The Effectiveness of 7ᵗʰ National Finance Commission Award on Health and Education Outcomes: A case study of Balochistan, Pakistan

Dr. Manzoor Ahmed

Associate Professor Economics, Dean Faculty of Social Sciences, Management and IT

LASBELA UNIVERSITY OF AGRICULTURE, WATER AND MARINE SCIENCES, UTHAL

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Introduction and Background

1. Problem Statement

The principle purpose of bigger share for provinces in NFC Award inherently is to enhance the provinces capacity in better social service delivery. Hence after the 7th NFC Award when the share of provinces was increasing manifold, especially the share of smaller provinces that hitherto had remained with limited fiscal space, invariably the provinces now equipped with better financial resources would improve the social service delivery. As highlighted above, the share of Balochistan province increased substantially in 7th NFC Award, so hypothetically the performance of the province in improving the social service delivery should be better, given its wider fiscal space. Thus, examining the performance of Balochistan province in social service delivery particularly is valid and plausible research question. However, despite the importance of the issue, to the best of our knowledge, this nature of research has not been done before. Hence, in order to fill this gap in development economics and public finance literature pertaining to Pakistan, this study is aimed to conduct a systematic research to examination the impact of 7th NFC Award on two crucial social services – Healthcare and Education. The key contribution of this study therefore is to give an empirical and analytical analysis of the efficacy of 7th National Finance Commission Award in improving the overall delivery system and ultimate outcomes of Health and education in Balochistan, which lags far behind other provinces of Pakistan in all social and economic indicators.

2. Knowledge Gap

The relevant literature on such a critical issue is divided and inconclusive of decentralization, in the shape of greater provincial capacity in providing social services provision particularly health and education. Therefore it is hard to draw a definitive conclusion on the question of 7th NFC Award its consequences on education and health services. Hence a systematic research is required to strengthen the existing debate on this issue and provide a robust analysis. This study therefore aims at providing an empirical analysis on the impact of NFC Award on education and health in Balochistan, Pakistan. As Pakistan is a federation where both education and health are provincial subjects (Pakistan, 1973), it is plausible to see whether the greater fiscal space to the provinces provided through divisible pool and straight transfers and other grants from the federal government helps in improving the quality and quantity of such services of healthcare and education.

Introduction and Background

Objectives/ Research Questions

There is a little consideration of the significance of intergovernmental resource transfers on key social service deliveries. Notwithstanding, better intergovernmental transfers owing to the 7th NFC Award; the overall status of social sector in Pakistan is mired with anomalies and weak performance. The smaller provinces are inefficient to foster their pace of increasing the outcomes of social sector, despite ample resource allocation to some of key services, like health and education among others. And attentive investigation is indeed required to determine the efficacy of financial resources transfers to provinces vis-à-vis improved social services delivery. Many educationists, social scientists and policy makers mainly ascertain that provincial governments if given with better fiscal space are far more effective in social service delivery than the central government. To assess such argument this study applies a systematic approach to see how effective the 7th NFC Award has been in improving the health and education services in Balochistan, Pakistan using a rich dataset from various sources of Government of Balochistan.

Considering this, the research questions that this study aims to deal with are as follows:

1. Does the 7th NFC Award improve the fiscal condition of the province of Balochistan?
2. Does the 7th NFC Award help in improving the health and education services in Balochistan?
3. To what extent 7th National Finance Commission Award impact on Health and Education.

Introduction and Background

Hypotheses

Hypothesis 1: Keeping other thing constant in post 7th NFC award the Quality and Quantity of health have improved in Balochistan.

Hypothesis 2: Keeping other thing constant in post 7th NFC award the Quality and Quantity of education (primary) have improved in Balochistan.

Scope of the Study

The condition of health and education services in Pakistan, especially in less developed areas such as Balochistan lag far behind not only to the world as whole but other South Asian countries like India, Bangladesh, Sri Lanka et al. In Balochistan majority of school going kids are still out of schools, gender disparity, the dropout rates are very high, the physical infrastructure of schools is very poor, the standard and quality of those children who could attain public schools is abysmally weak. According to Education Department, Government of Balochistan (2014) 88% of girls is unable to acquire higher education after completing secondary school. Similarly, the service of healthcare in Balochistan is not better. The infant mortality rate is the highest in Balochistan compare to other provinces of Pakistan; the infrastructure of health sector is in dire condition. Since the health and education sectors have been provincial governments purview, therefore any step that helps in improving the capacity of provincial governments should hypothetically translate into better services of healthcare and education. This study contributes in investigating the impact of 7th NFC Award on these two services. Furthermore, in case the services on health and education are not improved prior to 7th NFC Award fiscal decentralization, the study would examine why Balochistan has been failed to improve the delivery services in spite of having a far better fiscal space than otherwise.

This study is unique in a sense that it brings out novel data and possible policies related to the subject matter. In addition, this study would fill the gaps in exist in literature on the same issue. It will open a new debate in the development economics and public finance literature on the issue of the impact of decentralization and greater fiscal space of provinces on social service delivery.

Review of Existing Literature

Law (2013) stated that, federalism is a political group in which the actions of government are distributed among sub-national governments and a national government in such a way that each government has some actions on which it marks last judgments.

Rodden (2004) stated that, federalism is not a specific diffusion of power among governments but preferably a procedure organized by a set of foundations across which power is distributed and redistributed. Federalism can be traced back to the Latin Foedus or compacts. The word ultimately was used to relate collective, consensuses among regions, normally for the motive of protection. Compacts and commitments contained mutual interests to work for any motive, both groups must satisfy some responsibilities to one another. If the center government can get everything it wants from district government by modest arrangements of administrative approval, it builds slight responsiveness to see the two as busy in a federal relationship. In federalism some decisions are made by the central government with the cooperation of sub national components.

Ahmed and Baloch, (2014) The National Finance Commission Award gives the laws of the portion of assets between the confederation and the confederate units and among the confederate units themselves. The NFC honor made under Article 160(1) of the 1973 constitution, is to ensure a uniform and shrewd of the assets activated by the confederation and share between the confederate and confederate parts powers portion. NFC grant is legitimately constituted after at regular intervals, by the President of Pakistan, designating confederate fund clergyman as the executive, and territorial account priests and other lawful and budgetary specialists as individuals (Constitution of Pakistan, 1973).

Research Methodology

Data and Methodology

This chapter designates the structural framework and methodology used reaching in the specific objective designated in the dissertation. The key emphasis is given on an approach along with design and construction of the model, data and sources of data. Furthermore, the chapter also provides a description of the variables used in the empirical model. It provides a suitable data collection tools, and procedures for data measurement. The chapter summarizes the research methodology for this study on following sub sections.

Data Sources

The data for this study were obtained through different sources such as Planning and Development department, Directorate of education, Directorate of health department and Finance department from capital of Balochistan Quetta. The final data set selected for the study starting from 1985 to 2014 was extracted from the annual statements of the respective department mentioned above.

Models and Variables

The study uses robust econometric techniques in order to best deal with the research questions specified above. The study follows a procedure whereby it applies a simple descriptive technique and then leads to apply a more sophisticated model to obtain more robust results. The models, variables and procedures are explained as under:

Education Outcomes as Dependent Variables

The **adult literacy rate** is used as independent variable in the model. It is mention that the literacy rate used in the model is both for urban and rural areas. In the model the literacy rate is presented as Lit. Similarly,

Total no of teacher is used as a variable that indicates the total number of male and female government teachers. This variable represents total number of teacher from all districts of Balochistan. This variable is used as an independent variable.

High school enrollment is another independent variable this variable that indicates the total number of enrollment of students including boys and girls from high schools from all districts of Balochistan. Likewise,

Middle school enrollment rate is also used as an independent variable. This variable indicates the total number of enrollment of students including both boys and girls from government middle schools from all districts of Balochistan and is also an independent variable.

Research Methodology

Primary school enrollment rate is used as an independent the total number of primary school enrollment of students including both boys and girls from all districts of Balochistan and is an independent variable.

Total no of high school is used as an independent variable to indicate the total number of government high schools for both boys and girls from all districts of Balochistan.

Total no of middle schools is included in the model as an independent variable indicate the total number of government middle schools for both boys and girls from all districts of Balochistan and is an independent variable.

Total no of primary schools is also included in the model as a controlled variable to indicate the total number of government primary schools for both boys and girls from all districts of Balochistan.

Education Budget is incorporated in the model as a variable to indicate the overall Education Budget of Balochistan from 1985 to 2014. This captures both the development and recurring education budget.

Balochistan Budget is also incorporate in the model as a variable to indicate the overall Budget of Balochistan from 1985 to 2014 This captures both the development and recurring education budget.

Intermediate passing ratio this variable includes the male and female candidate of intermediate, and passed their intermediate examination from arts and science group from 1985 to 2014 from all districts of Balochistan.

Matriculation passing ratio is also included in the model to capture the male and female candidates of matriculation, and passed their matriculation examination from arts and science group from 1985 to 2014 from all districts of Balochistan.

 Besides this the model also includes an error term in order to capture the unspecified factor in the mode. Given the dependent and independent variables and the error term, the constructed model empirically examine the relationship between 7th NFC Award and education outcomes in Balochistan is mentioned as under:

Research Methodology

Y_{1t} (Literacy$_{it}$) = β_t + β_{ti1} log(total no of teacher) + β_{ti2} log(high school enroll)+ β_{ti3} log(middle school enroll)+ β_{ti4} log(primary school enroll)+

β_{ti5} log(total no of high school)+ β_{ti6} log(total no of middle school)+ β_{ti7} log(total no of primary school)+ β_{ti8} log(education budget)+

β_{ti9} (Balochistan budget) + β_{t10} (intermediate pass ratio)+ β_{ti11} (matriculation pass ratio)+ μ_{it} t = 1, 2, 3, 4, 5, ..., 30 and I =

1, 2, 3, 4, 5.

Y_{1t} (L$_{it}$) = β_t + β_{ti1} log(TT) + β_{ti2} log(HSE)+ β_{ti3} log(MHE)+ β_{ti4} log(PSH)+ β_{ti5} log(THS)+ β_{ti6} log(TMS)+ β_{ti7} log(TPS)+ β_{ti8} log(EB)+ β_{ti9} (BB)

+ β_{t10} (IPR)+ β_{ti11} (MPR)+ μ_{it} t = 1, 2, 3, 4, 5, ..., 30 and I = 1, 2, 3, 4, 5.

Where,

L_{it} Literacy$_{it}$ = TT = total no of teacher, HSE = high school enroll, MSE = middle school enroll, PSE = primary school enroll, THS = Total no

of high school, TMS = total no of middle school, TPS = total no of primary school, EB = education budget, BB = Balochistan

budget, IPR =intermediate pass ratio, MPR = matriculation pass ratio

Research Methodology

Health Outcomes as Dependent Variables

Infant Mortality Rate and Crude Death Rate respectively are included in the model as dependent variables. The study takes the variables from 1985 to 2014.

Health Budget that the provincial government incurs is included as a key independent variable in the model. It indicates the overall Health Budget of Balochistan from 1985 to 2014 including both development and recurring expenditures. Likewise, the

Federal Receipts, is also included in the model as another supporting independent variable. This variable captures the financial resources that Balochistan received from the federal from year 1985 to 2014.

Total Number of Midwives is another variable included in the model that indicates the total number of midwives from the government sector hospitals of Balochistan from year 1985 to 2014.

Total Number of LHVs is included in the model a variable that indicates the total number of Lady Health Visitors from government sectors hospitals of Balochistan from year 1985 to 2014.

Total Number of Health Education Officers is incorporated in the model as a variable that indicates the total number of health education officers from government sectors hospitals of Balochistan from year 1985 to 2014.

Total Number of Drug Inspectors is another variable that indicates the total number of drug inspectors from government sectors hospitals and institution of Balochistan from year 1985 to 2014.

Total number of Pharmacists: The variable indicates the total number of pharmacists from government sectors hospitals and institution of Balochistan from year 1985 to 2014 and the variable is an independent variable.

Total Number of T B Clinics: the variable indicate the total number of T.B. clinics from government sectors of Balochistan from year 1985 to 2014 and the variable is an independent variable.

Research Methodology

Total Number of Mother Child Health Care Centre (MCH) is also included in the model as a supporting independent variable from year 1985 to 2014.

Total no of Basic Health Units (BHU): the variable indicate the total number of Basic Health Units from government sectors of Balochistan from year 1985 to 2014 and the variable is an independent variable.

Total Number of Rural Health Centre (RHC): the variable indicate the total number of Rural Health Centers from government of Balochistan from year 1985 to 2014 and the variable is an independent variable.

Total Number of Doctors: the variable indicate the total number of Doctors including all categories of doctors from government sectors hospitals from all districts of Balochistan from year 1985 to 2014 and the variable is an independent variable.

Total Number of Doctors: the variable indicate the total number of Doctors including all categories of doctors from government sectors hospitals from all districts of Balochistan from year 1985 to 2014 and the variable is an independent variable.

Total Number of Nurses: the variable indicate the total number of Nurses from government sectors hospitals and institutions from all districts of Balochistan from year 1985 to 2014 and the variable is an independent variable.

Total Number of Dispensaries: the variable indicate the total number of Dispensaries from government sectors hospitals and institutions from all districts of Balochistan from year 1985 to 2014 and the variable is an independent variable.

Total Number of Hospitals: the variable indicate the total number of Hospitals from government sectors including every category from all districts of Balochistan from year 1985 to 2014 and the variable is an independent variable.

μ: it indicates the error terms in the model.

Research Methodology…..

$$Y_{2t} \text{ (Crude Death Rate and Child Mortality Rate)} = \beta_{20} + \beta_{21} \log (\text{health budget}) + \beta_{22} \log (\text{Balochistan Budget}) + \beta_{23} \log (\text{Federal Receipts}) + \beta_{24} (\text{Total no of midwives}) + \beta_{25} (\text{Total no of LHVs}) + \beta_{26} (\text{Total no of health education officers}) + \beta_{27} (\text{Total no of drug inspectors}) + \beta_{28} (\text{Total no of Pharmacists}) + \beta_{29} (\text{Total no of T.B. Clinics}) + \beta_{210} (\text{Total no of MCH}) + \beta_{211} (\text{Total no of BHU}) + \beta_{212} (\text{Total no RHC}) + \beta_{213} (\text{Total no Doctor}) + \beta_{214} (\text{Total no of Nurses}) + \beta_{215} (\text{Total no of Dispensaries}) + \beta_{216} (\text{Total no of Hospital}) + \mu_{it}$$

$$t = 1, 2, 3, 4, 5, \ldots\ldots\ldots, 30 \text{ and } I = 1, 2, 3, 4, 5.$$

Where,

Crude Death Rate and Child Mortality Rate = CDRCMR, Health Budget = HB, Balochistan total Budget = BB, Federal Receipts = FR, Total number of Midwives = TM, Total number of LHVs = TLHVS, Total Number of Health Education Officers = THEO, Total number of Drug Inspectors = TDI, Total number of Pharmacists = TP, Total number of TB Clinics = TTBC, Total number of MCH = TMCH, Total number of Basic Health Units = TBHU, total number of Rural Health Clinics = TRHC, Total number of Doctors = TD, Total number of Nurses = TN, total number of Dispensaries = TnD, Total number of Hospitals = TH,

Research Methodology……

$$Y_{2it} \ (CDRCMR) = \beta_{20} + \beta_{21} \log (HB_{it}) + \beta_{22} \log (BB_{it}) + \beta_{23} \log (FR_{it}) + \beta_{24} (TM_{it}) + \beta_{25} \ (TLHVS_{it}) + \beta_{26}$$

$$(THEO_{it}) + \beta_{27} (TDI_{it}) + \beta_{28} (TP_{it}) + \beta_{29} (TTBC_{it}) + \beta_{210} (TMCH_{it}) + \beta_{211} (TBHU_{it}) + \beta_{212} (TRHC_{it}) + \beta_{213}$$

$$(TD_{it}) + \beta_{214} (TN_{it}) + \beta_{215} (TnD_{it}) + \beta_{216} (TH_{it}) + \mu_{it} , \qquad t = 1, 2, 3, 4, 5, ..., 30 \text{ and } I = 1, 2, 3, 4, 5.$$

Panel Data

The Panel data, also known as longitudinal or cross-sectional time-series data, is a dataset in which the behavior of entities is observed across time. These entities could be states, companies, individuals' countries, a microeconomic and macroeconomic variables.

The Fixed Effect Model

The Fixed Effect model controls for all time invariant differences between the individuals so the estimated coefficients of the fixed effect models cannot be biased because of omitted time invariant characteristics like culture, religion, gender, race et al.

The Random Effect Model

The rationale behind random effect model is that unlike the fixed effect model the variation across entities is assumed to be random and uncorrelated with the predictor or independent variables included in the model.

Research Methodology…..

Testable Model for Education

The dependent variable for this model is the overall literacy rate in Balochistan

- $Y_{1t} = \beta_{10} + \beta_{11} \log(X_{1t}) + \beta_{12} \log(X_{2t}) + \beta_{13} \log(X_{3t}) + \beta_{14} \log(X_{4t}) + \beta_{15} \log(X_{5t}) + \beta_{16} \log(X_{6t}) + \beta_{17} \log(X_{7t}) + \beta_{18} \log(X_{8t}) + \beta_{19}(X_{9t}) + \beta_{110}(X_{10t}) + \beta_{111}(X_{11t}) + \mu i$ ……………………………3

- Y_{1t} = Literacy rate;

- X_{1t} = Total no of teacher; X_{2t} = high school enroll; X_{3t} = middle school enroll;

- X_{4t} = primary school enroll; X_{5t} = Total no of high school; X_{6t} = Total no of middle school;

- X_{7t} = Total no of primary schools; X_{8t} = education budget; X_{9t} = Balochistan budget;

- X_{10t} = Intermediate pass ratio; X_{11t} = Matriculation pass ratio

Testable Model for Health

As explained in the same above, the dependent variable for this model is number of deaths recorded on yearly basis in Balochistan.

- $Y_{2t} = \beta_{20} + \beta_{21} \log(X_{1t}) + \beta_{22} \log(X_{2t}) + \beta_{23} \log(X_{3t}) + \beta_{24} X_{4t} + \beta_{25} X_{5t} + \beta_{26} X_{6t} + \beta_{27} X_{7t} + \beta_{28} X_{8t} + \beta_{29} X_{9t} + \beta_{210} X_{10t} + \beta_{211} X_{11t} + \beta_{212} X_{12t} + \beta_{213} X_{13t} + \beta_{214} X_{14t} + \beta_{215} X_{15t} + \beta_{216} X_{16t} + \mu_i$ …………5

- Y_{2t} = Number of Crude Death Rate and Infant Mortality Rate

- X_{1t} = health budget; X_{2t} = Balochistan budget; X_{3t} = federal receipts;

- X_{4t} = total no of midwives; X_{5t} = Total No of LHVs; X_{6t} = total NO of health;

- X_{7t} = Total No of drug inspector; X_{8t} = total No of pharmacist; X_{9t} = total No of T.B. clinics; X_{10t} = total No of MCH; X_{11t} = total No of BHU; X_{12t} = total No of RHC;

- X_{13t} = total No of Doctor; X_{14t} = total No of Nurses;

- X_{15t} = total No of dispensaries; X_{16t} = total No of Hospital
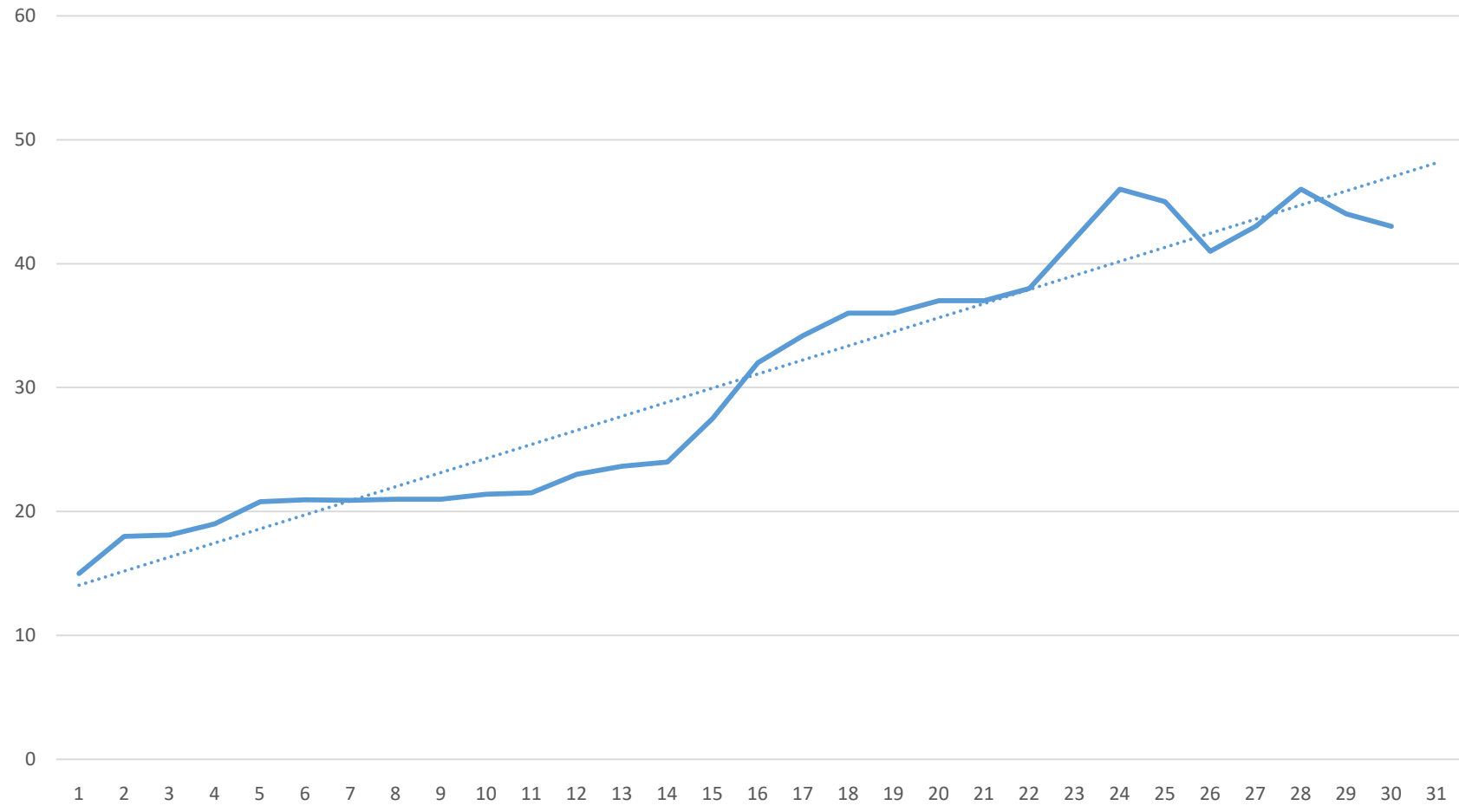
Results and Discussions

Descriptive Statistics – First Set of Variables					
	Descriptive Statistics				
Variable	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Federal Receipts	30	2495	159500	35538.10	46244.67
Balochistan Budget	30	4 B	200 B	45.4 B	48.03 B
Education Budget	30	0.4 B	10 B	3.24 B	3.55 B
Primary Schools	30	2942	10668	8196.2	2815.899
Middle Schools	30	390	1165	735.9	203.612
High Schools	30	184	783	458.2	175.726
Enroll Of Primary Schools	30	246692	642322	480000	89539.912
Enroll Of Middle Schools	30	36511	184484	107000	45238.302
Enroll Of High Schools	30	11545	327927	140000	125779.879
No Of Teachers	30	4021	59581	32200	16186.979
Degree Colleges	30	11	40	21.9	9.841
Enroll Of Degree Colleges	30	4232	22425	10900	5270.51
No Of Teachers in Degree Colleges	30	389	1844	940.9	405.412
Inter Colleges	30	17	66	39.47	16.788
Enroll Of Inter Colleges	30	998	42099	14700	12426.953
No Of Teachers in Inter Colleges	30	178	873	460.8	205.641
Appeared in Matriculation	30	7277	53867	28700	13906.587
Passed in Matriculation	30	2294	46741	18000	13460.603
Appeared in Intermediate	30	5562	40206	22900	12200.205
Passed in Intermediate	30	731	32765	10600	9114.026
Literacy Rate	30	15	46	30.5337	10.34527
Valid N (list wise)	30				

Descriptive Statistics – Second Set of Variables

	N	Minimum	Maximum	Mean	Std. Deviation
Federal Receipts	30	2495	159500	35538.10	46244.67
Balochistan Budget	30	4 B	200 B	45.4 B	48.03 B
Health Budget	30	0.1 B	10 B	2.46 B	3.716 B
No Of Hospitals	30	40	98	58.93	18.491
No Of Beds	30	2139	4840	3590.8	881.024
No Of Dispensaries	30	262	685	506.4	121.142
No Of Nurses	30	114	790	408.87	218.573
No Of Doctors	30	450	2231	1257.73	585.707
No Of Patients	30	266602	5975793	2920000	2278096.143
No Of RHCs	30	33	98	61.73	20.398
No Of BHUs	30	235	642	468.63	97.791
No Of MCHs	30	70	99	86.2	9.268
No Of T.B. Clinics	30	5	24	18.23	5.587
No Of Pharmacists	30	15	440	115.67	168.027
No Of Drug Inspectors	30	7	72	21.43	22.663
No Of Health Edu. Officers	30	7	17	10.13	3.115
No Of LHVs	30	93	829	350.1	229.202
No Of Midwives	30	282	1673	1062.7	421.84
No Of Deaths	30	236	754	516.57	139.6
Valid N (list wise)	30				

Literacy Rate

Fixed Model Effects

The determinants of Education (Literacy rate is the dependent variable)

	Coef.	Std. Err.	T	P>|t|	[95% Conf	. Interval]
log_no.teacher	-0.34786	5.32623	-0.07	0.949	-11.8545	11.15876
log_high enrol	1.176781	2.910119	0.4	0.693	-5.11015	7.463711
log_middle enroll	3.661775	7.545447	0.49	0.636	-12.6392	19.96272
log_primary enroll	0.80548	8.815724	0.09	0.929	-18.2397	19.85069
log_no.hschl	-1.59636	16.56764	-0.1	0.925	-37.3886	34.19585
log_no.mschl	7.878279	18.18639	0.43	0.672	-31.411	47.16758
log_no.pschl	-7.62017	6.768995	-1.13	0.281	-22.2437	7.003356
log_edubget	0.701164	1.056622	0.66	0.519	-1.58153	2.983857
log_bbudget	7.201675	5.509783	1.31	0.214	-4.70149	19.10484
Intpass ratio	0.066001	0.073431	0.9	0.385	-0.09264	0.22464
Mpass ratio	-0.03457	0.041249	-0.84	0.417	-0.12369	0.054539
_cons	-194.241	80.41378	-2.42	0.031	-367.964	-20.5174
sigma_u	3.897868					
sigma_e	1.592964					
Rho	0.856886	(fraction	of varian	ce due to	u_i)	

The determinants of Healthcare Outcomes (Crude Death Rate is the dependent variable)

Nodeaths	Coef.	Std. Err.	T	P>|t|	[95% Conf.	Interval]
log_healthbugt	-137.659	81.60111	-1.69	0.13	-325.832	50.51334
log_bbugt	278.5821	320.104	0.87	0.409	-459.579	1016.743
log_fedr	26.01793	185.2782	0.14	0.892	-401.235	453.2703
Nmidwives	-0.29507	0.403517	-0.73	0.485	-1.22558	0.63544
No. LHVs	-0.16553	0.985659	-0.17	0.871	-2.43846	2.107408
NO.h.edu officer	28.10252	75.14013	0.37	0.718	-145.171	201.376
No.drug inspector	5.215789	9.968264	0.52	0.615	-17.7711	28.20265
No. pharmacist	-0.57541	1.757088	-0.33	0.752	-4.62726	3.476439
No.TB. clinic	-2.65484	11.33385	-0.23	0.821	-28.7908	23.48108
No. MCH	-13.0215	7.723525	-1.69	0.13	-30.832	4.788957
No. BHU	-2.43585	1.151863	-2.11	0.067	-5.09206	0.220348
No. RHC	-11.0918	6.829341	-1.62	0.143	-26.8403	4.656668
No. Doctor	0.537286	0.348038	1.54	0.161	-0.26529	1.339864
No. Nurses	-0.77914	0.694123	-1.12	0.294	-2.37979	0.821514
No. dispensaries	-0.30999	1.091232	-0.28	0.784	-2.82638	2.206392
No. Hosptl	4.330769	4.880394	0.89	0.401	-6.92344	15.58498
_cons	-1201.05	6807.233	-0.18	0.864	-16898.6	14496.46
sigma_u	93.5154					
sigma_e	68.9304					
Rho	0.647954	(fraction	of varian	ce due	to u_i)	

Random Effect Models

The determinants of Education Outcomes (Literacy Rate is the dependent variable)

litt_rate	Coef.	Std. Err.	Z	P>|z|	[95% Conf.	Interval]
log_no.teacher	-0.03985	1.283546	-0.03	0.975	-2.55556	2.475852
log_high enrol	4.202238	2.387436	1.76	0.078	-0.47705	8.881526
log_middle enroll	-2.55327	5.153721	-0.5	0.62	-12.6544	7.547838
log_primary enroll	7.902273	7.008712	1.13	0.26	-5.83455	21.6391
log_no.hschl	-0.9654	10.98	-0.09	0.93	-22.4858	20.55501
log_no.mschl	9.97763	12.14736	0.82	0.411	-13.8308	33.78601
log_no.pschl	-10.4926	4.605263	-2.28	0.023	-19.5188	-1.46645
log_edubget	-1.59574	0.733647	-2.18	0.03	-3.03366	-0.15781
log_bbudget	9.28966	2.770681	3.35	0.001	3.859225	14.7201
Intpass ratio	-0.06708	0.047524	-1.41	0.158	-0.16023	0.026064
Mpass ratio	-0.0878	0.033656	-2.61	0.009	-0.15376	-0.02184
_cons	-237.193	60.25145	-3.94	0	-355.283	-119.102
/sigma_u	0	0.375178			.	.
/sigma_e	1.618926	0.208995			1.257018	2.085032
Rho	0	(omitted)				

The determinants of Healthcare Outcomes Using Random Effect - Crude Death Rate is the Dependent Variable

Nodeaths	Coef.	Std. Err.	Z	P>|z|	[95% Conf.	Interval]
log_healthbugt	-137.254	49.03024	-2.8	0.005	-233.352	-41.1567
log_bbugt	333.8549	136.3187	2.45	0.014	66.6752	601.0346
log_fedr	-44.1627	102.5676	-0.43	0.667	-245.191	156.866
Nmidwives	-0.3097	0.14969	-2.07	0.039	-0.60309	-0.01632
No. LHVs	0.002141	0.414444	0.01	0.996	-0.81016	0.814437
NO.h.edu officer	21.21683	16.00059	1.33	0.185	-10.1438	52.5774
No.drug inspector	2.421682	5.76548	0.42	0.674	-8.87845	13.72181
No. pharmacist	-0.19043	0.829123	-0.23	0.818	-1.81548	1.43462
No.TB. clinic	0.949908	3.85683	0.25	0.805	-6.60934	8.509155
No. MCH	-10.2707	3.029339	-3.39	0.001	-16.2081	-4.33331
No. BHU	-1.27982	0.501841	-2.55	0.011	-2.26341	-0.29623
No. RHC	-12.4667	4.15622	-3	0.003	-20.6128	-4.32067
No. Doctor	0.410797	0.165319	2.48	0.013	0.086778	0.734816
No. Nurses	-0.66496	0.311965	-2.13	0.033	-1.2764	-0.05352
No. dispensaries	-0.04337	0.280272	-0.15	0.877	-0.59269	0.505957
No. Hosptl	3.791691	1.601328	2.37	0.018	0.653146	6.930236
_cons	-1589.2	1938.772	-0.82	0.412	-5389.13	2210.721
/sigma_u	0	13.49609			.	.
/sigma_e	44.39275	5.73087			34.46882	57.17388
Rho	0	(omitted)				

Conclusion

- This research of the effectiveness of 7th National Finance Commission award on health and education was aimed to provide a detailed analysis of the situation in before and after the 7th NFC award on the two key social sectors – healthcare and education outcomes. For this purpose, we adopted a panel study approach based analysis and used a robust econometric technique. We conducted this analysis using a time from 1985 to 2014.

- The results of the study shows that the situational change in quality and quantity in both of the sectors education and health are not as expected. While looking at the performance of education sector, we noticed that the sector is not seem to be changed dramatically after the 7th NFC award, the 7th NFC award has reformed the sector in terms of infrastructure somehow but it seemed not to be influence positively the overall literacy rate of Balochistan.

- And same is the situation for health sector the infrastructure has been somehow improved after the 7th NFC award but the quality of health provided to the general public is still very poor.

Conclusion…..

- During the period specified for this study the Balochistan health budget, the number of MCHs, the number of BHUs, the number of RHCs, the number of Doctors and the total number of nurses are increasing and has positive contribution toward the quality health provision to the general public significantly as the study has confirmed. But the overall all situation after the 7th NFC didn't change the performance of the both sector in terms of quality.

- Overall, the results do not substantiate our hypotheses implying that the 7th NFC Award (decentralisation) may improve basic healthcare and education outcomes in Balochistan.

- For education, overall our findings do not support our hypothesis that after the implementation of 7th NFC Award when the fiscal resources transfer to province of Balochistan has increased substantially, the impact of the this resource transfer has been translated into better education outcomes.

- As we observed in the case of education, the effectiveness of 7th NFC Award is not better in healthcare as well. Given the scarcity of data that may be used as best proxy for healthcare outcomes, the study used the Crude Death Rate as a proxy of healthcare outcome. It is relevant to point out that health sector is in complete shamble in Balochistan, and given the lack or absence of any coordination or existence of any mechanism, the availability of data even to the responsible bodies is near to impossible. Given this paucity of data, this study therefore relied on the best available dataset from the concern ministries, Government of Balochistan.

Policy Recommendations

- To enhance the quality and ratio of literacy, political influence in the process of teaching staff in schools must be eliminated.

- To enhance the quality and ratio of literacy , government should allocate budget for primary, middle schools and high schools .

- Teachers should be given a reasonable amount of salary and training which can encourage them to be on their duties.

- Employees in health sector must be rewarded for their best performance and be discouraged strictly for their negligence.

- Doctors should be given a reasonable amount and also facilitates which can encourage them to be on their duties on their duties in remote areas.

- Government should focus on increasing the BHUs, MCHs, RHCs, doctors and nurses and dispensaries so that the crude/ mortality rate be curbed, instead of increasing the number of LHVs, Health education officer, drug inspectors and T.B clinics and hospitals, as increase in the later ones the result are the same and shows no sign of improvement.

Thank You