Fiscal Decentralization Under the 7th NFC Award and Its Implications on Improvement in Education in Pakistan

Muhammad Bakhtiar Khan[*], Zilakat Khan Malik[†]

Abstract

Fiscal decentralization is the process of devolving revenue and expenditure functions to the subnational governments and is expected to improve Public Services Delivery. The 7th NFC Award is the biggest step toward fiscal federalism in Pakistan as the share of provincial governments was increased accommodating their major demands. This study has been conducted to identify how much the new fiscal arrangements under the 7th NFC Award have been effective to improve education in Pakistan. Data were collected on various indicators for the period 2001 to 2019 which were further divided into two groups i.e., the pre-7th NFC Award period from 2001 to 2010 and the post- 7th NFC Award period from 2011 to 2019. To assess the impact of the 7th NFC Award on the education sector, various variables were selected and different techniques for trend analysis were applied to gauge the impact of the Award. Additionally, the Difference-in-Difference approach was also applied to compare three provinces i.e., Sindh, Khyber Pakhtunkhwa, and Baluchistan as treatment groups with Punjab as a control group. The results suggest that none of the indicators in the education sector has improved at national or provincial level in response to the 7th NFC Award. It can be concluded that the additional funds transferred under the 7th NFC Award did not bring any improvement in education services. It is also found that capacity of the government machinery and their ability to develop plans and strategies is important to realize the benefits of fiscal decentralization. It is recommended that these step under the 7th NFC Award must be supported by the administrative measures on part of the provincial government.

Keywords: fiscal decentralization, 7th NFC Award, education, gross enrollment, mean years of schooling, expected years of schooling, expenditures on education as a percent of GDP, and literacy rate

Introduction

Fiscal decentralization is the process of devolution of fiscal responsibilities to the sub-national governments, empowering them to collect taxes and make expenditures. It is the transfer of responsibilities from the national government to subnational governments with regards to spending and revenue collection, the inter-governmental fiscal transfers, and giving borrowing power to sub-national governments (Neyapti, 2004 & Bahl, 2006). Fiscal decentralization has been considered as an effective tool to improve economic efficiency in public services delivery and the fiscal transfers

[*]Ph.D. Scholar, Economics Department, University of Peshawar (mbkhandr@hotmail.com

[†]Professor, Economics Department, University of Peshawar, (zilakat@uop.edu.pk)

shall be designed in such a way that the sub-governments should have a clear mandate, adequate resources, and sufficient flexibility to make decisions (Bird and Smart, 2002). It further helps to improve macroeconomic management by streamlining public sector activities, reducing operational costs of services delivery, and increased competition among the sub-national governments to provide better public services (Iqbal, Muslehudin & Ghani, 2013). The decentralization has an overall positive and significant relationship with pro-poor social services delivery (Ahmed, 2015). Fiscal decentralization has been adopted by both developed and developing countries as a key reform initiative to increase efficiency in public services delivery and reduce poverty and corruption. There has been a very strong and consistent negative association between decentralization and corruption (Fisman and Gatti, 2002). The decentralization in Indonesia shifted the balance of power towards the poor and resultantly reduced poverty (Salim, 2009). Fiscal decentralization thus is the process of empowering subnational government for better public services delivery with transparency and local preferences.

Fiscal Decentralization in Pakistan can be divided into two phases i.e., pre-federalism from 1947 to 1971 dominated by centralized authority and federalization from 1973 onwards through National Finance Commission (NFC) Award (Waseem, 2010). The 7th NFC award of 2009 set new directions for the resources' distribution and fiscal decentralization. Provinces are becoming stronger with more financial and political powers after the 7th NFC award and a different criterion has been adopted for resources distribution (Mustafa, 2011 & Sabir, 2010). Through the 7th NFC Award of 2009, the resources were again diverted towards the provinces along with the devolution of major administrative functions. However, very little research can be found that has investigated the impacts of the decentralization over the decades in general and the centralization in wake of the historical 7th NFC Award particularly. This research paper focuses upon the relationship between decentralization and public services delivery in the education sector in the pre and post 7th NFC Award.

Review of Literature

Fiscal decentralization leads to allocative efficiency as citizens prefer to live in a region that provides the public services as per their needs and preferences (Tiebout,1956)]. Musgrave (1959) highlighted that the allocation function of government might be better executed by the sub-national governments as they are in a better position to efficiently allocate and distribute resources in the composition of public goods and services to meet the jurisdictional

requirements. Brennan and Buchanan (1980) argued that fiscal decentralization may encourage the sub-national governments to improve efficiency in public services delivery otherwise the people of the region might "vote on their feet". Hellman et al. (2003) found a rise in the citizens' satisfaction through the decentralized provision of public services in Indonesia. Escaleras and Register (2012), analyzed the results of 79 countries over the period 1972-2000 and concluded that fiscal decentralization improves the provision of the public good, particularly in developing countries.

Shah (1997) explored that in terms of GDP, Pakistan has shown significant progress but this progress did not translate into improvement in public services delivery. Aslam & Yalmaz (2011) while analyzing the impact of decentralization reforms in Pakistan on Service delivery found that the decentralization of 2001 has increased the provision of all social services on average, however, the decentralization strongly affected certain services like the provision of water channels, educational facilities, and street pavements.

Ahmed & Lodhi (2013) identified that fiscal decentralization improved education in Pakistan, however, the impact was comparatively weaker in Baluchistan and Khyber Pakhtunkhwa. Ahmed (2013) concluded that the devolution has significantly increased the magnitude of investment in social and economic sectors like education, health, agriculture, water supply and sanitation, rural development, and civil works. Fiscal decentralization resulted in improvement in the overall delivery of services showing a positive impact of the 7th NFC Award (Sabir, 2014). Rehman, Khan, and Gill (2014) found that the benefit of fiscal decentralization could not be achieved due to the non-availability of proper implementing arrangements and the low capacity of provinces to handle additional financial resources received as a result of the 7th NFC Award. Ahmed (2017), assessed the effectiveness of the 7th NFC Award on health and education in Baluchistan and found less than expected change in the quality and quantity of education and health sectors in Baluchistan despite some improvement in infrastructure.

Research Methodology

Decentralization is the phenomena associated with the transfer of certain functions from the national government to the subnational of the government which can be in the form of political, administrative, fiscal or economic decentralization. However, the focus of this research in on fiscal decentralization which involves the transfer of tax and spending powers from the central government to the subnational governments. The paper is an attempt to highlight the impact of the fiscal decentralization on improvement of education services in Pakistan in wake of new fiscal arrangements under 7th NFC Award.

The data collected has been divided into two sub-samples, to compare the variables' performance in pre-7th NFC and post-7th NFC Award. To analyze the impact various techniques and tests are applied in which explained below:

Trend analysis

The following model was developed for trend analysis:

$$Y_t = \beta_0 + \beta_1 Time + \delta_0 D + \delta_1 D * Time + \varepsilon_t$$

D = 0 for pre 7th NF

D = 1 for post 7th NFC

Y_t is a dependent variable that will be used to represent an improvement in Education and the regression will be estimated by the OLS and the significance of $\hat{\delta}_0$ and $\hat{\delta}_1$ was tested using *t*-test, *F* test, and Wald-Coefficient Restriction test.

Tests

Various tests applied for trend analysis in the research study which include Chow Breakpoint test, Recursive Coefficient Test, Trend Estimate, t-Test, Wald-Coefficient Restrictions Test, Equality of Variance Test, Durbin Watson Statistic.

Additionally, Difference-in-Difference (D-i-D) estimator was used to compare the performance of Sindh, Khyber Pakhtunkhwa, and Baluchistan as treatment groups against Punjab as a control group. Punjab province is taken as a reference category because changing share of Punjab in vertical distribution was offset by its new share in the horizontal distribution. In this case, the model will become a panel data model for four provinces and the time period is 2000 to 2019:

$$Y_{it} = \beta_0 + \beta_1 Time_i + \beta_2 D_t + \beta_3 Time_i * D_t + \varepsilon_{it}$$

$Time_i$ = Dummy variable before or after the intervention (0 for before and 1 for after)

D_t= Dummy variable for treatment (0 for the control group and 1 for treatment group)

Variables' Descriptions

Gross Enrollment, Mean Years of Schooling, Expected Years of Schooling, Expenditures on Education (%GDP), and Literacy Rate were dependent or endogenous variables at the national level. Moreover, Gross Enrolment and Literacy Rate were used as dependent variables for analysis of the performance of the education sector at the provincial level. These variables are globally used for measurement of human development index and considered as appropriate yardsticks to judge the performance in social sector.

Sources of Data

The research study is based on secondary data to be obtained from official and non-official sources. The World Development Indicators, UNDP HDI (Human Development Indicators) reports, Pakistan Education Statistics, and Pakistan Statistical Year Book of the Pakistan Bureau of Statistics were also used. Additionally, the data was collected from online sources particularly the website of globaldatalab.org of the Institute of Management Research, Radboud University for the subnational data on various variables.

Results and Discussion

Education Sector Performance at National Level

To assess the impact of the 7th NFC Award on the education sector in Pakistan various techniques were applied to different variables of education and the results are presented in below table:

Table-1

Results of various Tests at National level indicators

Technique	Hypothesis	Gross Enrollment Rate	Expected Years of Schooling
Chow Breakpoint test for β	Chow Breakpoint test for β Ho: No Breaks at the specific Breakpoints	F= 14.26 (P=0.00)	F=12.03 (P=0.00)
	Recursive coefficient for β (BP exists?)	Unstable	Unstable
Wald Test:	γ=δ=0 Both Coeff=0 (There is neither change in trend nor in level of the dependent variable at 2011)	0.0003	0.0006
Change in trend (Dum*trend)	No trend in coefficient: δ=0	P=0.3674 Dum*t=0.37	P=0.0005 Dum*t= -0.12
Equality of Variances Test	Variance of both samples are equal.	0.9226	0.5303
Durbin Watson Test	Ho: no first order autocorrelation	+ive	+ive
	Coefficient Pre	0.56	0.75

	Ho: no first order autocorrelation	-ive	+ive
	Coefficient Post	-0.04	0.4
Forecasting till 2050	Impact after 2011	+ive	-ive
	Pre Post	127 157	14.6 12.8
Trend after 2011	(T-Dum*T)	Increase	Decrease

Technique	Hypothesis	Mean Years of Schooling	Expenditure on Education as % of GDP
Chow Breakpoint test for β	Chow Breakpoint test for β	F=4.31	F=6.95
	Ho: No Breaks at the specific Breakpoints	(P=0.03)	(P=0.00)
	Recursive coefficient for β (BP exists?)	Unstable	Unstable
Wald Test:	γ=δ=0 Both Coeff=0 (There is neither change in trend nor in level of the dependent variable at 2011)	0.0318	0.0067
Change in trend (Dum*trend)	No trend in coefficient: δ=0	P=0.0132	P=0.828
		Dum*t=-0.068	Dum*t=0.005
Equality of Variances Test	Variance of both samples are equal.	0.002	0.1675
Durbin Watson Test	Ho: no first order autocorrelation	+ive	+ive
	Coefficient Pre	0.79	0.48
	Ho: no first order autocorrelation	+ive	-ive
	Coefficient Post	0.32	-0.07
Forecasting till 2050	Impact after 2011	-ive	+ive
	Pre Post	8.3 7	2.9 4.3

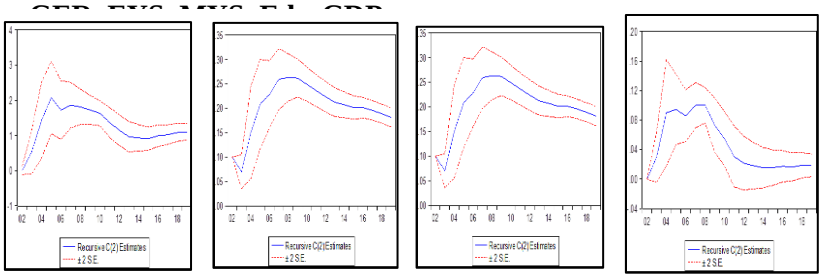
Trend after 2011	(T-Dum*T)	decrease	Increase

Source: Author's own estimation based on collected data

The results of Chow tests show that breakpoints exist in the data implying that the coefficients are not stable across the period. There seems an impact on the education indicators i.e. Gross Enrollment Rate (GER), Expected Years of Schooling (EYS), Mean Years of Schooling (MYS) and Expenditures on Education as percentage of Gross Domestic Product (GDP) (Edn-DGP) at National level at the implementation of the 7th NFC Award.

The results of recursive coefficient depict that the GER grows at higher rate till 2005, then at low rate throughout even after the 7th NFC Award. But the growth rate is lower than that of the pre-7th NFC period. This implies that the GER at the national level has not been substantially benefited from the 7th NFC Award. The rate of growth

Figure-1 Recursive Coefficients Curve of



Expected Years of Schooling increases till 2009 at an increasing rate and then the rate of change starts falling even in the post 7th NFC Award. Thus, we can conclude the NFC Award has no positive impact on improving Expected Years of Schooling at the national level. Mean Years of Schooling at the national level drastically declines since 2005 and continues to fall during the post 7th NFC Award period and hence the 7th NFC Award has no impact on improving the rate of growth of MYS. Similarly, the trend in Expenditures on Education as a percent of GDP (Edn-GDP) falls sharply from 2008 till 2011 and beyond. It suggests that overall Expenditures on Education have not increased. Thus, the 7th NFC Award has no encouraging results to improve the education sector in Pakistan.

The Wald test reflects that the new funds' transfer arrangements under the 7th NFC Award have a significant but negative impact on the variables in the education sector.

The values of coefficient of the dummy variable for trend (Dum*trend) show that there is a positive change in the trend of the dependent variable for GER and Edn-GDP though insignificant. However, the values of coefficient of the dummy variable for Expected and Mean Years of Schooling show that there is a negative trend in the dependent variable.

While testing the Equality of Variance for both periods it was found that variance of periods before and after the 7th NFC Award is the same for all variables except for Mean Years of Schooling. This suggests that additional funds transfer has the least substantial impact on the variability of GER, ESY, and GDP-Exp on education and significant but negative impact in the case of MYS.

The Durbin Watson tests' results show that there is positive autocorrelation in both the periods for education for Expected and Mean Years of Schooling at the national level. This implies that inertia in education remains before and after the 7th NFC Award. For GER and Edn-GDP there is positive autocorrelation in the pre-NFC period whereas negative autocorrelation in the post-7th NFC Award period. Thus, in the pre-NFC period, the subsequent values have a positive impact on each other whereas the same has a negative impact in the post-NFC period. When we measure the autocorrelation coefficient then the magnitude of persistence in the pre-2011 period has been found stronger (higher) as compared to the post-2011 period. It implies that the tendency of the variables to change has increased, while inertia has increased in the post NFC Award period for GER, EYS, MYS, and Edn-GDP.

The forecast for GER and Education Expenditures has improved in 2050 whereas for Expected Years of schoolings and Mean Years of schoolings the forecast has deteriorated in the post NFC situation, as evident from values in the above table. Expenditure decentralization led to improve efficiency of service delivery in advanced economies whereas it has mixed results in emerging economies and developing countries (Sow and Razafimahefa (2015)).

The trend values suggest that the slope of the trend has improved for GER and Edn-GDP whereas the same has decreased in the case of Expected and Mean Years of Schooling. Meaning thereby that the 7th NFC Award has a positive impact on GER and Edn-GDP expenditure and no or least impact on Expected and Mean years of schooling. Fiscal decentralization has weaker impact on education and healthcare are is weaker for Baluchistan and Khyber Pakhtunkhwa as compared to Punjab and Sind where they have larger better fiscal space and better infrastructure (Ahmed & Lodhi (2013)). Due to non-existing of proper implementing apparatus and low income-generation capacity, the benefits of fiscal decentralization could not be materialized (Rehman, Khan & Gill (2014)).

Conclusion and Recommendations

The above results suggest that the Gross Enrollment Rate did not respond positively to the 7th NFC Award. The trend of improvement in GER has continued throughout the study period though with insignificant variation in the rate of growth. The additional funds, under the new fiscal arrangements, thus, did not contribute towards attracting new students, and resultantly. The Expected and Mean years of schooling also improved though insignificantly and both the variables did not improve in response to the additional funds transfer under the 7th NFC Award.

The reasons for the dismal response of the variables to the 7th NFC Award can be various socio-economic factors like poverty, unemployment, underemployment, cultural constraints particularly girls' education, non-availability of schools at the local level, absence of teaching staff, school environment, etc. Additionally, the retention rate is very low due to which the students leave school before completing primary education which also discourages new enrollment. Sow and Razafimahefa (2015) also found that expenditure decentralization leads to improve efficiency in services delivery in advanced economies whereas it has mixed results in developing countries. Ironically, the expenditure on education as a percent of GDP has increased over the years but the 7th NFC Award has no substantial impact on it. The trend of Edn-GDP has marginally improved but still, the response is low as compared to the volume of additional funds transfers to the provinces. One of the reasons may be that the provincial governments have already allocated sufficient funds to the development of the education sector. Moreover, the lack of plans with the provincial to kick start new initiatives and reforms for the improvement of the education sector also did not attract more funds. The decentralization process needs appropriate political and institutional environments and adequate decentralization of revenue and expenditures' responsibilities to realize the impact.

Education Sector Performance at Provincial level

To assess the effects of 7th NFC Award on two variables in education sector viz Gross Enrollment (GER) and Literacy Rate (LR) at provincial level various tests were applied and the results of presented in below table:

Table 2

Results of various tests for Provincial level indicators

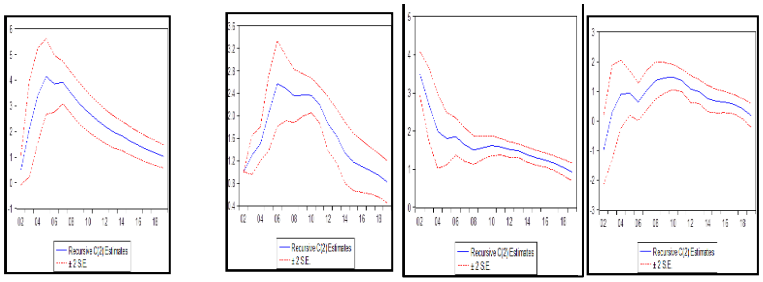
Province		Punjab		Sindh	
Technique	Hypothesis	GER	Lit Rate	GER	Lit Rate
Chow Breakpoint test for β	Chow Breakpoint test for β Ho: No Breaks at the specific Breakpoints	0.00	0.00	0.00	0.10
	Recursive coefficient for β (BP exists?)	Unstable	unstable	unstable	stable
Change in trend (Dum*trend)	No trend in coefficient: δ=0	P=0.00 D*t=-3.42	P=0.00 D*t=-0.91	P=0.00 D*t=-2.53	P=0.04 D*t=-0.93
Wald Test:	γ=δ=0 Both Coeff=0	0.00	0.00	0.00	0.10
Equality of Variances Test	Variance of both samples are equal.	0.0	0.61	0.22	0.55
Durbin Watson Test	Ho: no first-order autocorrelation	+ive	+ive	+ive	+ive
	AutoCorr Coefficient before	0.87	0.77	0.81	0.49
	Ho: no first-order autocorrelation	+ive	+ive	+ive	+ive
	AutoCorr Coefficient after	0.31	0.19	0.13	0.32
Forecast till 2050	Impact after 2011	-ive	+ive	-ive	-ive
	Pre Post	131 74	87 99	110 74	86 68

Trend after 2011	(T-Dum*T)	decreased	decreased	decreased	decreased
	Province	KP		Bal	
Technique	Hypothesis	GER	Lit Rate	GER	Lit Rate
Chow Breakpoint test for β	Chow Breakpoint test for β Ho: No Breaks at the specific Breakpoints	0.00	0.0	0.0	0.74
	Recursive coefficient for β (BP exists?)	Stable	unstable	Unstable	Unstable
Change in trend (Dum*trend)	No trend in coefficient: δ=0	P=0.00 D*t=-0.186	P=0.00 D*t=-1.01	P=0.00 D*t=-2.78	P=0.95 D*t=-0.05
Wald Test:	γ=δ=0 Both Coeff=0	0.00	0.0	0.0	0.74
Equality of Variances Test	Variance of both samples are equal.	0.84	0.16	0.08	0.0
Durbin Watson Test	Ho: no first-order autocorrelation	+ive	+ive	+ive	+ive
	AutoCorr Coefficient before	0.8	0.86	0.71	0.31
	Ho: no first-order autocorrelation	+ive	-ive	+ive	+ive
	AutoCorr Coefficient after	0.43	-0.06	0.33	0.27
Forecast till 2050	Impact after 2011	-ive	-ive	-ive	+ive
	Pre Post	122 80	88 72	76 23	77 83

Trend after 2011	(T-Dum*T)	decreased	decreased	decreased	decreased

Source: Author's own estimation based on collected data

Figure-2 Recursive Coefficients for GER at Provincial level



Punjab Sindh Khyber Pakhtunkh Baluchistan

The results of Chow tests show that breakpoints exist in the data for all provinces for GER whereas breakpoints exist for Literacy rate for Punjab and KP but not for Sindh and Baluchistan suggesting that coefficients are not stable across the period for these variables for Punjab and KP and stable for Sindh and Baluchistan.

The results of the recursive coefficient suggest that the GER for all provinces has increased though at decreasing rate. In the case of Punjab growth rate in GER falls sharply and then becomes flattered since 2014 and hence, in the post 7th NFC period, the GER doesn't improve. The GER for Sindh falls and decreases continuously from 2010 onwards. Thus, GER in Sindh also doesn't improve as a result of the 7th NFC Award. In the case of KP, the GER has been increasing since 2008 at a higher rate till 2013 and then falls onwards. In Baluchistan, the GER has been increasing since 2008 and the trend continues till 2011. Afterward, the rate falls and further intensified since 2017. The GER in Baluchistan seems to have been least affected by the additional funds' transfer under the 7th NFC Award.

The literacy rate for all provinces increased continuously since 2010, though the rates are different. In Punjab and KP the Literacy Rate grows at a declining rate and hence, have not benefited from the 7th NFC Award. The growth in literacy rate in Sindh has fallen, however, the trend becomes smoother since 2008, showing no improvement. In Baluchistan, the literacy rate has witnessed great variations with a downward trend from 2009 till 2014 and recovery starts from 2015 but still the rate of growth in literacy rate is lower

when compared to the pr-7th NFC period. It implies that the benefits of the additional funds' transfer have not been achieved since 2015. Despite the fact that the literacy rate has overall increased but the net impact of the 7th NFC Award could not make a breakthrough. Though education infrastructure improved somehow in the aftermath of 7th NFC Award in Baluchistan, however, the literacy rated did not rise substantially (Ahmad (2017). This may be due to two reasons. First, the provincial governments have already invested enough resources in education sectors and there was no immediate need for additional funds which could stimulate the literacy rate. Second, the other socio-economic factors like culture, poverty, community, etc. are stronger which determines the willingness of the parents to send their children to school. Additionally, the provincial governments lack plans to improve the quality of education and introduce students-friendly teaching techniques to attract more children to schools. The effects of fiscal decentralization on education is weaker for Baluchistan and Khyber Pakhtunkhwa as compared to Punjab and Sind where they have larger better fiscal space and better infrastructure (Ahmed & Lodhi (2013)).

The results of the Wald test suggest a significant and negative change in trend or level of the Gross Enrollment and Literacy Rate.

The values of the coefficient of the dummy variable for trend (Dum*trend) show that there is a change in the trend of GER and Literacy Rate.

The equality of variance test suggests that additional funds transfer has a substantial impact on the variability of GER but no impact on the variability of Literacy Rate. The variances, in the case of Khyber Pakhtunkhwa, are different for GER and Literacy rate suggesting that additional funds transfer thus has a substantial impact on the variability of GER and Literacy rate in Khyber Pakhtunkhwa. Similarly, for Baluchistan, the variances are different for GER and equal for Literacy rate suggesting an impact on variability in GER and no impact in variability for Literacy rate.

The Durbin Watson tests' results show that there is positive autocorrelation in both the periods for GER and Literacy Rate for all provinces except for Literacy rate for Khyber Pakhtunkhwa. This implies that the successive values in both the periods i.e., pre and post 7th NFC Award are correlated and inertia remains there before and after the 7th NFC award. However, when we measure the autocorrelation coefficient then the magnitude of persistence in the pre-2011 period is stronger (higher) as compared to post 7th NFC period for both variables of all provinces. This shows that tendency of the variables to change has increased, while inertia has increased in the post 7th NFC Award period.

The forecast in the pre-and post- 7th NFC Award situation for Punjab suggests mixed results as for GER the effect has decreased in the post-award period whereas the forecast for Literacy Rate suggests a positive effect and better situation in the post-NFC Award case. While comparing the forecast figures for Khyber Pakhtunkhwa it has deteriorated for both GER and Lit Rate. In the case of Baluchistan, the forecast improves for Literacy rate however, the same has decreased for GER. The trend values suggest that the slope of the trend has decreased for both the variables of all provinces in the post 7th NFC award. Lack of physical infrastructure and human capacity may be responsible for inverse outcomes of expenditure decentralization in Pakistan (Iqbal et al. (2013)).

Difference-In-Difference Approach

The difference-in-difference technique was adopted to compare the rate of change in coefficients of control groups viz-a-viz treatment groups. Under the 7th NFC Award major changes were made in the fiscal transfer mechanism as the percentage share of Punjab province was reduced in the divisible pool while simultaneously share of federation was reduced drastically and provincial share was enhanced. This has practically upset the negative impact of reduction in share of Punjab thus taking as a control group and other provinces as treatment groups.

Table-3,

Results of Difference-in-Difference Technique for different variables:

Sindh		GER			Literacy Rate		
	Period	Pre	Post	Difference	Pre	Post	Difference
Control	Punjab	89.12	96.43	7.31	53.47	62.81	9.33
Treatment	Sindh	74.29	80.2	5.91	53.25	60.26	7.01
	Difference	-14.83	-16.2	-1.4	-0.23	-2.55	-2.32
KP		GER			Literacy Rate		
	Period	Pre	Post	Difference	Pre	Post	Difference
Control	Punjab	89.12	96.43	7.31	53.47	62.81	9.33
Treatment	KP	80.12	89.2	9.08	43.92	53.08	9.17
	Differe	-9	-	1.77	-	-	-0.17

	nce		7.23		9.55	9.72	
Baluchistan		GER			Literacy Rate		
	Period	Pre	Post	Difference	Pre	Post	Difference
Control	Punjab	89.12	96.43	7.31	53.47	62.81	9.33
Treatment	Bal	68.18	68.9	0.72	39.35	47.02	7.67
	Difference	-20.94	-27.5	-6.59	-14.1	-15.7	-1.66

Source: Author's own estimation based on collected data

The results of the Difference-in-Difference technique given in the below tables suggest that the performance of Punjab in terms of GER and Lit Rate is better than Sindh as the improvement in the case of the former as a control group is better. In both cases, Punjab as a control group has performed better both in the pre and post 7th NFC Award scenario. The D-I-D value of -1.40 and -2.32 suggests that Sindh still lag behind Punjab in performance in the education sector even after receiving additional funds under the 7th NFC Award. It can be concluded the education sector in Sindh did not improve despite receiving additional funds transfer under the 7th NFC Award. It can also be derived from the above facts that the socio-economic factors are stronger in Sindh and are the main obstacles to the improvement of education in Sindh. In terms of GER, KP has made progress after the 7th NFC Award but out of the total difference of 9.08 only 1.77 is attributed to the additional funds' transfer under new fiscal regimes which is insignificant. In terms of literacy rate, KP has a negative performance of -0.17 in the post 7th NFC scenario and hence, the new Award has contributed nothing to improve the literacy rate in Khyber Pakhtunkhwa (KP). We can conclude that KP has not been able to show remarkable achievement in the education sector as a treatment group when compared to Punjab as a control group. Lack of capacity of government officials, absence of planning, socio-economic conditions, prolonged militancy, and widespread rural poverty may be some of reasons for dismal response. The additional funds' transfer has contributed very little to the improvement of the education sector in KP. While comparing Baluchistan as a treatment group with Punjab as a control group we find that Baluchistan lags behind in the education sector as both the variables viz GER and Literacy rate have shown a negative growth of -6.59 and -1.66 respectively. Though the difference is minimum in the case of Literacy rate still we are forced to conclude

that Baluchistan province has not been able to improve education sector despite the transfer of additional funds under the new NFC Award. Again, the socio-economic factors have not allowed the education sector to flourish in Baluchistan.

Conclusion

The GER increases immediately after the 7th NFC Award but at a later stage, surprisingly, the GER for all provinces falls. It may be concluded that the education sectors received sufficient funds as a result of the additional funds' transfer under the new financial regime but later on, the focus has been lost. The reasons may be the emerging demands from other sectors and the prolonged militancy and other socio-economic issues. The Literacy rate has improved over the study period but the rate of change in most cases remains the same. The literacy rate has also declined in the later stages in the post 7th NFC Award period, suggesting a lesser focus of the respective provincial governments on education as compared to the early years of the post 7th NFC Award period, though Baluchistan has achieved partial benefits at a later stage.

The education sector, generally, improved to some extent as a response to the additional funds' transfer under the new fiscal arrangements mostly at early stages. Though education infrastructure improved somehow in the aftermath of the 7th NFC Award in Baluchistan, however, the literacy rate did not rise substantially (Ahmad (2017). To make the decentralization process successful, it should be gradually implemented and integrated with the monitoring mechanism for the delivery of services and utilization of funds at local levels. This will help to introduce advanced intraregional fiscal decentralization in an entire region which will support the local governments to improve services delivery and mitigate policy distortion (Frienkman and Plekhanov (2009)).

Limitation of the Research Study

This research paper is based on the steps taken under the 7th National Finance Commission Award wherein the fiscal regime was readjusted and additional funds were transferred to the provinces. However, this research study like other such works has some limitations. Firstly, the geopolitical situation in the country particularly the decade-long militancy might have severe implications on the decisions of the national as well as provincial governments causing a shift in their priorities diverting resources to non-developmental sectors. Secondly, the data on the variables at the provincial level used in this study is seldom available from official sources. Thirdly, data on subnational variables are normally available up to the outcome level and data on the impact level variables under this study was collected

from third sources. Moreover, the time period for the analysis of the impact was twenty years spreading over 11 years before and 9 years after the 7th NFC Award. Most of the variables are impact level variables and may need more time to assess the impact over the years. Additionally, most of the data were based on interpolation and extrapolation which are approximate values for the variables. Most importantly, the countrywide historical flood of July 2010 inflicted huge losses as major infrastructure was damaged and millions of people were affected. Hence, the only option for the government was to impose a cut on development expenditures and spare funds for relief, rehabilitation, and reconstruction. This study doesn't address the impacts of these negative factors while analyzing the effects of the award. Though this study is an addition to the existing body of knowledge on the subject, however, in the future more research would be required for further insight into the subject and to give policy recommendations.

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