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# INVESTIGATING THE IMPACT OF FISCAL DECENTRALIZATION UNDER THE 7TH NFC AWARD ON HUMAN DEVELOPMENT IN PAKISTAN

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## Abstract

This study examines the impact of fiscal decentralization under Pakistan's 7th NFC Award on human development, using data from 2000–2019. It analyzes changes in the Human Development Index (HDI) and sub-indicators, including life expectancy, education, and income levels. Empirical findings show no significant improvement in HDI or sub-indicators except for life expectancy. The study concludes that fiscal decentralization alone cannot enhance human development without rigorous planning, efficient administrative structures, and innovative strategies at the provincial level. These results highlight the need for a holistic approach integrating financial decentralization with governance reforms and sustainable development planning.


*Keywords:* Fiscal Decentralisation, 7th NFC Award, Human Development, Pakistan.
*JEL Classification:* H770.

## I. Introduction

Fiscal decentralization is the politico-administrative framework wherein the central authority delegates control over decisions for planning and management of public operations to governments at the lower tiers [Anyanwu (1999)]. Fiscal decentralization can be in the form of revenue, expenditure and composite decentralization. Revenue decentralization tends to stimulate economic growth, whereas expenditure decentralization may hinder it; however, composite decentralization has a positive impact on economic growth [Iqbal, et al., (2013)]. The transfer of fiscal responsibilities through fiscal decentralization empowers sub-national governments by delegating to them the authority to generate revenue and make expenditures [Udoh, et al., (2015)]. The government at various levels have primary functional roles of allocation, distribution, and

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stabilization. Sub-national governments can efficiently carry out the allocation and distribution function, being rightly placed to perform allocative and distribution functions to ensure the provision of a variety of services to the public that suit the requirements of the people under their jurisdiction. However, the federal government is more suited to carry out the duty of stabilization through control of the business cycles than the public sector [Musgrave (1959)]. The concept of Human Development (HD) emphasizes the expansion of people's choices, enabling them to live satisfying living standards. HD involves providing the conditions necessary for individuals to live long and healthy lives, access education, and maintain a decent standard of living. Additionally, the UNDP framework highlights the significance of broader aspects, such as political freedom, the guarantee of human rights, and the preservation of self-respect, recognizing that these dimensions contribute to a holistic sense of well-being and agency. This expanded view underscores the idea that development is not merely about economic growth but about creating environments where people can thrive in every aspect of life [Ranis, et al., (2006)]. Infrastructure, education, and healthcare are more dependent on local situations and may be better handled by local governments. As a result, ceteris paribus, one would anticipate that fiscal decentralization would have a favourable impact on human development indicators like the Human Development Index [Sarkar (2000)].

Fiscal decentralization is considered a powerful instrument for enhancing both the delivery of public services and economic efficiency. However, fiscal transfers must be planned so that the sub-governments that receive them have clear authority, adequate funding, the right amount of decision-making flexibility, and responsibility for the results of services to be efficiently supplied [Bird and Smart (2002)]. Moreover, decentralization leads to expanding the range of civic goods as these are offered according to the requirements and desires of the local population [Tiebout (1956)]. According to Fisman and Gatti (2002), decentralization and corruption are strongly negatively correlated. Fiscal decentralization enhances macroeconomic management by simplifying public entities operations, lowering service-operating costs, and encouraging the subnational governments to compete in the delivery of general services [Iqbal, et al., (2013)]. Decentralization improves technical efficiency in developing nations in different areas, such as infant mortality [Channa and Faguet (2016)]. Fiscal decentralization has a significant and positive impact on the provision of poor-centric civic services [Ahmed (2015)]. The impact of financial decentralization on economic growth and human development in Indonesia showed highly positive relations, more autonomy for the lower tiers is required to enable them to implement innovative strategies to increase their resource base [Daud and Soleman (2020)]. In China, fiscal decentralization has been a successful strategy for enhancing healthcare and reducing infant mortality [Uchimura and Jutting (2009)]. According to Herath (2009), the tasks and responsibilities of central and local governments must be clearly defined. The overlap between central and subnational government functions decreases the efficiency of fiscal decen-

tralization; therefore, for Sri Lanka, fiscal decentralization has a negligible impact on raising per capita income, making it inappropriate.

In Pakistan, the delegation of taxing and expenditure powers has substantially contributed to its economic growth, and hence, for improved economic growth and public welfare, the central government may entrust more fiscal power to the provincial and local governments [Faridi (2011)]. Fiscal decentralization is poised to foster pro-poor sectors including education, healthcare, water supply, agriculture, rural development, sanitation, and other civic infrastructure in Pakistan, which eventually reduces poverty [Ahmed (2013)]. Fiscal decentralization has long-term beneficial effects on Pakistan's public service delivery since it has greatly boosted gross primary enrollment [Rauf, et al., (2017)].

Under Article 160(1) of the 1973 Constitution of Pakistan, the government is required to establish a National Finance Commission (NFC) to recommend a fair method for redistributing resources collected by the central government. The NFC must be constituted at least once every five years, with the objective, firstly, to recommend how tax and duty revenues should be divided between the federal and provincial governments. Secondly, advise on how grants-in-aid should be distributed to provinces in need of additional financial support and, thirdly, provide recommendations on the borrowing limits and powers of both federal and provincial governments. Since 1974, seven NFC awards have been announced. The 6th NFC Award was announced in the shape of 'The Distribution of Revenues and Grants-in-aid Order (DRGO), 2006' which increased the share of provinces in the divisible pool from 37.5 to 41.5 per cent with a 1 per cent annual increase per annum till 2010-11, has further increased the provincial share to 46.25 per cent [Pakistan (2009)].

The 7th NFC Award of 2009 established new parameters and guidelines for resource allocation and fiscal decentralization. The budgetary allocation to the provinces was adequately increased by the 7th NFC Award, which also contributed to lessening distrust between the federating units and eliminating horizontal imbalances among the provinces [Khan and Malik (2022)]. As a result of the 7th NFC Award, the provincial revenue increased mainly due to the devolution of GST on Services. Resultantly, the development expenditures of the federal government in the post-7th NFC Award period declined while those of the provincial governments increased [Sabir (2014)]. Additionally, by giving the provinces the ability to obtain domestic and international loans and collect excise taxes on oil and gas, the 7th NFC Award and the 18th Amendment have considerably improved their financial situation [Javed and Nabi (2018)].

The Human Development Index (HDI) is widely used as an effective tool to gauge the level of national development and, obviously, the quality of its public services delivery. The United Nations Development Program (UNDP) issues a Human Development Report yearly, ranking countries based on HDI scores that reflect the quality of life in the respective countries. To measure the effect of fiscal decentralization through the historical 7th NFC Award in Pakistan, the HDI and its sub-indicators, including education, health, and income level, have been analyzed. The 7th NFC Award was agreed

upon in 2009 and was implemented as a new formula for resource distribution in the financial year 2010-11. The share of provinces was enhanced to 56 per cent in 2010-11, whereas 57.5 per cent for the coming years. Khyber Pakhtunkhwa was allocated an additional 1 per cent of the undivided Divisible Pool as compensation of expenses on Terror as a goodwill gesture alongside the payment of Rs. 110.0 billion as arrears of Net Hydel Profit. Baluchistan was also granted Rs. 10.0 billion as a Gas Development Surcharge, whereas Sindh province was allocated a grant of 0.66 per cent out of the share of provinces [Pakistan (2009)].

The central objective of this study is to evaluate the effect of resource decentralization on human development in Pakistan over the period from 2000 to 2019 in order to obtain more robust and plausible results. The study period has been divided into pre- and post-NFC periods for empirical analysis of the different indicators of human development.

This research study is organized as follows: Section II describes the literature review. Section III presents the empirical methodology and theoretical framework, while Section IV discusses the data analysis techniques and findings of the study. Section V concludes the overall study, and section VI provides policy recommendations and limitations of the research study.

## II. Literature Review

The sub-national governments can better deliver public services that better tally with the preferences of the people in their jurisdiction, as they better know the choices of the residents against the national government [Hayek (1945)]. According to Buchanan (1950), due to the low mobility of the population, a decentralization strategy will give the subnational governments sufficient resources to offer better services to the public. The choice of the citizens and their mobility to the regions that best meet their desired services and needs generate struggle among the local governments for the provision of improved services, which ultimately leads to allocative efficiency. The choice of the citizens compels the subnational government to meet their desired needs, and the residents might shift from that region, which fails to meet their desired needs [Tiebout (1956)].

Decentralization assumes that the foundation for maximizing national social welfare is local authorities, which produce local outputs for local demands instead of central authorities. It is always better to provide some goods and services at the local level using public resources [Udoh et al., (2015)]. However, some researchers, including Boadway and Flatters (1982) and Gordon (1983), argue that fiscal decentralization can lead to inefficiencies in resource economies. They base their argument on a straightforward decentralized multi-province model with mobile factors of production, emphasizing that local governments often overlook the impact of their decisions on non-residents. In light of these inefficiencies, they emphasize the central government's responsibility to provide intergovernmental transfers. Similarly, Prudhomme (1995)

argues that the results of decentralization are less ideal than predicted by the decentralization model despite the significant desire for decentralization in both developed and developing nations. Prudhomme cites the joint production services by the national, regional or municipal governments as a serious issue and suggests that fiscal decentralization be utilized at the correct level to solve the problem.

According to Ghuman and Singh (2013), the impact of decentralization on public service delivery depends upon certain factors like the decentralization design, implementation arrangements, and flexibility of the decentralization model to accommodate the views of the opposing stakeholders and participatory governance. Decentralization enhances locally delivered services when supported by robust local fiscal resources. It allows autonomous subnational governments to independently manage resources, build human capacity, incentivize performance, and promote participatory governance. Likewise, Trillo and Rabling (2008) consider fiscal decentralization in the absence of a strong institutional and legal framework ineffective as the conditional grants are mainly provided on political grounds and resultantly, the funds meant for poverty alleviation provided through community-led organizations are not received by the poor.

The empirical literature shows an encouraging and positive relationship between the impact of fiscal decentralization on economic development and real output in Turkey and China, respectively, as mentioned by Ozcan (2000) and Feltenstein and Iwata (2005). Fiscal decentralization has improved public service delivery and has resulted in a more transparent process and response to the requirements and priorities of the locals has increased [Elhiraika (2007) and Barankay and Lockwood (2007)]. While investigating the association between fiscal decentralization and the funding of public services at the local level in Indonesia, Smoke and Lewis (1996) find that fiscal decentralization improves the standard of living if the local governments are capable of achieving the assigned tasks efficiently. They suggest that before moving to fiscal decentralization, the national government should investigate which roles the local governments can better manage. Fiscal decentralization is a significant policy tool for achieving efficiency in economic management and effective governance is an effective tool for the promotion of economic development in Pakistan [Malik, et al., (2006) and Khattak, et al., (2010)].

Fiscal decentralization could be helpful in improving the public sector's efficiency, which may lead to increased economic growth, whereas expenditure decentralization leaves a significant positive impact on employment generation, and effective fiscal decentralization promotes more citizens' participation in the development process at the local level in Pakistan [Faridi (2011)] and [Faridi, et al., (2012)]. There is a positive relationship between revenue decentralization and economic growth as it generates positive externalities that enhance per capita income. However, expenditure decentralization has a negative impact on per capita income in Pakistan [Iqbal et al., (2013)]. The service delivery in the education and health sectors has improved due to fiscal decentralization in Pakistan. However, Baluchistan and Khyber Pakhtunkhwa lag far behind Punjab and Sind [Ahmed and Lodhi (2013)]. Ahmed (2013) identifies a strong

relationship between expenditure decentralization and improvements in the Human Development Index (HDI) and poverty reduction across both rural and urban areas. Fiscal decentralization has led to improved performance in the health and education sectors, as reflected in higher student test scores, reduced infant mortality rates, increased vaccination coverage among children, and a higher Gross Enrollment Rate [Uchimura and Jutting (2009)], [Diaz-Serrano and Rodríguez-Pose (2015)], [Olatona and Olomola (2015)] and [Channa and Faguet (2016)].

Fiscal decentralization benefits the opulent areas, promoting regional gaps between the rich and poor regions. However, fiscal decentralization alone cannot resolve the distributional problems of public goods and services and suggests reducing employment in the agriculture sector in the regions [Zhang and Xiaobo (2006)]. Similarly, fiscal decentralization strengthens the abilities of the subnational governments for economic development, innovations, and better local commercial conditions. However, fiscal decentralization can upset the economic environment of the regions that rely on income from natural capital, rentals or grants, leading to negative growth. It may distort the business environment [Frienkman and Plekhanov (2009)].

Fiscal decentralization showed an insignificant impact on per-capita income in Sri Lanka, which means that decentralization needed to be more appropriate for Sri Lanka. The low capacity of the public officials and huge imbalanced regional development were the obstacles to availing benefits of fiscal decentralization [Herath (2009)]. Mehmood, et al., (2010) identified a long-term relationship between fiscal decentralization, human development, and urbanization. It was further revealed that effective fiscal decentralization not only promotes human development but also strengthens the federation by fostering greater harmony among the provinces. Arif and Ahmed (2020) found adverse effects of fiscal decentralization on growth in the absence of good governance and macroeconomic stability. They suggested that the administrative competence of sub-national governments shall be enhanced through training programs for effective revenue and expenditure management.

Sofilda, et al., (2023) observed that locally generated revenue, government grants, and human capital development positively affected regional economic growth, even though the degree of decentralization has inversely affected regional growth in Indonesia. Many studies investigated fiscal decentralization, HDI and its components nexus around the world. The fiscal decentralization of revenue has a positive and significant effect on HDI and the effect can be nonlinear [TÜMAY (2023)]. Jin and Jakovljevic (2023) found a significant hump-shaped connection between fiscal decentralization and HDI in 50 countries from 2010 to 2021. Dauda and Soleman (2020) found a positive relationship between fiscal decentralization and Human Development index through higher economic growth. The fiscal decentralization reforms positively impact public service delivery in Indian states. However, institutional quality, freedom of expression, improving local government capacity, and improving the local government functions at the district level can be more fruitful for effective public service de-

livery in education and health [Singh, et al., (2024)]. The effect of fiscal decentralization on health outcomes is negative, but better governance can offset it. However, the case is the opposite so far in the case of educational expenditures. But this can be achieved if there is a good quality of governance [Nakatani, et al., (2022)].

Most of the research studies are based on analyzing the relationship between fiscal decentralization and public services delivery, economic and human development, or quality of governance. The results of these studies reflect a mixed scenario and need to present a more clear relationship between decentralization and economic growth and performance, state of governance and public service delivery. Some of the studies suggested an inverse relationship, while some other studies found a positive relationship. Moreover, the studies have yet to compare human development indicators in the periods before and after fiscal decentralization. This research presents a novel investigation into the impact of the 7th NFC Award on human development, filling a gap left by previous studies. By dividing the study period into pre- and post-7th NFC Award phases, the paper specifically focuses on any improvements in public service delivery indicated by the human development index and related indicators, following the allocation of additional funds to provinces. This pre- and post-7th NFC award analysis portrays the magnitude of the impact of fiscal decentralization on human development indicators due to additional funds transfer to the subnational governments, making it a unique study.

## III. Empirical Methodology and Data Analysis

### *1. Theoretical Framework*

Decentralization refers to the process of transferring control over specific functions from the national government to subnational or lower tiers of government [Neyapti (2004)]. This shift can significantly impact government performance, depending on the types of decentralized functions and the level of governments involved. Decentralization can take various forms, including political, administrative, fiscal, and economic/market decentralization. This research study focuses specifically on fiscal decentralization, which pertains to transferring tax and spending powers from the central government to subnational governments [de Demello (2000)].

This dissertation highlights the impact of fiscal decentralization on human development at the national and provincial levels.

To evaluate these dynamics, the analysis will be divided into two sub-samples based on the periods before and after the 7th National Finance Commission (NFC) Award. Data was gathered for the period 2000 to 2019 indicating the pre-and post-7th NFC Award period, to assess the influence of new fiscal arrangements on human development. This approach allows for an assessment of the impact of additional fund transfers under the 7th NFC Award on human development indicators. Data on variables at the national and provincial levels was collected for both periods. The data for each

variable at the national and provincial levels is analyzed separately. Various techniques and tests are employed in this research to analyze the effects of these additional fund transfers on Human Development in light of the 7th NFC Award.

## 2. *Empirical Model*

The following econometric model was employed for the analysis in equation (1):

$$Y_t = \beta_0 + \beta_1 \, Time + \delta_0 D + \delta_1 D * Time + \varepsilon_t \quad (1)$$

D = 1 for post 7th NFC
D = 0 for pre 7th NFC

where, $Y_t$ as a dependent variable denotes Human Development Index (HDI), Life Expectancy at birth, Expected Years of Schooling, Mean Years of Education, and GNI per Capita. By estimating the regression line using the OLS, students t-test, F- test and Wald-Coefficient Restriction tests are applied to test the significance of $\hat{\delta}_0$ and $\hat{\delta}_1$. At both the national and provincial levels, data trends were tested using the same model. Moreover, the data of various variables was analyzed in the pre-and post-7th NFC Award periods to identify any positive or negative variation. As is evident from the 7th NFC Award, provinces have received additional funds transfers; hence, no variable for fiscal transfer is used for the post-NFC period. Any positive variation in the variables' trend is mainly attributed to additional funds transfers.

### a) *Variables' Descriptions*

Various variables were chosen to assess the effect of the 7th NFC Award on human development in Pakistan. The Human Development Index (HDI), a commonly used indicator for measuring various dimensions of human development, was estimated. Additionally, sub-indicators of the HD (Human Development) Index, namely Life Expectancy at birth (Life Epec), Mean Years of Schooling (MYS), Expected Years of Schooling (EYS), and Gross National Income (GNI) per Capita have been separately analyzed to estimate the effect of 7th NFC Award on specific components of human development index i.e. healthy life, access to education and a decent living standard.

### b) *Sources of Data*

Secondary data in the form of panel data was retrieved from various sources, including the World Development Indicators of the World Bank, UNDP HDI (Human Development Indicators) Reports (various editions), the Pakistan Bureau of Statistics (PBS), the Economic Survey of Pakistan (various issues), various reports of UNICEF,

and data from the UNICEF website. Data was collected from 2000 to 2009. Data on subnational/provincial indicators on the Human Development Index was obtained from the website *globaldatalab.org*.

### *c) Various Tests Employed*

The stability of the coefficients depicting trends in data, with the addition of more data, was tested through the Recursive Coefficient Test. The structural break is depicted by a jump in the coefficient values in the Equation, suggesting an impact of the new award on the trend in data over the period, which is tested through the Chow Breakpoint test. The models are used for the breakpoint test before the structural break in Equation (2) as follows:

$$y_t = \beta_1 + \beta_2 x_t + \varepsilon_{1t} \tag{2}$$

After the structural break the, Equation (3) as follows:

$$y_t = \delta_1 + \delta_2 x_t + \varepsilon_{2t} \tag{3}$$

Trend value was estimated to identify a change in trend over time in human development due to new fiscal arrangements. A Student t-test is performed to compare the means of samples before and after the award. It is used to test the hypothesis of whether the additional funds transfer affects both samples or not. The Wald-Coefficient Restrictions Test was used to test the significance of a given independent variable in the model. Wald test suggests whether the additional funds transfer considering the 7th NFC Award has contributed to human development in Pakistan. The Equality of Variance test is performed to determine the similarity of variances in the pre-and post-7th NFC Award period. The before and after the 7th NFC Award situation's residuals from the regression analysis were tested with the Durbin Watson test to look for autocorrelation. Autocorrelation is the similarity of a time series over successive time intervals.

## IV. Data Analysis and Findings

Various empirical techniques were performed to analyze the impact of the new resources' distribution arrangements on various variables. The results of these analytical techniques on various variables are presented in detail below:

### *1. Results on Human Development Index (HDI)*

Various tests were applied to assess the stability and variability of HDI data at the national level before and after the 7th NFC Award, and the results are given in Table 1.

**TABLE 1**

Results of the Human Development Index (aggregated and disaggregated levels)

| S# | Technique | Hypothesis/Values | Tests Results | | | | |
|---|---|---|---|---|---|---|---|
| | | | Pakistan | Punjab | Sindh | KP | Baluchistan |
| 1. | Chow Breakpoint test for β | Ho: No Break Point exists in 2011. | F= 19.80 P= (0.00) | F=40.22 P=(0.00) | F=76.22 P=(0.00) | F=78.23 P=(0.00) | F=11.26 P=(0.00) |
| | | The Coefficients are not stable in 2011. | Unstable | Unstable | Unstable | Unstable | Stable |
| 2. | Wald Test | Ho: No change in trend or the level of the dependent variable in 2011. | 0 | 0 | 0 | 0 | 0.0009 |
| 3. | Change in trend (Dum*trend) | Ho: There is no trend in coefficient: δ=0 Ho: There is no change in the trend of the dependent variable. | P=0.000 D*t= -0.0035 | P=0.000 D*t= -0.00442 | P=0.000 D*t= -0.0069 | P=0.000 D*t=-0.0072 | P=0.002 D*t=-0.0019 |
| 4. | Equality of Variances Test | Ho: The variance of both periods are same. | 0.1811 | 0.1137 | 0.509 | 0.4929 | 0.0008 |
| 5. | Durbin Watson Test | Ho: There is no change in persistence in the rate of change of the dependent variables if we compare pre and post-7th NFC periods. | positive | positive | positive | positive | positive |
| | | Autocorrelation Coefficient pre NFC | 0.87 | 0.86 | 0.91 | 0.92 | 0.88 |
| | | Ho: There is no first-order autocorrelation | positive | positive | positive | positive | positive |
| | | Autocorrelation Coefficient post NFC | 0.61 | 0.6 | 0.54 | 0.44 | 0.28 |
| 6. | Trend after 2011 | (T-Dum*T) | decreased | decreased | decreased | decreased | decreased |

*Source:* Authors' estimation.

HDI was regressed on time, and the Chow Breakpoint test was performed to determine a variation in trend when the 7th NFC award was introduced. The results of the Chow test show that a breakpoint exists for the Human Development Index at the national level as well as at all provinces, indicating unstable coefficients during the same period. This also means that coefficients are changing and were not stable when the 7th NFC Award was implemented, indicating the impact caused by the new award.

Similarly, Recursive coefficients were also estimated to identify variation in the trend and/or level of HDI and the results are given in Figure (1):

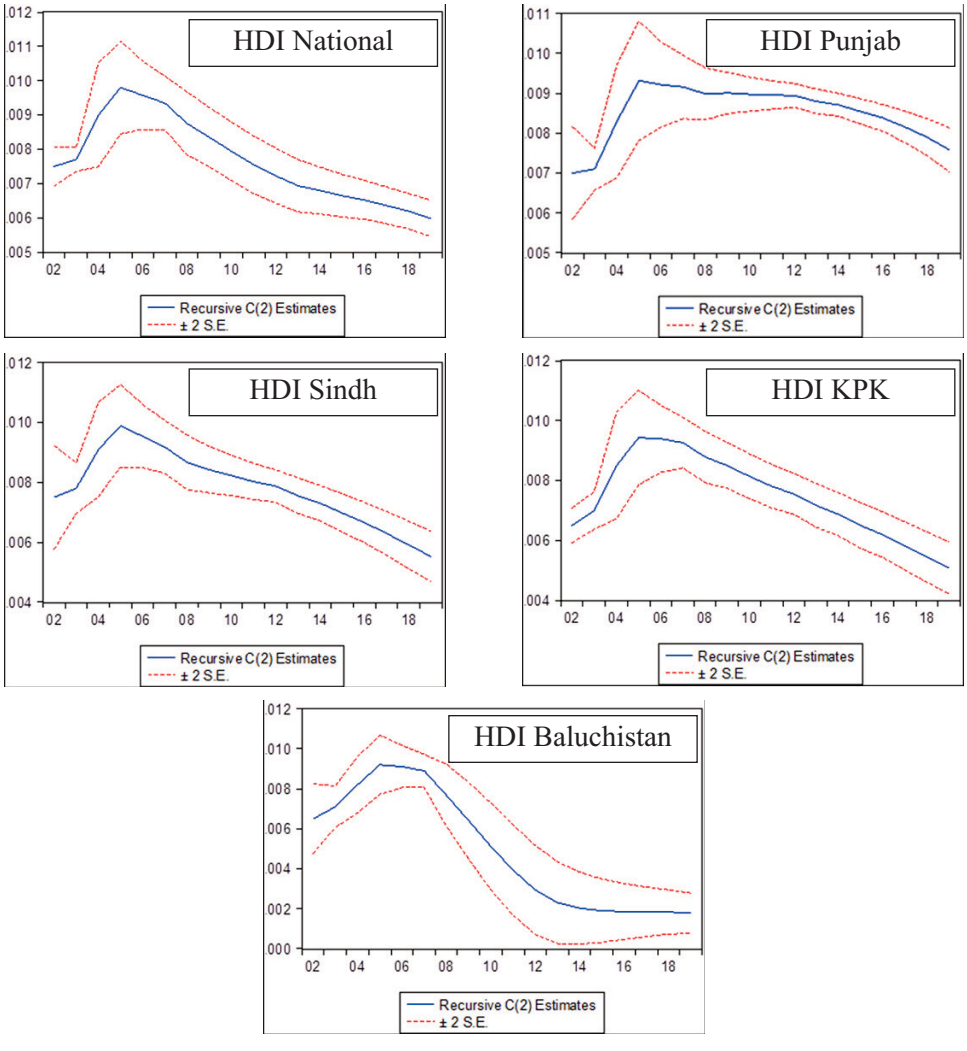


**FIGURE 1**

Recursive Coefficient HDI

At the national level, the slope coefficient initially increases till 2005 but then gradually declines to low value till the end of the sample period. This means that the Human Development (HD) Index increases till 2005 at a higher rate, but the rate of growth tends to decline for 2006 and 2007. Beyond 2007, the growth rate of the HD index decreased enormously, which continued throughout the post-award period. It shows that the 7th NFC Award does not affect the Human Development Index at the national level. Similarly, for Punjab, the growth rate of the HD Index remained a bit stable till 2012. However, then the growth rate started declining throughout the period, implying that the 7th NFC award had no effect on the HD index in Punjab. The HD Index for Sindh and Khyber Pakhtunkhwa has shown decreasing growth since 2005 and throughout the post-7th NFC Award period. For Baluchistan, the HD Index growth rate drastically decreased, though it remained positive till 2013, then became stable. This implies that the HD Index in Baluchistan, despite some nominal contribution, has not been substantially improved in response to the additional funds' transfers in the after-7th NFC Award period.

While using the dummy variable for the 7th NFC award to find a variation in trend and intercept, Wald statistics were estimated to test the hypothesis of whether the coefficients of the dummy variable and the interaction of the dummy variable and time are significant. The Wald test reflects that the coefficients representing level shift and trend break cannot be simultaneously zero; therefore, they are significantly different from zero. This implies a significant change in the trend or level of the dependent variable i.e. Human Development Index- in 2011.

The estimated coefficient of dummy variables representing trend (Dum*trend) shows a change in the trend of the dependent variable. This means that the trend in the HD Index has changed at national and provincial levels after the intervention, i.e., the 7th NFC Award. However, the change in trend, i.e., Dum*t, reflects no positive impact of the 7th NFC Award on all variables, as shown in Table 1.

The equality of variance test for both periods was applied, which indicates that the variance of samples before and after the 7th NFC Award is the same except for Baluchistan. This means that there is no significant impact on variability in the HD Index before and after the 7th NFC Award. However, the change in variability in the HD Index in the case of Baluchistan is significant in the post-award scenario.

While applying the Durbin-Watson test a positive autocorrelation was found in the HDI in pre- as well as post-NFC periods at all levels. This implies that inertia in the HDI exists in both periods, while the autocorrelation coefficient has a stronger magnitude of persistence in the pre-7th NFC period. This means a greater change in the tendency of the variables and higher inertia in the post-7th NFC Award scenario. Similarly, the trend values indicate a falling slope in all cases, thus the overall impact of the 7th NFC Award on HDI is not encouraging.

The Human Development Index has not responded positively to the fiscal decentralization under the new award, and the trend has mostly stayed the same

over the years. However, HDI at the national level has improved over the years, but the trend in the pre-and post-NFC periods remains the same. Punjab despite a better situation in the post-7th NFC Award period, has yet to respond positively and significantly. In the case of Sindh and Khyber Pakhtunkhwa, the result is reversed, and the rate of increase in the index has declined in the post-NFC era despite some improvement at the beginning of the post-7th NFC period. For Baluchistan, however, the result is encouraging because the falling trend has become stable since 2014. However, the HDI trend is again far from improvement in the post-7th NFC Award situation compared to the trend during the pre-7th NFC Award period. Hence, the extra funds provided to the provinces have no significant impact on the status of the Human Development Index in Pakistan. The reasons may vary depending on the complexity of the composition of HDI and the period in which the impact was assessed. Most of the indicators that constitute the HDI covering health, education and living standards are the impact level indicators that may need to be gauged in the short span from 2011 to 2019. Moreover, the period that followed the award was marred with turmoil and unrest, extensive militancy resultant military operations and mass displacements. All these factors severely affected all the indicators of health, education and income level that constitute the HDI.

Additionally, the mass destruction caused by the historic flood of 2010 damaged the physical infrastructure and sipped a considerable amount in the reconstruction and rehabilitation process. The government, thus, spared a major chunk of resources from the developmental portfolio to meet this emerging demand for reconstruction. As a result, the Human Development Index didn't improve due to the 7th NFC Award, although in the majority of cases, the growth in HDI has deteriorated. More investment would require breaking the vicious circle of poverty; labour-intensive techniques shall be adopted, income inequalities shall be reduced through equal distribution of resources, provinces shall be provided with more resources and steps should be taken to control inflation and encourage free trade [Faridi, et al., (2012)].

The impact of decentralization on public service delivery and, hence, human development depends upon certain factors like the decentralization design, implementation arrangements, flexibility of the decentralization model to accommodate the views of the opposing stakeholders, as well as participatory governance [Ghuman and Singh (2013)]. Prudhomme (1995) also finds that the advantages of fiscal decentralization have not been optimal as envisaged in the model and suggests fiscal decentralization should be used at the appropriate level to address the issue and that this potent drug may harm rather than heal if the dose and timing are not proper. However, a long-term relationship between fiscal decentralization and human development is found, suggesting that effective fiscal decentralization promotes human development [Mehmood, et al., (2010)].

### *2. Results on Human Development Indicators*

The Human Development Index measures performance in major dimensions of human development, covering healthy life, educational attainment and standard of living denoted by Life Expectancy at Birth, Mean Years of Schooling, Expected Years of Schooling and Gross National Income (GNI) per capita. These sub-indicators were analyzed and given in Table 2.

**TABLE 2**

Results sub-indicators of the Human Development Index

| S# | Technique | Hypothesis | Life Expectancy at birth | Expected Years of Schooling (EYS) | Mean Years of Schooling (MYS) | GNI Per Capita |
|---|---|---|---|---|---|---|
| 1. | Chow Breakpoint test for β | Chow Breakpoint test for β<br>Ho: No Breaks at the specific Breakpoints | F= 0.69<br>(P=0.51) | F=12.03<br>(P=0.00) | F=4.31<br>(P=0.03) | F=7.035<br>P=0.007 |
| | | Recursive coefficient for β (BP exists?) | Unstable | Unstable | Unstable | Unstable |
| 2. | Wald Test | γ=δ=0 Both Coeff=0 (There is neither a change in trend nor in the level of the dependent variable in 2011) | 0.515 | 0.0006 | 0.0318 | 0.007 |
| 3. | Change in trend (Dum*trend) | No trend in coefficient: δ=0 | P=0.407<br>D*t=0.012 | P=0.0005<br>Dum*t= -0.12 | P=0.0132<br>Dum*t=-0.068 | P=0.0534<br>D*t=0.029 |
| 4. | Equality of Variances Test | The variance of both samples is equal. | 0.9671 | 0.5303 | 0.002 | 0.9538 |
| 5. | Durbin Watson Test | Ho: No first-order autocorrelation | +ive | +ive | +ive | +ive |
| | | Coefficient Pre | 0.07 | 0.75 | 0.79 | 0.7 |
| | | Ho: no first-order autocorrelation | +ive | +ive | +ive | +ive |
| | | Coefficient Post | 0.02 | 0.4 | 0.32 | 0.65 |
| 6. | Trend after 2011 | (T-Dum*T) | Inc | Dec | Dec | Inc |

*Source:* Authors' estimation.

Life Expec, EYS, MYS and GNI per capita as variables were regressed and then Chow Breakpoint test to assess whether there was a change in trend at the time of implementation of the 7th NFC award. The results of Chow tests show that breakpoints exist in the data on Life expectancy, EYS, MYS and GNI per capita, implying that the coefficients could be more stable across the period.

Recursive coefficient estimates were found for the same regression of trend to find out a variation in the trend and level of the variables. The results of the recursive coefficient, as given in the figures below, suggest that life expectancy has continuously improved but has risen at a higher rate after 2010. This trend indicates a positive relationship between Life Expectancy and the 7th NFC Award. The result further depicts a higher growth in the trend for expected years of schooling up to 2009, but beyond that, the growth rate decreased even after the 7th NFC Award. The trend suggests no impact of the additional funds transfer on expected years of schooling. It is further noted that the falling trend became stable after 2014, implying that the impact of the 7th NFC Award has been realized at a later stage. However, the growth rate of EYS is still below that of the pre–NFC Award period. According to the recursive coefficient, mean Years of Schooling at the national level drastically declined since 2005 and continues to fall

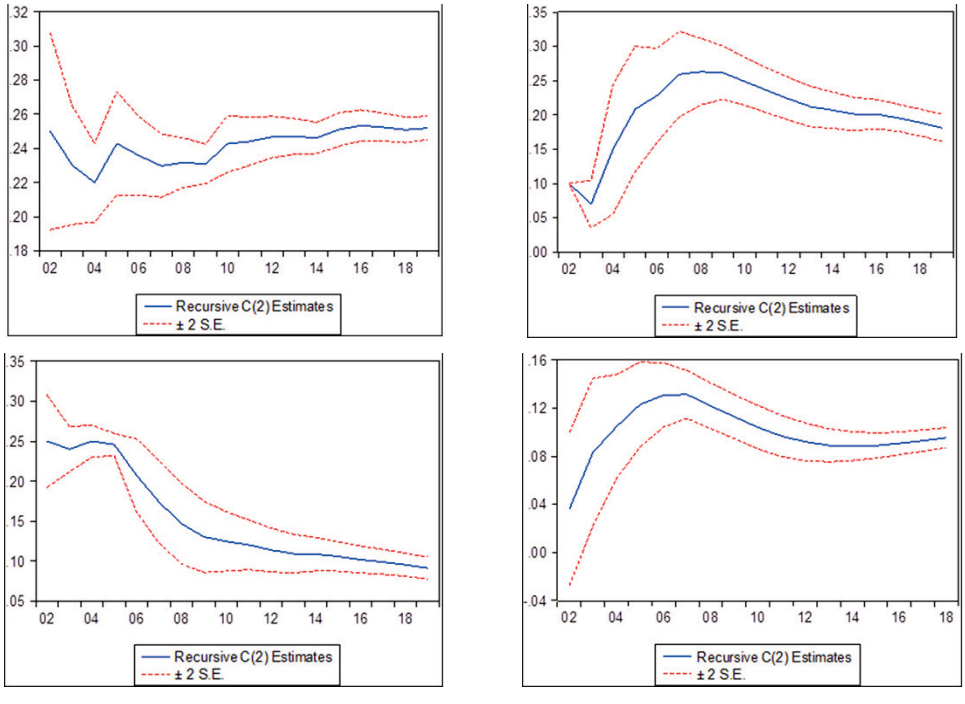


**FIGURE 2**

Life Expectancy, EYS, MYS and GNI per capita

during the post-7th NFC Award period. It can be concluded that the 7th NFC Award has no impact on improving the rate of growth of MYS. The result of the recursive coefficient suggests that GNI per capita has responded positively to the 7th NFC Award as the GNI was falling till 2011. However, the falling trend later stopped, and GNI increased after that in the post-7th NFC period. Thus, additional funds transfer under the 7th NFC award has a substantial and positive impact on GNI per capita.

The Wald test statistics suggest that both the coefficients are significantly different from zero, implying a change in the trend or level of the dependent variable in 2011. Thus, the new funds transfer arrangements under the 7th NFC Award have a significant impact on EYS, MYS and GNI per capita. For Life Expectancy, however, there was no change in trend or level.

While estimating the coefficients for dummy variables, it was found that the trend for Expected and Mean Years of schooling has negatively changed, whereas the same has been found for Life Expectancy and GNI per capita.

Similarly, the equality of variance test suggests that the variance of periods before and after the 7th NFC Award is the same for Expected Years of schooling, Life expectancy and GNI per capita but different for Mean Years of Schooling. This test suggests that additional funds transfer thus has the least substantial impact on the variability of Life Expec, ESY and GNI per capita but has some impact in the case of MYS.

Persistence and its tendency to change over time for Life Expectancy. EYS, MYS and GNI per capita were also tested, and the Durbin-Watson values indicate a positive autocorrelation in both periods for all the variables. Additionally, the values of the autocorrelation coefficient show a stronger magnitude of persistence in the pre-7th NFC period for Life Expec. EYS, MYS, and GNI per capita. There is a higher tendency to change and higher inertia after the Award for Life Expec. Expected Years of Schooling, Mean Years of Schooling and GNI per

The trend values suggest that the slope of the trend has fallen for EYS and MYS in the post-Award period, indicating the insignificant effect of the 7th NFC Award on them. However, the slope is better in the post-Award period for Life Expec and GNI per capita, reflecting a significant impact of the 7th NFC Award on Life Expectancy and GNI per capita.

The previous findings imply that the variables' reactions to the 7th NFC Award were diverse. Throughout the research period, the Life Expectancy at birth increased, but the post-NFC era had a more significant increase, suggesting an improvement in life expectancy. The 7th NFC Award has a positive impact on the overall trend. According to Robalino, et al., (2001), fiscal decentralization reduces mortality rates, which is crucial for impoverished nations. Consequently, increased funds transferred due to the 7th NFC Award have enhanced the overall health indicators represented by Life Expectancy at the national level. Uchimura and Jutting (2009) also conclude that fiscal decentralization is a valuable strategy for enhancing the provision of high-quality public services like healthcare and has assisted in reducing infant mortality in China.

Xu and Lin (2022) also found that fiscal decentralization, by increasing expenditure on public health by regional governments, improves access to healthcare services. By constructing new medical facilities and improving old ones, the subnational governments are better off investing additional money in healthcare, increasing access to these services. The expanding outreach of healthcare facilities in Pakistan has a significant influence on improving people's access to healthcare facilities. Fiscal decentralization favours health in European nations and increases people's satisfaction through the subnational government's effective authority and policies [Diaz-Serrano and Rodriguez-Pose (2015)].

Regarding education indicators, the Expected and Mean years of Schooling increased, albeit sparsely, and none of the variables improved after the 7th NFC Award. Numerous socioeconomic factors, including destitution, un/underemployment, and social restrictions, particularly regarding female education, the lack of schools locally, the lack of teaching staff, and the school environment are to blame for the education variables' dismal response to the 7th NFC Award. Additionally, because of the poor retention rate, many students drop out before finishing their primary education, discouraging new enrollment. Decentralization of expenditures improved service delivery efficiency in industrialized economies, while it had conflicting results in underdeveloped and emerging nations [Sow and Razafimahefa (2015)]. One of the factors contributing to the relatively low response of expected and mean years of education to the award is that retention and continuity of education depend on various pedagogical factors, such as the classroom environment, play areas, teaching techniques, use of audio-visual aids, and teachers' attitudes [Khan and Malik (2021)]. Additionally, it could take more time to assess how variables like expected and mean years of education have changed over time.

In the absence of adequate implementing arrangements and due to low income-generation capacity, the advantages of fiscal decentralization could not be accrued [Rehman, et al., (2014)]. According to several well-known research, decentralization has been proven to have poor, inadequate, and adverse effects on service delivery. However, it turns out that decentralization enhances technical efficiency over a variety of public services, from student test scores to infant mortality, after a thorough, technical, and systematic review of the literature, followed by an analysis of the veracity of their identification strategy [Channa and Faguet (2016)].

The impact of additional funds transfers to the subnational government in the wake of the 7th NFC Award impacts GNI per capita. The GNI per capita improved after the year 2011, as the falling trend initially stopped, and then the rising trend started. Though the improvement has been insignificant, people still have a better living standard. It alludes to the fact that the funds transferred to the provinces have been further utilized at the grassroots level, contributing to the people's income. Being a significant policy instrument, Fiscal decentralization significantly and positively affected Serbia's local employment and economic growth [Bartlett et al., (2018)]. Iqbal et al. (2013) discov-

ered that revenue decentralization and economic growth are positively related in Pakistan because they produce positive externalities that increase per capita income. However, its impact may be negative without proper implementation apparatuses. Herath (2009) found the insignificant effect of financial decentralization on per-capita income; hence, decentralization could not prove appropriate for Sri Lanka.

## V. Conclusion

This paper attempts to estimate the impact of fiscal decentralization in Pakistan under the 7th NFC Award of 2009 on the performance of the Human Development Index. An additional analysis was performed to evaluate various aspects of the Human Development Index, including long and healthy life represented by life expectancy at birth, education shown by mean years of schooling and expected years of schooling, and a decent standard of living measured by gross national income per capita.

After a detailed analysis, it was found that the HDI at the national and provincial levels has shown no positive response to the new fiscal arrangements, and the trend has mostly stayed the same over the years. The HDI at the national level has improved over the years, but the pre- and post-NFC period trend has remained the same. Despite a better situation in the post-7th NFC Award period, Punjab has yet to respond positively and significantly to the additional funds transfer. In the case of Sindh and Khyber Pakhtunkhwa, the growth rate of HDI has declined in the post-NFC period, whereas in Baluchistan, despite stability in the falling trend, the HDI trend is far from improvement in the post-7th NFC Award situation. Hence, the extra money provided to the provinces has no significant effect on the status of the Human Development Index in Pakistan.

Life expectancy has increased in the post-NFC period, showing an encouraging response to the new fiscal arrangements. As improvement in life expectancy is observed over a longer period of time, several potential contributing factors might include rising life standards, access to quality food and safe drinking water, better awareness about health and hygiene, and, presumably, increased access to health facilities.

EYS and MYS also had negative reactions to the 7th NFC Award. The cause might be anything from poverty to unemployment, underemployment, cultural restrictions, notably on females' education, lack of local schools, teacher absences, and school atmosphere. Additionally, several pedagogical aspects, including the classroom setting, play areas, instructional strategies, usage of A/V aids, and instructors' attitudes, may also be to blame for the poor performance of the education sector.

GNI per capita has improved in response to the new fiscal arrangements, as the downward trend stopped and a rising trend began. Though the improvement is inadequate, as expected in the wake of new fiscal arrangements, the transfer of funds to the provincial level has left a visible impact on people's living standards.

This situation indicates a mixed impact of the increased funds transferred to the provinces. While there have been improvements in specific indicators such as life ex-

pectancy and GNI per capita, the overall Human Development Index (HDI) has yet to show significant progress beyond 2011. This suggests that provincial governments need to make more focused and effective use of the additional funds to achieve better outcomes in human development.

## VI. Policy Recommendations and Limitations of the Research

While the fiscal devolution under the 7th NFC Award has significantly increased financial resources for provinces, the anticipated improvements in health, education, and employment generation have yet to materialize as expected. To realize the real benefits of fiscal decentralization, the following are the major recommendations:

1. Decentralize Revenue Generation: Further decentralizing revenue generation, as suggested by the Second-Generation Theory of Fiscal Federalism, can empower provinces to expand their revenue bases. This approach encourages local innovation and responsiveness to community needs.
2. Develop Strategic Plans and Programs: Invest in training programs for government officials to enhance their administrative and financial management skills. This will ensure that provinces can effectively plan, allocate, and execute projects.
3. Set Clear Investment Priorities: Each provincial government should identify and focus on socioeconomic indicators that reflect public demand. By aligning investments with community needs, provinces can better allocate resources for maximum impact.
4. Revamp Administrative and Legal Frameworks: Review and update existing regulations and structures to facilitate the launch of new initiatives. A more flexible and responsive governance framework can enhance the effectiveness of fiscal decentralization.
5. Encourage Private Sector Participation: Foster collaboration with the private sector to deliver services more efficiently. Creating incentives for private investment can lead to innovative solutions and improved service delivery outcomes.
6. Improve Quality of Governance: Establish systems that ensure transparent use of funds and accountability for results. This will improve service delivery, build public trust, and encourage private sector engagement in governmental initiatives.

By addressing these recommendations, provincial governments can better leverage the benefits of fiscal decentralization. This strategic approach will enhance public service delivery, leading to improved living standards and economic growth in Pakistan. It underscores the importance of effective governance and strategic planning as critical components in realizing the full potential of fiscal resources.

This study, like other studies, has certain limitations. While data for national-level variables was retrieved from official records, data for subnational indicators was un-

available from these sources. Data on subnational indicators was a major challenge and was obtained from international sources. Some data is obtained periodically, and yearly data is interpolated and extrapolated. Although other factors may have influenced the Human Development Index (HDI) over the study period, these were not included in the model to maintain a focused research scope. Consequently, further studies are needed to comprehensively assess the long-term impact of fiscal decentralization on human development in Pakistan under the 7th NFC Award.

## References

Ahmed, M. and Lodhi, A., (2013), Impact of Fiscal Decentralizations on Education and Healthcare Outcomes: Empirical Evidence from Pakistan, Journal of Applied & Emerging Sciences 4(2): 122–134.

Ahmed, M., (2015), The Political Economy of Decentralisation and Access to Propoor Social Services Delivery in Pakistan, The Pakistan Development Review 54(4): 471–486.

Ahmed, M., (2013), Fiscal Decentralisation and Political Economy of Poverty Reduction: Theory and Evidence from Pakistan, Durham University, Retrieved from http://etheses.dur.ac.uk/7288/

Anyanwu, J.C., (1999), Fiscal Relations among the Various Tiers of Government in Nigeria, in Fiscal Federalism and Nigerian's Economic Development, NES Selected Papers Presented at the 1999 Annual Conference, Ibadan. Applied Business and Management Studies, 4(2):1-30.

Arif, U. and Ahmed, I., (2020), A framework for analyzing the impact of fiscal decentralization on macroeconomic performance, governance and economic growth, The Singapore Economic Review 65(1): 3–39.

Barankay, I. and Lockwood, B., (2007), Decentralization and the productive efficiency of government: Evidence from Swiss cantons. Journal of Public Economics, 91(5-6): 1197-1218.

Bartlett, W., Dulic, K. and Kmezic. S., (2018), The Impact of Fiscal Decentralization on Local Economic Development In Serbia, LSEE Papers on Decentralization and Regional Policy.

Bird, R. M. and Smart, M., (2002), Intergovernmental Fiscal Transfers: International Lesson for Developing Countries, World Development, 30(6): 899-912.

Boadway, R.W. and Flatters, F. R., (1982), Efficiency and Equalization Payments in a Federal System of Government: A Synthesis and Extension of Recent Results, Canadian Journal of Economics, 15(4): 613–633.

Buchanan, J. M., (1950), Federalism and Fiscal Equity, The American Economic Review, 40(4): 583–599.

Channa, A. and Faguet, J., (2016), Decentralization of health and education in developing countries: a quality-adjusted review of the empirical literature, World Bank Research Observer, 31(2):199-241. Retrieved from http://eprints.lse.ac.uk/68719/

Daud, N. and Suleman, R., (2020), Effects of fiscal decentralization on economic growth and human development index in the Indonesian local governments, Management Science Letters, 10: 3975–3980.

Daud, N. and Soleman, R., (2017), Effects of fiscal decentralization on economic growth and human development index in the Indonesian local governments, Management Science Letters, 10(2020): 3975–3980.

De Mello, L., (2000), Fiscal Decentralization and Intergovernmental Fiscal Relations: A Cross-Country Analysis, World Development, 28(2): 365–380.

Diaz-Serrano, L. and Rodríguez-Pose, A., (2015), Decentralization and the welfare state: What do citizens perceive? Social Indicators Research 120(2): 411-435.

Elhiraika B., E., (2007), Fiscal Decentralisation & Public Service Delivery in South Africa. ATPC Work in Progress No. 58, African Trade Policy Centre, Economic Commission for Africa.

Faridi, M. Z., Chaudhry, M. A. and Ansari, F. N., (2012), The Impact of Fiscal Decentralization, Inequality and Poverty on Employment: Evidence from Pakistan. Pakistan Journal of Social Sciences, 32(2): 357–369.

Faridi, M., Z., (2011), Contribution of Fiscal Decentralization to Economic Growth: Evidence from Pakistan. Pakistan Journal of Social Sciences, 31(1): 1-13.

Feltenstein, A. and Iwata, S., (2005), Decentralization and macroeconomic performance in China, regional autonomy has its costs, Journal of Development Economics 76(2): 481–501.

Fisman, R. and Gatti, R., (2002), Decentralization and corruption: Evidence across Countries. Journal of Public Economics, 83 (3): 325-345.

Freinkman, L. and Plekhanov, A., (2009), Fiscal Decentralisation in Rentier Regions: Evidence from Russia, World Development 37(2): 503-512.

Ghuman, B.S. and Singh, R., (2013), Decentralization and delivery of public services in Asia, Policy and Society, 32(1): 7–21, https://doi.org/10.1016/j.polsoc.2013.02.001

Gordon, R., H., (1983), An Optimal Taxation Approach to Fiscal Federalism, The Quarterly Journal of Economics (98)4: 567–586, https://doi.org/10.2307/1881778

Hayek, F. A., (1945), The Use of Knowledge in Society, American Economic Review, 35(4): 519–530.

Herath, T. N., (2009), Decentralisation of Governance and Economic Development: The Sri Lankan Experience after Establishment of Provincial Councils. South Asia Economic Journal, 10(1): 157–185.

Jin, H. and Jakovljevic, M., (2023), Fiscal decentralization and the human development index: A Cross-Border Empirical Study. Sustainability 2023, 15, 8784. https://doi.org/10.3390/su15118784

Iqbal, N. Muslehudin and Ghani, E., (2013), Fiscal Decentralisation and Economic Growth: Role of Democratic Institution, PIDE Working Papers (89).

Javed, U. and Nabi. I., (2018), Heterogeneous fragility: The case of Pakistan, The LSE- Oxford Commission on State Fragility, Growth and Development https://www.theigc.org/wp-content/uploads/2018/04/Pakistan-report.pdf

Khan. M. B. and Malik. Z. K, (2022), Fiscal Decentralization Under the 7th NFC Award and Its Implications on Improvement in Education in Pakistan, Journal of Managerial Sciences 16(2): 31-48

Khan. M. B., Malik. Z. K. and Malik. W. S., (2021), Implications of the 7th NFC Award on Health Services in Pakistan, Business & Economic Review 13(4): 25-46 DOI: dx.doi.org/10.22547/BER/13.4.2

Khattak, N., Ahmed, I., and Khan, J., (2010), Fiscal Decentralization in Pakistan, The Pakistan Development Review, 49(4): 419–436

Malik, S., Hassan, M. and Hussain, S., (2006), Fiscal Decentralisation and Economic Growth in Pakistan, The Pakistan Development Review, 45(5): 845-854.

Mehmood, R., Sadiq, S., and Khalid, M., (2010), Impact of Fiscal Decentralization on Human Development: A Case Study of Pakistan, The Pakistan Development Review, 49(4): 513–530. http://www.jstor.org/stable/41428672

Musgrave, R., A., (1959), The Theory of Public Finance—A Study in Public Economy, New York: McGraw Hill.

Nakatani, R. Zhang, Q. and Valdes, I, G., (2022), Fiscal Decentralization Improves Social Outcomes When Countries Have Good Governance, IMF Working Paper No. 2022/111

Neyapti, B. (2004), Fiscal Decentralisation, Central Bank Independence and Inflation, a panel investigation, Economics Letters, 82(2): 227-230.

Olatona, J.B. and Olomola, P., A., (2015), Analysis of Fiscal Decentralization and Public Service Delivery in Nigeria, Journal of Economics and Sustainable Development 6(9), www.iiste.org ISSN 2222-1700

Özcan, G., B., (2000), Local Economic Development, Decentralization and Consensus Building in Turkey, Progress in Planning, 54(4): 199–278.

Pakistan, Government of, (2009), Report of the National Finance Commission 2009, National Finance Commission Secretariat, Islamabad.

Prudhomme, R., (1995), The dangers of decentralization, The World Bank research observer 10(2), 201-220.

Ranis, G., Stewart, F., and Samman, E., (2006), Human Development: Beyond the Human Development Index, Journal of Human Development, 7(3): 323–358. https://doi.org/10.1080/14649880600815917

Rauf, A., Khan, A. A., Ali, S., Qureshi, G. Y., Ahmad, D., and Aanwar, N., (2017), Fiscal Decentralisation and Delivery of Public Services: Evidence from Education Sector in Pakistan, Studies in Business and Economics 12(1): 174–184.

Rehman, S., Dr., Khan, N., and Gill, S., A., (2014), Fiscal Decentralization in Pakistan: 7th NFC Award as Case Study. Public Policy and Administration Research, 4(6): 81-88.

Robalino, D. A., Picazo, O. and Voetberg, A., (2001), Does Fiscal Decentralization Improve Health Outcomes? Evidence from a Cross-Country Analysis. https://ssrn.com/abstract=632632.

Sabir, M., (2014), Agenda for the 8th NFC: Lessons from the 7th NFC Award, Post-7th NFC Developments and Emerging Issues, The Social Policy and Development Centre (SPDC) Policy Paper No.25.

Sarkar, M., (2000), Fiscal Decentralisation and Human Development- Some Evidence from Argentina, Department of Economics, Yale University.

Sofilda, E., Hamzah, M., Z., and Kusairi, S., (2023), Analysis of fiscal decentralization, human development, and regional economic growth in Indonesia, Cogent Economics & Finance, 11:1, 2220520, DOI: 10.1080/23322039.2023.2220520.

Singh, R., Bhattacharjee, S. and Nandy, A., (2024), Fiscal decentralization for the delivery of Health and education in Indian states: An ongoing process is more desirable than a policy shift. Journal of Policy Modeling, 46: 254-271.

Smoke. P. and Lewis. B. D., (1996), Fiscal decentralization in Indonesia: A new approach to an old idea, World Development 24(8): 1281-1299.

Sow, M. and Razafimahefa, I., F., (2015), Fiscal Decentralization and the Efficiency of Public Service Delivery, IMF Working Paper 1559. Washington: IMF Fiscal Affairs Department. http://www.imf.org/external/pubs/ft/wp/2015/wp1559.pdf

Tiebout, C., (1956), A Pure Theory of Local Government Expenditures, Journal of Political Economy, 416–424.

Trillo, H., F. and Rabling, J., B., (2008), Is Local Beautiful? Fiscal Decentralization in Mexico World Development, 36(9):1547-1558.

TÜMAY (2023), The Effect of Fiscal Decentralisation on the Human Development Index and Its Components: A Panel Data Study. International Journal of Economics and Innovation, 7 (2): 357-373.

Uchimura, H. and Jutting Diaz, J.P., (2009), Fiscal Decentralization, Chinese Style: Good for Health Outcomes? World Development, 37(12): 1926-1934.

Udoh, E., Afangideh, U. and Udeaja, E., A., (2015), Fiscal Decentralisation, Economic Growth and Human Resource Development in Nigeria: Autoregressive Distributed Lag (ARDL) Approach, CBN Journal of Applied Statistics 6(1).

Xu W., and Lin J., (2022), Fiscal Decentralisation, Public Health Expenditure and Public Health-Evidence from China, Front Public Health 18(10) doi:10.3389/fpubh.2022.773728.

Zhang and Xiaobo (2006), Fiscal Decentralisation and Political Centralisation in China: Implications for Growth and Inequality, Journal of Comparative Economics, 34(4): 713–726.