

PalArch's Journal of Archaeology of Egypt / Egyptology

FISCAL DECENTRALIZATION AND MACROECONOMIC PERFORMANCE IN PAKISTAN

*Saeed Ahmad¹, Salyha Zulfiqar Ali Shah², Fatima Mazhar³, Muhammad Raheel Khan⁴,
Muhammad Qasim Javaid⁵*

¹ Ph. D Scholar University of Peshawar, Pakistan

² Assistant Professor, School of Economics, Bahauddin Zakariya University, Multan, Pakistan

³ Assistant Professor Department of Management Sciences, Government Sadiq College
Women University, Bahawalpur

⁴ MBA – HRM Riphah International University, Islamabad

⁵ Phd Scholar Zhengzhou University, Henan, China

Email: ¹sahmed.central@gmail.com ²salyhazulfiqar@bzu.edu.pk

³fatima.mazhar@gscwu.edu.pk ⁴raheel.khan@riphah.edu.pk

⁵qasim939@yahoo.com

**Saeed Ahmad, Salyha Zulfiqar Ali Shah, Fatima Mazhar, Muhammad Raheel Khan,
Muhammad Qasim Javaid. Fiscal Decentralization and Macroeconomic Performance
in Pakistan -- PalArch's Journal of Archaeology of Egypt/Egyptology 19(1), 262-285.
ISSN 1567-214x**

Key Words: Pakistan Decentralization NFC Award

ABSTRACT:

The study plans to analyze the part of fiscal decentralization and macroeconomic execution of Pakistan. The major goal of study was to investigate the effect of fiscal decentralization on macroeconomic performance and fiscal resource distribution system of Pakistan. The study employed secondary data comprising from 1972 to 2014 for examination. The distribution of resources among federal and provincial governments never remained simple and always recognized much complicated problem. This study categorized a number of problems in the system of fiscal division of resources of Pakistan. To examine the effect of fiscal decentralization on macroeconomic performance in Pakistan, the study evaluated a brief history of distribution of resources among the provinces. The commission reviewed the NFC awards since 1991 to improve the procedure of resource allotment among the provinces in Pakistan. Direct transfers of finances and grants have been increased for all the provinces due

to these awards. The effectiveness, self-sufficiency and resource generation of Provinces get inducement to improve because of identical grants and in turn attain financial autonomy. The economic divergence of provinces can be removed through appropriate transfer of resources. The experimental results demonstrate that the fiscal decentralization prove to a valuable device to improve the economic stability, encourage the better allocation of resources and promote the economic development in Pakistan.

Jel Code:

INTRODUCTION

Decentralization heads towards better procurement of regional authority and administrations as indicated by the local needs and inhabitants needs. Thus, nations move to improvement in all parts of life. The exact studies demonstrate the paramount part of decentralization in procurement of regional authority.

The economy of Pakistan is even now going across from adjustment's period. It gets to be vital and important to acquire macroeconomic security request to give the stage to business creation, raising the development and bringing about a significant improvement in the nature of social life. As Pakistan an immature economy is confronting the issue of giant expansion, vitality emergencies, expanding exercise on security issue, climbing monetary deficiency and falling inflows. What's more, destitution has turned into a real issue as a result of surges, high precipitation, and loss of framework and pulverization of work sources.

The economy of Pakistan is even now immigrating the time of conformity. It develops into key and essential to secure macroeconomic security appeal to give the stage to business creation, raising the improvement and realizing a noteworthy change the way of mankind's life. Pakistan being a juvenile country is bearing the issue of high development, imperativeness disasters, extending use on surveillance, climbing financial inadequacy and lowering inflows. In inclusion, desperation has been transformed into a main problem as an after effect of surge, high precipitation, and destruction of structure and pounding of work sources. Pakistan is the 6th biggest crowded nation on the planet holding 177.10 million individuals and is developing at the rate of 2.05 percent for every year. The thickness of community for every individual is 222. In the year 2009-10, aggregate work energy is 54.92 million individuals. Just about 1.20 million many individuals are being included by the present work energy. The extent of two gender is climbed by 0.67 and 0.53 million separately. The ratio of unemployment has been partially expanded than the most recent years. It was 5.6 percent in the year 2009-10 as thought about 5.5 percent in the year 2008-09. The expansion rate is very nearly 14.1 percent in the year 2010. The financial shortage has expanded around 6.3 percent in the year 2009-10.

It is viewed as that decentralization can enhance the wellbeing, decreases debasement, enhances legislations and in addition advance a focused atmosphere surrounded local purviews, which eventually produce positive financial and communal outcome (Tiebout 1956, Oates 1974).

An alternate anticipation of the hypothesis of financial demoralization is that the central sources dispersed amidst level of state, which achieves general success and advancement by effective procurement of local products and administration. In this manner, decentralization enhances the proficiency and gainfulness of local products by use of assets (Oates 1972 and 1999).

Fiscal Decentralization and Macroeconomic Performance: Definition and meaning

Fiscal Decentralization

The strengthening of individuals by the strengthening of their local governments. The pivotal terminology here is “local administration”. Financial decentralization to mean passing monetary force to every degree of government underneath the fiscal, i.e., regions or territories, urban areas or regions, and even to fourth degree provincial administration.

Definitions of Fiscal Decentralization

Decentralization is discrete proportions which may classify as the civic, governmental and economic aspects. The distinctive uniqueness, aims and circumstances for success have each aspect. In common requisites, the political factors invoke to spread of power from federal to municipal authority; the governmental factors articulate for the transmutation of efficient duties from federal to regional administration and the financial elements concentrate on to the fiscal association connecting with all stages of administration. Similarly, it is valuable to differentiate involving the diverse elements of delegation in favor of the rationale of stressing its several aspects; however here is significant overlapping involve in all the methods. For example, the actual economic benefit from fiscal decentralization is compulsory to comprise of political decentralization in expressions of administrative ability. Fiscal decentralization involves to the civic financial aspect of regional government connections. Meaning of expenditure organization is particularly directs the restructuring of income resource which carries by the federal to country subdivision. It is a type of component of any devolution plan. Not including suitable fiscal empowerment, the self-sufficiency of low-level governments cannot be demonstrated and, in this manner, the full authentication of devolution cannot be fulfilled.

MACROECONOMIC PERFORMANCE

Measurement of Macroeconomic Performance

Misery Index

The different studies used the Misery Index (MI) for evaluating macroeconomic performance. Arthur Okun developed misery index by accumulation of rate of unemployment with the rate of inflation. The misery index used to determine the well-being for a constant period of time.

Misery Index = Rate of Unemployment + Rate of Inflation

This index assumes that the growing unemployment rate and relatively high inflation have inverse effect on economic growth. High rate of unemployment and rising inflation deteriorating pace of economic development and a country bears social costs. Higher the index directs toward decreasing consumption expenditures and produce slow down in the economic situation of the country. A large-scale survey investigated that unemployment deeply effective than inflation. This entails that the basic misery index underweight unhappiness attributable to the unemployment rate: “the estimates suggest that people would trade off a 1-percentage-point increase in the unemployment rate for a 1.7-percentage-point increase in the inflation rate. “The actual Misery Index was developed by Arthur Okun for the period of the Johnson government in the 1960s, not by Robert Barro as some people wrongly consider. “Barro Misery Index” was developed by Barro in 1999, which also incorporates rate of interest and GDP trend into the mix. After ten years Steve Hanke’s improved misery index by including rate of interest and deducting the year-to-year percent change in per-capita GDP growth. It is assumed that high rate of interest increase “Misery” while growth to GDP decreases the misery. It is noteworthy that misery index was considered quite low by current standard. Beyond the technical and theoretical disputes these indexes are too complex. To evaluate the on the whole performance of the economy the new index has developed, “The Economic Performance Index (EPI)”.

EPI Index

EPI index is a macroeconomic indicator that evaluates the general execution of economy and explains the variation from the required level of execution of economy. The EPI represents the role of three major sectors of economy: household, firms, and government. Following variables included in EPI that influenced all three sectors.

- a) Rate of inflation determine the monetary position of an economy;
- b) Rate of unemployment determine the production instance of an economy;
- c) Deficit budget as a percentage of GDP determine fiscal position of an economy;
- d) The change in real GDP evaluates the collective execution of the economy.

An EPI grade can be designed yearly, periodically, or monthly by intriguing an entire grade of 100 percent and deducting the rate of inflation, the rate of unemployment, the deficit budget as a percentage of GDP, and lastly, addition up back the percentage change in real GDP, all subjective and deliberated as variation from their required quantities. The different grades are assigned to understand the evaluation process of the economic performance easily.

Construction of EPI

The study constructs the EPI as: a 100% EPI score shows the optimal economic performance. The desired values for different indicators as follow:

- a) The preferred inflation rate (I^*) is 0.0%;
- b) The preferred unemployment rate (U^*) is 4.75%;
- c) The required quantity for government deficit as a share of GDP (Def/GDP^*) is 0.0%, consistent with a long-term balanced budget; and
- d) The desired change in GDP (GDP^*) is a healthy real growth rate of 4.75%.

This information is anticipated to depict a “perfect” economic execution of a state. These desired values were designed in such a way that under equal weights in the EPI score they would sum up to zero, providing a score of 100%. The current EPI can be found by the following formula:

100% - Inflation Rate – Unemployment Rate – Budget Deficit/GDP + Change in Real GDP OR

100% - Inf (%) – Unem (%) – Def/GDP (%) + GDP (%)

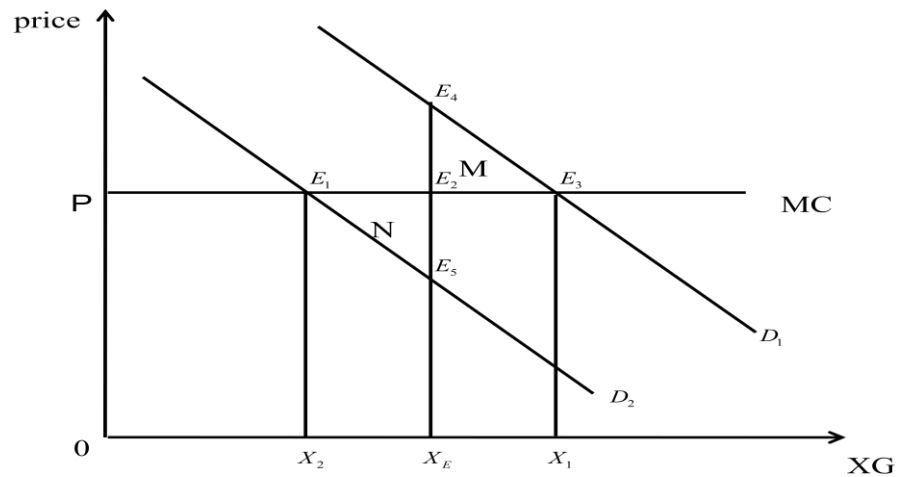
Theoretical and Empirical Review

We have first presented the basic theory of fiscal decentralization taking into consideration Oates decentralization Theorem. Empirical reviews of some outstanding studies are also elucidated.

Theoretical Review

Oates (1972) and Tiebout (1956) offer a hypothetical structure where financial devolution may promise an effective procurement of federal products essentially on the grounds that neighborhood inclinations are preferred fulfilled over on account of centralization. Both past methodologies expect an altruistic government; however, the Leviathan theory depends on the inverse presumption whereby decentralization is a way to lessen government size keeping in mind the end goal to stem its ineffective performance. To evaluate the revenue structure, four basic instruments are suggested (Oates, 1972). There must be a balance between elevated achievability with local taxes and encouraging effect on the local economy. For the provision of local good, the benefits and expenditure of local taxes should be realized. The criteria of tax collection from the locality should base on the level of equality. The involvements of complexities among the tax system should be reduced for better administration and minimum costs.

Figure 2.3: Welfare Losses of Centralization



Source: Wallace E. Oates (1972)

Figure 2.3 express the two consumers in two diverse regions ‘1’ and ‘2’, where the demand for local public good ‘XG’ is shown on x-axis and price is on y-axis. The curve D_1 shows the demand of first consumer in region ‘1’ while D_2 curve shows the demand of second consumer in region ‘2’. The line PMC shows the constant marginal cost for the provision of public good ‘GX’. The marginal cost will be equally distributed between the consumers. Each consumer has to pay price “p” which is $MC = P$.

If the federal government provided the social good (XG) would be at X_E . The quantity X_E is less than X_1 but more than X_2 . Each of these two consumers is experienced by welfare losses. Triangle $E_2E_3E_4$ shows welfare loss faced by consumer in region ‘1’ because in this region consumption is less than by their demand (without compromise). If in region ‘1’ the consumers wanted to get additional social good X_EX_1 , they have to pay the additional cost equal to $X_EE_4E_3X_1$ but in fact it will be offered at the cost of $X_EE_2E_3X_1$.

Similarly in the region ‘2’ welfare loss occur which is equal to triangle $E_1E_2E_5$ due to extra use of good and should pay $X_2E_1E_2X_E$ for extra commodity X_2X_E but actually pay $X_2E_1E_5X_E$. If the social good is allocated according to demand of each region, deadweight loss may be ignored. The provision of social good in decentralized administration can easily be made according to demand of each region by avoiding such losses in each region.

Empirical Review

Significance of the association between fiscal devolution and economic growth is portrayed by the accessible literature on this field. Comprehensive information establishes different crucial associations among different studies. A few most important studies are evaluated in the current investigation.

Ebel and Yilmz (1990) endorsed the influence of fiscal devolution on fiscal stability, economic growth and the size of public sector. This connection

depends upon the government finance statistics of the IMF and it is unable to depict the full picture of fiscal devolution.

Phillip and Woller (1997) established noteworthy obverse association between economic development and returns devolution examining the data of 17 developed economies from 1947 to 1991. They did not succeed to discover any association between economic growth and fiscal decentralization after reviewing annual data of 23 less developed economies.

Davoodi and Zou (1998) elaborated the consequence of fiscal decentralization on economic development. Study anticipated the constraints by OLS technique and used panel data for 46 countries through the phase of 1970 to 1989. According to them there estimated inverse association between the fiscal decentralization and economic development in developing economies but no connection found in developed societies.

Zhang and Zou (1998) explored obverse correspondence between regional financial development and fiscal devolution of administration expenses during the previous 15 years from 1978 to 1992. The study investigated how the distribution of monetary assets between the central and neighborhood governments has influenced monetary development since changes started in the late 1970s in China. The study observed that a elevated degree of monetary devolution of administration expenses was related with lower commonplace monetary development in current time.

Xie et al. (1999) investigated the USA economy during the period of 1940 to 1994 and found the different consequence of fiscal devolution and economic development. They analyzed existence of three level of government in the economy. They expressed that economic development was negatively connected with fiscal devolution of expenses of administration at regional degree and straight related with the share of public spending. But they traced out the insignificant outcome of the study.

Martinez-Vazquez and McNab (2001) evaluated six observational researches assessing the immediate effect of FD on development. The study was improved by eight extra studies. Unless significant varieties and separations inside of the monetary allowance information measurement (e.g. enhancement by legislative capacity and level, thought of magnitude of variables and established configuration, or inspection of the protuberance molded and union speculation) a few insufficiencies of the separate estimations expressed in said analysis have been uprooted just imperceptibly.

Ebel and Yilmaz (2004) investigated the incomes and spending of six Middle and Eastern European economies as the matter of economic growth and fiscal decentralization. Study evaluated the data by the method of vicariate estimation system. The study explored that the income generating scheme of provincial government constitute by provincial tax and non-tax receipts autarchy and has positive effect on development.

Mjocchi (2008) analyzed European level localities to redistribution of resources so that equality of transfers ensured and provided unfair opportunities. Investigations assigned function to the national level of government. The duty of state was transfer policy in such a way to avert the reverse on fiscal federalism. Fiscal federalism concerns the vertical structure of public sector.

Baskaran and Feld (2009) established the relationship between fiscal decentralization and financial development for 23 OECD nations from 1975 to 2001 by utilizing new board information on sub-government charge self-rule. While beginning estimations proposed that fiscal decentralization reasons lowered development rates found that this outcome was not enthusiastic choice determinations. The analysis similarly neglected to acquire proof for a negative relationship in various extra vitality checks. Hence the study concluded that financial decentralization was random to monetary development.

Faridi (2011) investigated the contribution of fiscal devolution to economic development in Pakistan (discussed that fiscal devolution was the important source of economic growth). The analysis was consisted on the time series annual data covering the period of 1972 to 2009. Research used autoregressive model for ordinary least square estimation which showed the fiscal decentralization's variables directly affected the economic growth. The study evaluated the issue of fiscal expenditure independence and tax ability in Pakistan.

Philip and Isah (2012) considered the effects of fiscal devolution on the development of Nigerian economy from 1970 to 2009. They used Barro type growth model and OLS method was utilized for estimating parameters of the model. They expressed that the lower level of government depends deliberately on the revenue of federal government. They advocated constitutional revision to improve the sources of revenue and curtail the corruption from public offices for the lower levels of government.

Model Specifications

The study wants to inspect the influence of fiscal devolution on macroeconomic presentation by using economic performance index (EPI) after analyzed various studies in this field. In this study the secondary resource of data existing annual examination is used on Pakistan and every province for the epoch of 1972 to 2014. Study formulated six models for analysis. The study formulated first model for unadjusted revenue decentralization, second model represented unadjusted expenditure decentralization, model 3rd showed unadjusted revenue-expenditure decentralization, model 4th consisted on adjusted revenue decentralization, model 5th portrayed the adjusted expenditure decentralization, and model 6th evaluated the adjusted revenue-expenditure decentralization.

Model 1: Revenue Decentralization (Unadjusted)

The objective of unadjusted model 1 is to consider the influence of provincial revenue devolution on macroeconomic presentation.

$$EPI = f(GFCF, TRADE, PRR, SSE, CRED, MVA)$$

The econometric form of equation (5.1) is given as:

$$EPI = \alpha_0 + \alpha_1 GFCF + \alpha_2 TRADE + \alpha_3 PRR + \alpha_4 SSE + \alpha_5 CRED + \alpha_6 MVA + \mu_i$$

$$\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5, \alpha_6, \alpha_7 > 0$$

Model 2: Expenditure Decentralization (Unadjusted)

The goal of this model is to explore the influence of Fiscal decentralization on province expenditure ratio.

$$EPI = f(GFCF, TRADE, PER, SSE, CRED, MVA)$$

The econometric form of equation (5.3) is given as:

$$EPI = \beta_0 + \beta_1 GFCF + \beta_2 TRADE + \beta_3 PER + \beta_4 SSE + \beta_5 CRED + \beta_6 MVA + \mu_i$$

$$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, > 0$$

Model 3: Revenue-Expenditure Decentralization (Unadjusted)

The purpose of current model is to examine the influence of Fiscal decentralization on province revenue and expenditure ratio.

$$EPI = f(GFCF, TRADE, PRR, PER, SSE, CRED, SVA,)$$

The econometric form of equation (5.5) is given as:

$$EPI = \chi_0 + \chi_1 GFCF + \chi_2 TRADE + \chi_3 PRR + \chi_4 PER + \chi_5 SSE + \chi_6 CRED + \chi_7 SVA + \mu_i$$

$$\chi_1, \chi_2, \chi_3, \chi_4, \chi_5, \chi_6, \chi_7, > 0$$

Model 4: Revenue Decentralization (Adjusted)

The aim of present model is to scrutinize the effect of Fiscal decentralization on province revenue adjusted.

$$EPI = f(GFCF, TRADE, PRA, SSE, CRED, MVA, M2)$$

The econometric form of equation (5.7) is given as:

$$EPI = \delta_0 + \delta_1 GFCF + \delta_2 TRADE + \delta_3 PRA + \delta_4 SSE + \delta_5 CRED + \delta_6 MVA + \delta_7 M2 + \mu_i$$

$$\delta_1, \delta_2, \delta_3, \delta_4, \delta_5, \delta_6, \delta_7 > 0$$

Model 5: Expenditure Decentralization (Adjusted)

The intention of model 5 is to study the effect of Fiscal decentralization on province expenditure adjusted.

$$EPI = f(GFCF, TRADE, PEA, SSE, CRED, MVA, M2)$$

The econometric form of equation (5.9) is given as:

$$EPI = \varepsilon_0 + \varepsilon_1 GFCF + \varepsilon_2 TRADE + \varepsilon_3 PEA + \varepsilon_4 SSE + \varepsilon_5 CRED + \varepsilon_6 MVA + \varepsilon_7 M2 + \mu_i$$

$$\varepsilon_1, \varepsilon_2, \varepsilon_3, \varepsilon_4, \varepsilon_5, \varepsilon_6, \varepsilon_7 > 0$$

Model 6: Revenue-Expenditure Decentralization (Adjusted)

The purpose of current model is to evaluate the influence of Fiscal devolution on adjusted provincial revenue and expenditure ratio.

$$EPI = f(GFCF, TRADE, PEA, PRA, SSE, CRED, MVA)$$

The econometric form of equation (5.11) is given as:

$$PREA = \gamma_0 + \gamma_1 GFCF + \gamma_2 T + \gamma_3 PEA + \gamma_4 PRA + \gamma_5 SSE + \gamma_6 CRE + \gamma_7 MVA + \mu_i$$

$$\gamma_1, \gamma_2, \gamma_3, \gamma_4, \gamma_5, \gamma_6, \gamma_7 > 0$$

EPI = Economic Performance Index, GFCF = Gross Fixed Capital Formation as a Percentage of GDP, TRADE = Trade, PRR = Provincial Revenue Ratio, PER = Provincial Expenditure Ratio, PRA = Provincial Revenue Adjusted, PEA = Provincial Expenditure Adjusted, SSE = Secondary School Enrollment, CRED = Credit as a Percentage of GDP, MVA = Manufacturing Value Added, SVA = Service Value Added.

M2 = Broad Money

METHODOLOGY

The methodology of ARDL approach to Cointegration is used. ARDL specification of the above models is given below:

DATA AND METHODOLOGY

Data Sources

To discover the connection between fiscal decentralization and different macroeconomics performance variables (like provincial revenue ratio, gross fixed capital formation, provincial expenditure ratio, trade, credit, secondary school enrolment, manufacturing value added) of Pakistan. The research used the data that have been chosen from survey of Pakistan's economy (a variety of subjects) available by Ministry of Finance, Government of Pakistan, Fifty Years Handbook of Statistics of Pakistan Economy printed by State Bank of Pakistan (SBP). The following explanation is considered for the variables.

Definitions Of the Variables

The variables which are comprised in this study to detain the influence of fiscal devolution on macroeconomic performance argued as below:

Gross Fixed Capital Formation (GFCF)

Gross fixed capital formation (GFCF) refers to the net increment in material sources (investment minus disposal) within the measurement period. It does not represent the utilization (devaluation) of fixed assets and also does not consist of land purchases. It is a segment of expenses method to determining GDP.

Provincial Expenditure Ratio (PER)

It is a direct computation of fiscal autarchy. It illustrates the local government expenses ratio to entire administration expenses (Malik S. et al.; 2006). In theory local expenditure ratio may be estimated positive effect on growth.

Provincial Revenue Ratio (PRR)

Provincial revenue ratio is a further evaluation of fiscal decentralization (authority). It is also basically acquired by isolating the local administration revenues to entire administration revenues. Robalino et al. (2001) used this variable for investigating the consequence of devolution on health advancement. In the same way, Fisman and Gatti (2000) determined the association involving dishonesty and fiscal decentralization during revenue sovereignty. Davoodi and Zou (1998) also analyzed the influence of fiscal decentralization on fiscal development.

Provincial Revenue Adjusted (PRA)

Provincial Revenue Adjusted are computed by subtracting grants – in – aid from regional administration revenues plus is stated as the fraction of the entire public revenues.

Provincial Expenditures Adjusted (PEA)

Adjusted provincial expenditure Adjusted are determined as the ratio of total regional spending to total public spending s less defense spending and debt servicing. Along with these devolution variables, study included some further variables for investigating their influence on economic development and employment.

Trade % of GDP (TRADE)

Trade is the summation of exports and imports of commodities calculated as a share of gross domestic product.

The significance of trade in various countries is considered by the allocation of trade in goods and services, for exports and imports, in GDP. The rates revealed to approach imports and exports of commodities at existing prices as a percentage of GDP. It is anticipated that trade directly influence on economic growth and employment.

Secondary School Enrollment (SSE)

It is the total secondary school enrollment in education which used as a statistical estimation in education department. It decides the ratio of enrolled students in school at various stages (like elementary, middle school and high school).

Credit (CRED)

It is a contract in which a country borrows valuables and make commitment to reimburse the amount to the lender in future at decided date usually with interest.

Manufacturing Value Added as a % of GDP (MVA)

Manufacturing Value added represents all production and deducting intermediary inputs after adding up net production. It is considered without subtracting wear and tear charges of manufactured possessions or reduction and dilapidation of natural sources.

Service Value Added as a % of GDP (SVA)

The service value added means the extra service that goes beyond the typical potential and supply something more even at the higher cost. Services that alter the form, content, or nature of the information that add the value is considered service value added.

Broad Money (M2)

The near money is not included in M₁ definition of money. Therefore, the need for broadening the definition of money was realized. Hence the concept of M₂ was presented. In M₂, in addition M₁, all those monetary units are included which have the property of money as a store of value. Time deposits of short period, treasury bills and deposits of money market, bond and shares plus M₁ are included in M₂ definition of money. The equation of M₂ definition of money is presented as:

$$M_2 = M_1 + \text{Saving Deposits} + \text{Short Period Time Deposits} + \text{Treasury Bills} + \text{Deposits of Money Market} + \text{Bonds} + \text{Shares}$$

RESULTS AND DISCUSSION

Descriptive Statistics

The theoretical models evaluated in the previous chapter. To resolve the econometric issues, models have been tested empirically. The results of statistical investigation to evaluate the influence of fiscal devolution on economic development and macroeconomic performance are depicted in the Table.

The study based on annual observation from 1972 to 2013 on the selected specific variables. Table 6.1 represents the statistical analysis on the certain variables used in this evaluation. The average value of EPI is 85.23 for the phase of examination with the variation of 5.16. The average gross fixed capital formation as a percentage of GDP is 16.32 with the standard deviation of 1.78. The average values for the provincial expenditure and revenue adjusted are 29.45 and -1.13 for the analysis period with variation of 16.41 and 11.92 respectively, while unadjusted provincial revenue ratio and provincial expenditure ratio are 35.51 and 27.28 with 5.03 and 5.36 variations respectively. The differences between the average values of adjusted and unadjusted fiscal devolution variables explain the adjustment influence in fiscal devolution variables in Pakistan.

Table 6.1: Statistical Analysis

	EPI	GFCF	TRADE	PEA	PRA	PRR	PER	SSE	CREDIT	MVA	SVA	M2
Mean	85.23	16.32	33.61	49.45	-1.13	35.51	27.28	58.18	24.15	16.12	48.22	42.65
Median	87.10	16.97	34.13	43.71	-1.18	35.51	26.94	55.45	24.18	15.97	49.01	42.93
Maximum	92.10	19.24	38.91	94.88	35.19	43.98	41.46	83.67	29.79	18.56	52.78	51.30
Minimum	68.30	11.44	27.72	29.00	-25.88	21.79	20.38	47.40	18.63	14.68	41.91	33.67
Std. Dev.	5.16	1.78	3.14	16.41	11.92	5.03	5.36	9.27	2.68	0.82	2.91	4.07
Skewness	-1.19	-1.07	-0.25	1.13	0.43	-0.48	1.08	1.14	0.27	0.65	-0.61	0.05
Kurtosis	4.44	3.86	2.17	3.70	4.34	3.13	3.54	3.56	2.51	3.72	2.52	2.42
Jarque-Bera	10.94	7.59	1.33	7.91	3.56	1.34	7.05	7.76	0.77	3.11	2.43	0.49
Probability	0.00	0.02	0.51	0.02	0.17	0.51	0.03	0.02	0.68	0.21	0.30	0.78
Sum	2897.90	554.81	1142.89	1681.22	-38.57	1207.42	927.52	1978.23	821.03	547.96	1639.46	1450.21
Sum Sq. Dev.	879.69	104.76	325.56	8883.72	4688.07	833.37	949.05	2837.43	236.71	21.95	278.64	547.40
Observations	34.00	34.00	34.00	34.00	34.00	34.00	34.00	34.00	34.00	34.00	34.00	34.00

Source Author's Calculations

Similarly, the average values of trade, secondary school enrollment, and credit are 33.61, 58.18 and 42.15 with the variations of 3.14, 9.27, and 2.68 respectively. On the average manufacturing value added, service value added and broad money have 16.12, 48.22 and 42.65 values with the variations of 0.82, 2.91 and 4.07 respectively. As skewness values of these selected variables are concerned almost all the said variables are little bit skewed. Provincial expenditure adjusted provincial revenue adjusted provincial expenditure ratio, secondary school enrollment, credit, manufacturing value added, and broad money are positively skewed while the economic performance index, gross fixed capital formation, trade, provincial revenue ratio unadjusted and service value added are negatively skewed.

Kurtosis estimates the peaked-ness or flatness of the observation respective to ordinarily division. Table 6.1 demonstrate that EPI, GFCF, PEA, PER, and SSE have leptokurtic distribution. The variables like TRADE, PRA, PRR, CREDIT, MVA and SVA have normal distribution while the form of division is platy-kurtic. The Jarque - Bera test of normality produces joint premise of Skewness and Kurtosis. Jarque – Bera test advocates that probability values of EPI, GFCF, PEA, PER and SSE are very low or near to zero. The residuals for EPI, GFCF, PEA, PER, and SSE are not ordinarily divided while the residuals of all other variables are ordinarily divided.

Results Of Pair Wise Correlation

Pair-wise correlation matrix is utilized to evaluate the correlation linking the independent and dependent variables. The coefficient of correlation matrix is utilized to determine the issues of multicollinearity between the different variables. Higher the coefficient of correlation higher would be the multicollinearity between the variables.

Table 6.2 evaluated correlation matrix among explanatory variables to find the degree of association. The outcomes of the study communicate the existence of some rate of connection between the variables.

To determine the issue of Multicollinearity, pair wise coefficient of correlation is convenient. The variables SSE and SVA have high coefficient of correlation (0.85) and there is high coefficient of correlation (0.75) between PER and PEA and they are also multi-collinear. While all other variables have some degree of relationship, but there is no Multicollinearity.

Table 6.2: Results of Correlation Matrix

	GFCF	TRADE	PRR	PER	PEA	PRA	SSE	CREDIT	MVA	SVA	M2
GFCF	1.00	0.42	0.58	-0.24	-0.13	0.26	-0.25	0.30	0.28	0.10	0.05
TRADE	0.42	1.00	0.18	-0.23	-0.15	0.06	-0.07	0.16	0.36	0.20	0.09
PRR	0.58	0.18	1.00	0.17	0.39	0.17	-0.24	0.60	0.36	0.05	0.29
PER	-0.24	-0.23	0.17	1.00	0.75	0.12	-0.04	0.03	0.17	-0.30	-0.06
PEA	-0.13	-0.15	0.39	0.75	1.00	-0.06	-0.27	0.08	0.28	-0.41	0.01
PRA	0.26	0.06	0.17	0.12	-0.06	1.00	0.33	0.11	-0.26	0.28	0.05
SSE	-0.25	-0.07	-0.24	-0.04	-0.27	0.33	1.00	-0.15	-0.48	0.85	0.09
CREDIT	0.30	0.16	0.60	0.03	0.08	0.11	-0.15	1.00	0.38	0.05	0.68
MVA	0.28	0.36	0.36	0.17	0.28	-0.26	-0.48	0.38	1.00	-0.39	0.18
SVA	0.10	0.20	0.05	-0.30	-0.41	0.28	0.85	0.05	-0.39	1.00	0.14
M2	0.05	0.09	0.29	-0.06	0.01	0.05	0.09	0.68	0.18	0.14	1.00

Source: Author's calculations

Estimation and Results of Augmented Dickey Fuller (ADF) Test

The Augmented Dickey- Fuller (ADF) test is conducted for stationary or non-stationary of variables. The ADF test determines the short run dynamics and is based on autoregressive models that determine the variables with the discretionary introduction of 'intercept', 'intercept and trend' and 'none'

factors. The variable comprises unit root test follows “non stationary procedure i.e. $H_0: \beta - 1 = 0$ which is null hypothesis. Then study tested an alternative hypothesis that “variable is stationary i.e. $H_1: \beta - 1 < 0$ ”. Hence, if the estimated values of the ADF test become lower than the critical values, the null hypothesis is accepted that there is a unit root and vice versa.

Table 6.3 demonstrates the result of dependent variable is stationary at the level I (0). Results are consistent with the zero lag at intercept and intercept and trend, while with the lag one at none. The results of variables likes GFCF, PRR, SSE, PER, CRED and SVA are significant and stationary at the level I (1). The results of all other variables like TRADE, MVA, PRA, M2, and PEA are stationary at the level I (0).

Table 6.3: Augmented Dickey Fuller (ADF) Test for Unit Root

Unit Root Test on Level							
Variables	Intercept	Lags	Intercept and Trend	Lags	None	Lags	Conclusion
EPI	-3.062854	0	-3.345747	0	-0.275477	1	I(0)
GFCF	-2.106496	0	-2.203457	0	-0.175063	0	I(1)
TRADE	-3.347878	0	-3.247446	0	0.0333948	1	I(0)
PRR	-1.402131	0	-1.368394	0	-0.713746	0	I(1)
SSE	0.697423	0	-1.356865	0	3.176632	0	I(1)
CRED	-2.635757	1	-2.530605	1	-1.122006	0	I(1)
MVA	-2.907592	0	-3.273229	0	-0.567722	2	I(0)
PER	-2.324248	0	-2.343043	0	-0.763949	0	I(1)
SVA	-1.757544	0	-2.830472	3	2.007721	2	I(1)
PRA	-2.586345	0	-2.569937	0	-2.587952	0	I(0)
M2	-3.558277	0	-3.857589	0	-0.776411	0	I(0)
PEA	-3.821705	0	-4.043546	0	-1.352987	2	I(0)

Source: Author’s calculations

The Wald Test (F-Statistics)

To realize the existence of long run connection among the lagged variables, Joint significance F–test or Wald test is used to compute the F-statistics. It is

vital to narrate that F-statistics tabulated form elaborated by Pearson et al. (2001) and they formulated two critical bound known as upper bound and lower bound. If the estimated values of F-statistics are more than the values of upper bound then it means that the long run association or co-integration exists among variables. Yet the estimated values of F-statistics are less than lower bound demonstrated absence of long run connection and lower bound represent unsatisfactory outcomes. The outcomes of F-test on all lagged variables are outlined in Table 6.4 below.

Table 6.4: F-test for Cointegration

Equations	F-Statistics	5 % Level of Significance		10 % Level of Significance	
		I0 Bound	I1 Bound	I0 Bound	I1 Bound
EPI/ GFCF, TRADE, PRR, SSE, MVA, CRED, TRE	5.36	2.63	3.62	2.33	3.25
EPI/ GFCF, TRADE, PER, SSE, CRED, MVA, TRE	5.85	2.63	3.62	2.33	3.25
EPI/ GFCF, TRADE, PRR, PER, SSE, CRED, SVA	3.42	2.17	3.21	1.92	2.89
EPI/ GFCF, TRADE, PRA, SSE, CRED, MVA, M2	33.50	2.32	3.5	2.03	3.13
EPI/ GFCF, TRADE, PEA, SSE, CRED, MVA, M2	4.67	2.17	3.12	1.92	2.89
EPI/ GFCF, TRADE, PEA, PRA, SSE, CRED, MVA	6.01	2.17	3.21	1.92	2.89

The outcomes described through the table confirmed existence of the long run association among the models because of higher values of F-statistics from the values of upper bound. Due to long run association in the all estimated model's null hypothesis is rejected and the outcome of variables confirmed the estimated variables are co-integrated.

Long Run Results

The long run association between fiscal decentralization and macroeconomic performance of Pakistan display in the Table 6.5.

Table 6.5 is divided between unadjusted and adjusted decentralized models. The current analysis discovered that all the outcomes from all the variables recognize theoretical calculation. The gross fixed capital formation to GDP ratio variable has positive values in coefficient and t-statistics and is highly significant and is positively connected with fiscal decentralization and macroeconomic performance. The coefficient of variable TRADE is positively

associated in the unadjusted models and adjusted models except the provincial revenue adjusted model and is highly significant. The result show that in all the unadjusted models of decentralization the coefficient of variables provincial revenue ratio, provincial expenditure ratio and provincial revenue-expenditure ratio have positive and significant impacts on macroeconomic performance of Pakistan.

Table 6.5: Long Run Estimates of Fiscal Decentralization Models

Explanatory Variables	Unadjusted Decentralized Models			Adjusted Decentralized Models		
	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
C	----	----	113.58 (5.83)	----	13.32 (1.13)	42.59 (2.82)
GFCF	2.21 (2.57)**	0.36 (0.54)***	0.95 (1.81)***	1.71 (5.17)**	0.29 (0.48)***	2.04 (2.64)*
TRADE	1.75 (2.96)*	1.42 (3.65)*	0.96 (3.74)*	-3.33 (-10.31)*	0.11 (0.36)***	2.24 (5.02)*
PRR	0.88 (2.84)*	----	0.39 (2.01)**	----	----	----
SSE	0.63 (1.25)***	0.11 (0.29)***	0.34 (2.41)**	1.38 (11.33)	0.48 (17.45)*	0.04 (0.48)***
CRED	0.25 (3.13)***	1.28 (3.09)*	-0.21 (-0.94)***	4.61 (16.16)*	-1.90 (-6.37)*	-0.70 (-1.40)***
MVA	4.46 (1.71)***	0.20 (0.15)***	----	15.50 (12.99)*	4.45 (4.55)*	0.52 (0.40)***
PER	----	0.70 (3.55)*	0.38 (2.21)**	----	----	----
SVA	----	----	2.37 (4.77)*	----	----	----
PRA	----	----	----	0.34 (7.16)**	----	0.26 (3.01)*
M2	----	----	----	4.19 (17.70)*	1.63 (6.28)*	-----
PEA	----	----	----	----	0.13 (3.15)*	0.24 (4.47)*
Trend	-0.88 (-2.19)	-0.01 (-0.03)	----	----	----	----

Source: Author's calculations

Note: The values in the parenthesis are t-statistics. * For 1%, ** for 5% and ***for 10% show the level of significance.

A unit increase in variables provincial revenue ratio, provincial expenditure ratio and provincial revenue-expenditure ratio will increase the macroeconomic performance by 0.88, 0.70, 0.37 and 0.38 respectively. So, the conclusions favor that the extra revenue sovereignty will accelerate the revenue generation at the local level and confirm the funding for new projects which may put the economy at root of prosperity (Jin et al. 2005; Limi, 2005 and Gill-serrate and Lopez-Laborda, 2006).

The result also detail that in all the adjusted models of decentralization the coefficient of variables provincial revenue adjusted, provincial expenditure adjusted and provincial revenue-expenditure adjusted have positively and significantly influence macroeconomic performance of Pakistan. A unit increase in variables provincial revenue adjusted, provincial expenditure adjusted and provincial revenue-expenditure adjusted will increase the macroeconomic performance by 0.34, 0.13, 0.26 and 0.24 respectively. The result of investigation favors the argument of Oates (1972) that fiscal devolution increases the efficiency of government department and boosts the development in long run. Because provincial administrations have better knowledge at regional level and furnish better public utilities than federal government. The outcomes of investigation verify the thoughts (Brennan and Buchanan: 1980) that fiscal decentralization stimulates the competition amongst low stages of administrations. The investigations evolve efficiently produce public goods by regional or provincial administrations. Due to strong competition provision of public good becomes over supplied and revenue becomes maximized. The outcomes of fiscal decentralization are same as the theory of Malik et al. (2006). These consequences also favor Lin and Liu (2000), Akai and Sakata (2002), Thiessen (2003), Ebel and Yilmaz (2004)'s determine that fiscal devolution significantly affect economic performance and growth.

The other variable secondary school enrolment has positive association and highly significant which illustrate that increase in SSE enhances the capability and skill of the masses and increases the efficiency to promote the economic performance. Manufacturing value added has positive coefficients in adjusted and unadjusted models, 1 unit increment in manufacturing value added stimulate economic performance. The study integrates 1 unit increase in trade will increase the economic performance in unadjusted decentralized models by 1.75,1.42, 0.96 and models 5 and 6 have positive while model 4 has negative association with economic performance by 0.11, 2.24 and -3.33 respectively. Service value added included in unadjusted decentralized model of provincial revenue- expenditure ratio has positive value 2.37 and has significant influence on economic performance.

Table 6.6: Short Run Results of Decentralization Models

Unadjusted Decentralized Models					
Model (1) Revenue Decentralization		Model (2) Expenditure Decentralization		Model (3) Revenue-Expenditure Decentralization	
Explanatory Variables	Coefficient	Explanatory Variables	Coefficient	Explanatory Variables	Coefficient
D(GFCF)	-1.45 (-2.44)**	D(GFCF)	1.03 (1.45)***	D(GFCF)	-1.68 (-3.75)*
D(TRADE)	0.41 (1.84)***	D(GFCF(-1))	-1.43 (-2.11)***	D(TRADE)	0.93 (5.32)**
D(TRADE(-1))	-1.14 (-4.50)*	D(TRADE)	0.56 (2.28)**	D(PER)	0.16 (1.02)***
D(TRADE(-1))	-0.95	D(PER)	0.34	D(PRR)	0.32

2))	(-3.78)*		(1.87)***		(2.10)***
D(PRR)	0.12 (0.80)***	D(PER(-1))	-1.11 (-4.34)*	D(SSE)	-0.36 (-1.60)**
D(PRR(-1))	-0.68 (-3.69)*	D(PER(-2))	0.42 (2.53)*	D(CREDIT)	0.00 (0.04)***
D(SSE)	-1.18 (-4.96)*	D(SSE)	-1.46 (-4.34)*	D(SVA)	-1.97 (-3.39)*
D(SSE(-1))	-1.24 (-3.29)*	D(SSE(-1))	-0.49 (-1.64)***	CointEq(-1)	-1.04 (-9.19)*
D(SSE(-2))	-0.86 (-3.34)*	D(SSE(-2))	-1.38 (-4.65)*		
D(CREDIT)	-0.63 (-1.78)***	D(CREDIT)	-0.29 (-1.02)***		
D(CREDIT(-1))	1.20 (3.98)*	D(CREDIT(-1))	0.83 (3.55)*		
D(CREDIT(-2))	1.90 (4.24)*	D(CREDIT(-2))	1.53 (3.73)*		
D(MVA)	2.77 (3.10)**	D(MVA)	0.40 (0.48)***		
C	-7.71 (-8.21)	C	67.75 (7.65)		
CointEq(-1)	-1.30 (-8.73)*	CointEq(-1)	-1.44 (-7.63)*		

Source: Author's calculations

Note: The values in the parenthesis are t-statistics. * For 1%, ** for 5% and ***for 10% show the level of significance.

Error Correction Model (ECM)

After estimating the association in the long run, to find out the short run relationship the Error Correction Model (ECM) is used. The ECM introduces the previous disequilibrium of explanatory variables in the dynamic behavior of existing variables. Table 6.6 and 6.7 has demonstrated the outcomes of error correction model. The term ECM (-1) demonstrates the pace of adjustment of the determined model which is statistically significant with negative sign. Table 6.6 shows the unadjusted decentralized models where the values of ECM are -1.30 in revenue decentralization model 1, -1.44 in expenditure decentralization model 2 and -1.04 in revenue-expenditure model 3 respectively. The closeness of results to -1 represents the rate of adjustment of the models from the short run to long run equilibrium. Table 6.7 shows the adjusted decentralized models where the values of ECM is -2.57 in revenue decentralization model 4, -1.49 in expenditure decentralization model 5 and -1.01 in revenue-expenditure model 6 respectively. However, in short run investigation did not detect the statistically indicative influence of revenue and expenditure decentralization on economic performance of Pakistan.

Table 6.7: Short Run Results of Decentralization Models

Adjusted Decentralized Models					
Model (4) Revenue Decentralization		Model (5) Expenditure Decentralization		Model (6) Revenue-Expenditure Decentralization	
Explanatory Variables	Coefficients	Explanatory Variables	Coefficients	Explanatory Variables	Coefficients
D(GFCF)	-1.62 (-8.73)*	D(GFCF)	-0.45 (-0.85)***	D(GFCF)	-1.89 (-3.67)*
D(GFCF(-1))	-6.03 (-18.17)*	D(TRADE)	0.21 (1.13)***	D(TRADE)	1.49 (6.40)*
D(TRADE)	-3.33 (-28.68)*	D(PEA)	-0.03 (-0.60)***	D(PEA)	-0.17 (-3.68)*
D(TRADE(-1))	3.96 (27.72)*	D(PEA(-1))	-0.020 (-3.16)*	D(PEA(-1))	-0.35 (-4.20)*
D(TRADE(-2))	0.16 (2.03)*	D(SSE)	-0.76 (-3.17)*	D(PRA)	-0.00 (-0.01)***
D(PRA)	-0.02 (-2.10)*	D(CREDIT)	-1.18 (-3.30)*	D(PRA(-1))	-0.12 (-0.56)**
D(PRA(-1))	0.39 (22.24)*	D(CREDIT(-1))	1.23 (3.12)*	D(SSE)	-0.06 (-0.27)***
D(PRA(-2))	0.14 (13.44)*	D(MVA)	2.51 (4.85)*	D(CREDIT)	-0.16 (-0.72)***
D(SSE)	0.34 (4.31)**	D(M2)	1.26 (4.85)*	D(CREDIT(-1))	0.75 (2.85)**
D(SSE(-1))	2.87 (21.66)*	D(M2(-1))	-0.99 (-3.76)*	D(MVA)	0.15 (0.18)***
D(SSE(-2))	0.73 (9.01)*	CointEq(-1)	-1.49 (-8.20)*	CointEq(-1)	-1.01 (-7.98)*
D(CREDIT)	-3.52 (-27.21)*				
D(CREDIT(-1))	3.08 (21.65)*				
D(CREDIT(-2))	4.08 (23.76)*				
D(MVA)	10.19 (32.86)*				
D(MVA(-1))	-10.21 (-19.34)*				
D(MVA(-2))	6.42 (20.63)*				
D(M2)	5.68 (35.57)*				
D(M2(-1))	-4.34 (-33.42)*				
D(M2(-2))	-2.82 (-25.33)*				
C	-174.38 (-34.74)				

CointEq(-1)	-2.57 (-34.73)*				
--------------------	--------------------	--	--	--	--

Source: Author's calculations. The values in parenthesis are t-statistics. * For 1%, ** for 5% and ***for 10% show the level of significance.

CONCLUSION

The study appraised the association of fiscal decentralization and macroeconomic performance in developed economies. The outcomes of investigation do not demonstrate a distinctive connection involving fiscal devolution and economic development as Woller and Philips (1998), Davoodi and Zou (1998), Zhang and Zou (1998) and xie et al (1999) found an inverse relationship linking fiscal devolution and economic escalation. Whereas Yilmaz (1999), Akai and Sakata (2002), Iimi (2005), Lin and Liu (2000) and Stansel (2005) explored positive association fiscal devolution and economic augmentation. Yet in Pakistan Malik et al. (2006), Iqbal and Nawaz (2009), khattak et al. (2010), Faridi (2011), Faridi et al. (2012) and Faridi and Nazar (2013) formulated that the process of fiscal decentralization is favorable for the economy of Pakistan. So this research will prove a supplementary outlook of different facet of decentralization and may be a struggle to develop the connection of decentralization with the macroeconomic performance in a growing economy like Pakistan. The reviews of different empirical studies demonstrate that notable effort has not been made in growing and intermediary economies to construct the relationship connecting fiscal devolution and macroeconomic performance. In addition, present study will demonstrate the continuity of fiscal decentralization process in underdeveloped economy and may emphasize positive contribution of macroeconomic determinants which become the cause of enhancement of macroeconomic performance in Pakistan.

To examine the effect of fiscal devolution on macroeconomic presentation in Pakistan, the literature evaluated a concise olden time of division of resources amongst the provinces. The commission reviewed the NFC awards since 1991 to improve the procedure of resource allotment among the provinces in Pakistan. Direct transfers of finances and grants have been increased for all the provinces due to these awards. The effectiveness self-sufficiency and resource generation of Provinces get inducement to improve because of identical grants and in turn attain financial autonomy. The economic divergence of provinces can be removed through appropriate transfer of resources.

Study also emphasized the drawbacks of NFC awards and demonstrated that deadlocks occurred among the provinces due lack of coordination. The circumstances of tug of war remained among the provinces due to inadequate distribution of resources where each province has clashes of priorities in Pakistan.

Policy Implications

For triumphant decentralization to strike equilibrium between revenue and expenditures is a precondition. The mounting gap between fiscal revenue and

expenditure is also performing as an obstacle to obtain the fruitful results of fiscal decentralization. To fulfill the financial needs of the government it greatly depends upon the revenue from the indirect taxes. The reform of tax 2010-11 enhanced the share of revenues through taxes but still there is a need to encourage fair and honest system of tax collection and redistribute it the regional government equitably. The evolving challenge facing by Pakistan economy is ever increasing national and international debt, so it is imperative demand to reduce the fiscal deficit. Fiscal sovereignty will provide more resources, more confidence, and also formulate the federal entity more responsible.

In the light of particular debate, following recommendation can be advocated which would improve the performance of the federation and realize economic development.

- i. Federal government should formulate a rational and sustainable formula for the distribution of resources among the provinces. All provincial governments, chambers of commerce and industry, public and private enterprises, prominent scholars and economists, local politicians, major tax payers, should be participated in the process of discussion for formulating suitable and proficient system of resource distribution.
- ii. The local and provincial level of governments should be given more sovereignty in expenditure because they may be capable to produce more opportunities for the development of economy.
- iii. Local and provincial government should be specified more autonomy in revenue creation in order to reduce inflation and increase the purchasing power of the masses.
- iv. Local and provincial governments should be authorized to produce resources and attain the aim of self-sufficiency.
- v. Fiscal operations must be transparent from top to bottom and from bottom to top.
- vi. Full authority should be given to provincial and local governments for the allocation and utilization of funds without any interruption of federal government. Minimum intervention of federal government would help the local and provincial government to be responsible and confident. To discourage the miss-utilization, miss-handling, and leakages of funds should be checked by the federal government.
- vii. There should be a stable organization of NFC with a particular secretariat and professionals of the subject matter as consultants.

REFERENCES

- Akai, N. and Sakata, M. (2001). Fiscal Decentralization Contributes to Economic Growth: Evidence from State Level Cross Section data for the United States. *Journal of urban economics*, 52, 93-108.
- Bahl R, Martinez-Vazquez J,Wallace S, 2002, "State and local government choices in fiscal redistribution" *National Tax Journal* 55 723 ^ 742
- Barro R J, Lee J-W, 2001. "International data on educational attainment: updates and implications" *Oxford Economic Papers* 53 541 ^ 563
- Brennan, G., & Buchanan, J. (1980). *The Power to Tax: Analytical Foundations of a Fiscal Constitution*. Cambridge University Press.

- Chaudhry, I. S., Malik, S., Hassan and Faridi, M. Z. (2010). Does Education Alleviate poverty? Empirical Evidence from Pakistan. *International Research Journal of Finance and Economics*, 52, 134-141.
- Davoodi, H. and Zou, H. (1998). Fiscal Decentralization and Economic Growth: A Cross-Country Study. *Journal of Urban Economics*, 43, 244 – 257.
- Ebel, R. D. and Yilmaz, S. (2004). On the Measurement and Impact of Fiscal Decentralization. Washington DC: Urban Institute.
- Faridi (2011). Contribution of Fiscal Decentralization to Economic Growth: Evidence from Pakistan. *Pakistan Journal of Social Sciences (PJSS)* Vol. 31, No. 1 (June 2011), 1-13
- Faridi , Chaudhry and Ansari (2012) The Impact of Fiscal Decentralization, Inequality and Poverty on Employment: Evidence from Pakistan . *Pakistan Journal of Social Sciences (PJSS)* Vol. 32, No. 2 (2012), 357-369.
- F Sepulveda and Martinez-Vazquez (2010). The consequences of fiscal decentralization on poverty and income equality. *Environment and Planning C: Government and Policy* 2011, volume 29, 321 – 343
- Faridi and Nazar (2013). Impact of Fiscal Autonomy on Poverty in Pakistan. *Pak J Commer Soc Sci Pakistan Journal of Commerce and Social Sciences* 2013, Vol. 7 (1), 141-156
- Iqbal, N. and Nawaz, S. (2010). Fiscal Decentralization and Macroeconomic Stability: Theory and Evidence from Pakistan. Pakistan Institute of Development Economics, Pakistan.
- Lin, J. Y. and Liu, Z. (2000). Fiscal Decentralization and Economic Growth in China. *Economic Development and Cultural Change*, 49(1), 1 – 21.
- Malik, S.J. (1992). Rural Poverty in Pakistan: Some Recent Evidence. *The Pakistan Development Review*, 31(4), 975-992.
- Malik, S., Hasan, M. and Hussain, S. (2006). Fiscal decentralization and Economic Growth in Pakistan. *The Pakistan Development Review*, Vol. 4(45), 845 – 854
- Malik, M.H. (2008). Fiscal Decentralization for Poverty Reduction in Asia: Opportunities, Challenges and Policy Issues. *Asia-Pacific Development Journal*, 15(2), 13-33.
- Musgrave R.A. (1959) *The Theory of Public Finance*. McGraw-Hill.
- Oates, W. (1999). An Essay on Fiscal Federalism. *Journal of Economic Literature*, 37, 1120 – 1149.
- Xie, D., Zou, H. and Davoodi, H. (1999). Fiscal Decentralization and Economic Growth in the United States. *Journal of Urban Economics*, 45, 228 – 239.
- Zhang, T. and Zou, H (1998). Fiscal Decentralization, Public Spending, and Economic Growth in China. *Journal of Public Economics*, 67, 221 – 240.