{adjusted}$ | 6.441*** |

The findings of the CIPS test demonstrate that the order of integration of variables is mixed. All variables, with the exception of FD and INV, are integrated of order zero, according to the results of the IPS test. The rest of the variables are stationary at first difference.

**Table 3.** Results of CIPS Panel Unit Root Tests

| | | | |
|---|---|---|---|
| Y | -0.831 | -2.32** | I(1) |
| ED | -0.897 | -2.76*** | I(1) |
| RD | -1.602* | - | I(0) |

| | | | |
|---|---|---|---|
| L | -0.494 | -2.08** | I(1) |
| K | -0.639 | -9.1290* | I(1) |
| INF | -1.948 | -3.0593* | I(1) |
| GOV | 0.267 | -4.63*** | I(1) |
| MES | -0.381 | -2.54** | I(1) |
| GS | -0.712 | -3.65* | I(1) |
| CE | -1.843 | -4.543* | I(1) |

*Note: ***, **, * represents significant at 1, 5 and 10% respectively.*

Table 4 shows the results of the Westerlund (2007) test. The group mean statistics G and G are shown in the first two columns of table 4, while the panel statistics P and P are shown in the next two columns. The findings show that the variables in the models have a stable long-term relationship. For each model, the error correction term can be determined by plugging the value of P into P =T. For each model, we calculate the value of as = P/T. As a result, for model 1 of economic growth, it is -21.75/29 = -0.75 and for model 2 of economic growth, it is -19.41/29 = -0.67. Similarly, for model 1 of export growth, it is -17.14/29 = -0.59, and for model 2 of export growth, it is -16.34/29 = -0.56. These findings show that each year, more than 60 percent of the error between economic growth and its determinants in various models is corrected. Similarly, each year, more than half of the error between export growth and its determinants is adjusted in several models. As a result, it is stated that any short-term imbalance in both economic growth and export growth models is corrected in the long run.

**Table 4.** Results of Westerlund's Panel Cointegration Test

| Models | $G_\tau$ | $G_\alpha$ | $P_\tau$ | $P_\alpha$ |
|---|---|---|---|---|
| Model 1 | -7.11*** | -19.15*** | -18.35*** | -21.75*** |
| Model 2 | -7.11*** | -19.15*** | -18.35*** | -21.75*** |
| Model 3 | -6.63*** | -17.23*** | -19.71*** | -17.14*** |
| Model 4 | -6.41*** | -17.12*** | -20.13*** | -16.34*** |

*Note: ***, ** and * show significance at 1, 5 and 10% level respectively.*

After confirming that a long-run equilibrium exists, the next step is to estimate the link between decentralization and regional growth. Tables 5 provide the results of the CS-ARDL. Expenditure decentralization (ED) is used as proxies for fiscal decentralization in this study. The data support the hypothesis that ED promotes economic growth. The results imply that ED has a favourable effect on economic growth when controlled for governance, macroeconomic stability and other variables. The result is attributable to the fact that decentralization gives federations greater authority, and rivalry among the state's lower levels contributes to long-term growth. The efficacy of decentralization depends on governance system and macroeconomic stability of the country. Countries with good governance and stable political system get more advantage from the process of fiscal decentralization. Hence, it is not only fiscal decentralization but its interaction with other factors that enhance output growth. Fiscal decentralization is supposed to stimulate economic growth by ensuring macroeconomic stability as a starting point, as well as service delivery

and good governance. Furthermore, fiscal decentralization improves the system's ability to implement reforms. The combination of high inflation and high unemployment is a key source of concern for macroeconomic stability. Fiscal decentralization is one way to achieve long-term macroeconomic stability. In addition, fiscal decentralization is projected to reduce or eliminate corruption in the country. Since corruption, defined as the use of public offices for private benefit, is a barrier to development and stability, it has been seen as one of the most important issues. Fiscal decentralization's efficacy is also influenced by factors such as the country's governance system and macroeconomic stability. Countries with superior governance and macroeconomic stability benefit more from the fiscal decentralization process. As a result, it's not just fiscal decentralization that boosts output growth; it's also how it interacts with other factors. The findings support the studies of Mokyr (1992), Ahlstrom & Bruton (2009), Buckley & Casson (2002), Jin (2005), Jin and Zou (2005).

**Table 5.** Long Run Results (CS-ARDL Method) of Growth Models: Dependent Variable: Real GDP Growth Rate

| **Long-Run Results** | | | | |
|---|---|---|---|---|
| **Variables** | **Model-1** | **Model-2** | **Model-3** | **Model-4** |
| Y (-1) | 1.041*** | 1.535*** | 0.74** | 0.839** |
| | (0.061) | (0.081) | (0.043) | (0.035) |
| FD | 0.458*** | 0.131*** | 0.159*** | 0.138*** |
| | (0.023) | (0.000) | (0.003) | (0.000) |
| L | 0.088*** | 0.028* | 0.136* | 0.166*** |
| | (0.307) | (0.022) | (0.023) | (0.000) |
| K | 0.232** | 0.215*** | 0.512*** | 0.34*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| INF | -0.431*** | -0.145*** | -0.172* | -0.852*** |
| | (0.000) | (0.000) | (0.091) | (0.003) |
| CORR | -0.421*** | -0.481*** | 0.313*** | 0.251*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| MES | 0.161** | 0.182** | -0.116*** | 0.514*** |
| | (0.044) | (0.000) | (0.006) | (0.000) |
| FD*MES | --- | 0.217 | --- | 0.124** |
| | | (0.233) | | (0.000) |
| FD*GOV | --- | --- | 0.31*** | 0.28** |
| | | | (0.002) | (0.000) |
| $\pi(-1)$ | -0.282*** | -0.731*** | -0.772*** | -0.695*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |

## Conclusion and Policy Implications

The issue of possible association between decentralization and growth has attained enormous consideration in the recent past. The literature on fiscal decentralization has explored various mechanisms through which decentralization propagated into output enhancement. The efficiency aspects of decentralization are widely discussed in the literature. However, Fiscal Decentralization initiative has been expected to boost up the economic growth through macroeconomic stability as an initial condition along with service delivery and good governance. It is necessary to employ a more up-to-date technique in order to acquire flawless results in this study. The findings indicate that the factors are cross-sectionally reliant on one another. The results of slope

heterogeneity, on the other hand, reveal that all models are affected by slope heterogeneity. This study performs a variety of panel unit root tests to determine the order in which variables are integrated together. The results demonstrate that variables are mixed in terms of integration order. With regard to economic growth, the results of Westerlund's cointegration test confirm the long-run nexus between economic growth and its determinants, which include fiscal decentralization, human capital development and investment, a budget deficit, openness to trade, good governance and macroeconomic stability. The findings of the study demonstrate that the variables in the models have a stable long-term relationship with one another. After it has been established that there is a long-run equilibrium, the next step is to determine the cointegration vectors in the system. This is accomplished through the usage of the CS-ARDL approach. According to the findings, decentralization has a favorable impact on growth, just as the theory predicted it would. The efficacy of fiscal decentralization leads to enhancement of economic growth. Moreover, the decentralization - growth nexus is strengthened with the improvement in governance and macroeconomic stability. The findings suggest that the quality of governance in a country, as well as the stability of the macroeconomic environment, are strongly associated with growth.

The study recommends that more financial autonomy and authority should be provided to the lower governing units in fiscal substances in order to reduce the dependence of lower units on the state. Moreover, in order to increase the efficiency of the lower units of the state, there should be more concentration on horizontal equality and it should be based on performance and efficiency.

## References


Ahmad, E., & Bert, H. (2001). Indonesian Decentralization: Opportunities and Risks. Washington, DC: IMF and World Bank, www.decentralization.org.

Ahmad, N., Ali, S., & Iram, S. (2011). Does Government Expenditure Affect Tax Revenue? A case study of Pakistan, *International Journal of Economic Perspectives,*5(4).

Arikan, G. G. (2004). Fiscal Decentralization: A Remedy for Corruption? *International Tax and Public Finance*, *11*(2), 175–195. https://doi.org/10.1023/b:itax.0000011399.00053.a1

Arrow, K. (1970). "The Organization of Economic Activity: Issues Pertinent to the Choice of Market versus Non-Market Allocation," In Joint Economic Committee, *The Analysis and Evaluation of Public Expenditures: I*, Washington, DC: US GPO.

Bahl, R. W., & Linn, J. (1994). "Fiscal Decentralization and Intergovernmental Transfers in Less Developed Countries," *The Journal of Federation*, *24* (1), 1-19.

Bird, R. M., Thomas, F., & Thomas, S. (2001). The Role of Intergovernmental Fiscal Relations in Shaping Effective States Within Fragmented Societies (Fribourg: Swiss Institute of Federalism.

Bird, R. M., & Francois . (1997), ."Fiscal Decentralization in Developing Countries: An Overview and Perspective." paper prepared for the International Seminar in Public Economics, Tokyo, August.

Boex, J., Heredia-Ortiz, E., Martinez-Vazquez, J., Timofeev, A., & Yao, G. (2006). "Fighting poverty through fiscal decentralization", United States Agency for International Development, HTTP:// www.fiscalreform.net/best practices/pdfs/fighting poverty through fiscal decentralization.pdf

Brennan, G., & James, B. (1980). *The Power to Tax: Analytical foundations of a Fiscal Constitution*. New York: Cambridge University Press.

Burki, J. G. P., & William, D. (1999). Beyond the Center: Decentralizing the State. Washington, DC: World Bank, Latin American Studies.

Curristine, T. Z., Lonti, & Joumard, I. (2007). "Improving public sector efficiency: Challenges and opportunities", *OECD Journal on Budgeting*, *7*(1), 161-201.

Davoodi, H., & Heng-fu, Z. (1998). "Fiscal Decentralization and Economic Growth: A Cross-Country Study," *Journal of Urban Economics*, *43*, 244-257.

DeMello, L. R. (2000). "Fiscal Decentralization an Intergovernmental Fiscal Relations: A Cross-Country Analysis," *World Development*, *28*(2), 365-380.

Ebel, R. D., & Yilmaz, S. (2002). *On the Measurement and Impact of Fiscal Decentralization*. World Bank Study 2809, Policy Research Working Paper.

Ebel, R. D., William, F., Fox, & Rita, M. M. (1995). The Hashemite Kingdom of Jordan: Intergovernmental Fiscal Relations and Municipal Financial Management. Washington, DC: World Bank, World Bank Sector Study.

Fishman, R., & Roberta, G. (2000). "Decentralization and Corruption: Evidence Across Countries," World Bank Policy Research Working Paper No. 2290.

Fukasaku, K., & deMellon, L. R. (1998), Fiscal Decentralization and Macroeconomic Stability: The Experience of Large Developing and

Transition Economies. In K. Fukasaku and R. Hausmann, eds.

Gurgur, T., & Anwar, S. (2002). *"Localization and Corruption: Panacea or Pandora's Box?"* in Ehtisham Ahmad & Vito Tanzi ed. Managing Fiscal Decentralization, New York: Routledge.

Iimi, A. (2005). "Decentralization and Economic growth revisited: an Empirical Note", *Journal of Urban Economics***,** *57*(3), 449-461.

Lin, J. Y., & Liu, Z. (2000). "Fiscal decentralization and economic growth in China", *Economic Development and Cultural Change*, *49*(1),

Malik, S. et al. (2006). "Fiscal Decentralization and Economic Growth in Pakistan", *The Pakistan Development Review 45*(4).

Martinez-Vazquez, Jorge, & Jameson, B. L. F. (2001), Russia's Transition to a New Federalism. Washington, DC: World Bank.

Musgrave, R. A. (1959). The Theory of Public Finance. New York: McGraw-Hill.

Pesaran, M. H. (2004). General Diagnostic Tests for Cross Section Dependence in Panels. *Discussion Paper no. 1240.*

Pesaran, M. H. (2015). Testing Weak Cross-sectional Dependence in Large Panels. *Econometric Review. 34*(6),

Pesaran, M. H., Ullah, A., & Yamagata, T. (2008). A Bias-Adjusted LM Test of Error Cross-Section Independence. *The Econometrics Journal. 11*(1),105-127.

Pesaran, M. H. Y., Shin, & Smith, R. (2001). "Bounds Testing Approaches to the Analysis of Level Relationships", *Journal of Applied Econometrics*, *16*, 289–326.

Pesaran, M. H., Yamagata, T. (2007). Testing Slope Homogeneity in Large Panels. *Journal of Econometrics*. *142*(1), 50-93.

Pesaran, M, H. (2007). A Simple Panel Unit Root Test in the Presence of Cross-Section Dependence. *Journal of Applied Econometrics*. *22*(2), 265-312.

Phillips, K. L., & Woller, G. (1997). "Does Fiscal Decentralization lead to Economic Growth?", Department of Economics, BrighamYoung University.

Prud'homme, R. (1995). "The Dangers of Decentralization," *The World Bank Research Observer*, *10*(2), 201–20.

Samuelson, P. A. (1954). "The Pure Theory of Public Expenditure," *Review of Economics and Statistics, 36*(4), 387-9.

Samuelson, P. A. (1955). "Diagrammatic Exposition of a Theory of Public Expenditure," *Review of Economics and Statistics 37*(4), 350-6.

Stein, E. (1997). "Fiscal Stability With Democracy and Decentralization," in Inter-American Development Bank, Latin America After a Decade of Reforms (Distributed by the Johns Hopkins University Press, Baltimore, MD USA)

Suhendra, M., & Amir, H. (2006). "Fiscal Decentralization in Indonesia: Current Status and Future Challenges", *Jurnal Keuangan Publik.*.

Tanzi, V. (2000). "Some Politically Incorrect Remarks on Decentralization and Public Finance". In Jean-Jacques Dethier, ed., Governance, Decentralization and Reform in China, India and Russia. Kluwer Academic Publishers, Boston MA.

Tanzi, V. (1996). "Fiscal Federalism and Decentralization: A Review of Some Efficiency and Macroeconomic Aspects." In: Bruno, Michael and Pleskovic, Boris., eds., Annual World

Bank Conference on Development Economics. World Bank, Washington, DC.

Ter-Minassian, T. ed., (1997). Fiscal Federalism in Theory and Practice. International Monetary Fund, Washington DC.

Thieben, U. (2001). Fiscal Decentralisation and Economic Growth in High-income OECD Countries. European Network of Economic Policy Research Institutes, (Working Paper No. 1/January.)

Toda, H. Y., & Yamamoto. (1995). "Statistical inference in Vector Autoregressions with possibly integrated processes", *Journal of Econometrics*, *66*, 225-250.

Wallich, C. (ed). (1994). Russia and the Challenge of Fiscal Federalism. World Bank: Washington.

Westerlund, J. (2007). Testing for Error Correction in Panel Data. *Oxford Bulletin of Economics and Statistics. 69*(6), 709-748.

World Bank. (1997). *World Development Report 1997: The State in a Changing World*. New York: Oxford University Press, 1997.

World Development Report. (2000). *Entering the 215' Century*. New York: Oxford University Press, 2000.

Xie, D., Zou, H., & Davoodi, H. (1999). "Fiscal Decentralization and Economic Growth in the United States", *Journal of Urban Economics*, *45*, 228-239.

Zhang, T., & Heng-fu, Z. (1998). "Fiscal decentralization, public spending, and economic growth in China", *Journal of Public Economics*, *67*(1998) 221–240.