Impact of Fiscal Decentralisation on Human Development: A Case Study of Pakistan

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1. INTRODUCTION

Fiscal decentralisation refers to the transfer of authority and responsibility from central government to sub-national or the local government. It is mostly pre-assumed that fiscal decentralisation can play important role in the efficient allocations of resources and improvement of the political, economic and social activities. Many studies unlock the relationship between federal government and sub-national governments or local government. Fiscal decentralisation theories mostly based on Richard Musgrave's (1939) functions of government. He defined three roles: stabilisation, allocation and distribution whereas, only the allocation function seems to be appropriate to fiscal decentralisation theory. Because these three functions are not equally suitable for all level of governments and it is necessary for efficiency that each function is properly matched to the level. It is a step forward towards more responsive and efficient governance if the decentralisation is done properly [Oates (1972)]. The logic behind fiscal decentralisation is accountability and efficiency; the smaller organisations are more fragile for accountability than the larger ones. However, decentralisation has not always been effective in the provision of service delivery and hardly accountable due to lack of community participation. If there is no spill over effects and in the absence of diseconomies of scale it could be effective and efficient. The sub-national governments where the externalities are internalised and scale economies are acceptable fiscal responsibilities should be assigned [Rodden, *et al.* (2003)]. The sub-national governments are much closer to the people and they are better informed to respond according to their demands of goods and services [Hayek (1945); Qian and Weingast (1997)]. Service deliveries are highly dependent on transfers from central governments. It is necessary to increase the revenue autonomy of sub-national governments and it is linked with the service delivery in social sector [Elhiraika (2007)]. Lower level of governments is closer to the people and much aware of the preferences of localities. Service deliveries should be located at the lowest level because decentralised provision of services increases the economic welfare [Oates (1999)].

This study examines the fiscal decentralisation trend in Pakistan. The 1973s constitution provides a clear distinction between the central and the provincial

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[1]Sub-national Governments refers to Provincial Governments.

government's taxation powers and sharing of revenues. The constitution and the amendments support more the decentralised system than unitary one. First attempt was made by Bhutto in 1974 and the National Finance Commission was formed in which the shares between central and sub-national governments were 80:20 respectively. Through the developmental process now the shares of Central and sub-national governments are set at 56:44 respectively (7th NFC Award). This increase of the share enables the sub-national governments to enhance the service delivery and efficiently allocate the resources in the most demanding areas. It is commonly argued that decentralisation improves the efficiency of resource allocation [Oates (1999)]. But in reverse during the last five years the health expenditure shrank at provincial level. Although sub-national governments share increases from 20 percent to 37.5 percent (Table.1) in 1996 NFC Award but health and education expenditure of all the sub-national governments squeezed in average after this. (Table 2). Whether this increase in shares of sub-national governments in the 7th NFC Award will increase the Expenditure of Social Sector?

The main focus of the paper is to analyse the efficiency of provinces in the provision of health and educational services and their impact on human development. Matheson and Afar (1999) proves positive impact of decentralisation on health and education outcomes. In Model I variables are taken as a consolidated decentralisation of revenues, expenditure and urban living. The results of the model I suggest the positive impact of decentralisation indicator on Human Development Index. In the IInd Model, expenditure on health and education as a percent of total expenditure of province are taken as dependent and proxy for human development. The analysis shows that the provinces are not yet independent in their revenue and expenditure composition due to dependency of federal transfers. Provinces are far away from fiscal autonomy having less political decentralisation.

2. LITERATURE REVIEW

Fiscal decentralisation is considered one of the essential tools to improve the economic growth, efficient public service delivery and better infrastructure in the case of developing countries. There are many studies about the fiscal decentralisation. The social sector service delivery is efficiently addressed by the decentralisation and is evidenced by the different studies that they have positive and significant relation in many cases. It is commonly argued that the devolution of powers and functions may remove the obstacles to government decision-making and implementation process [Meager (1999)].

Kiran (2005) studied the gains of decentralisation at state-level in India and builds a panel data model for 16 Indian states from 1980-2001. The results show that the decentralisation has the positive effect on the standard of living of residents of the state. Further he includes many social variables like spending on the education and health to find out the impact of decentralisation on the social sector and the benefits vary from state to state but fiscal decentralisation have overall positive effect on the economic growth at the expense of regional disparity. As the less benefit is exercised by the poor states and higher benefit by rich states, this widens the income inequalities among the states. Halder (2007) measures the fiscal decentralisation by three different measures: expenditure ratio, revenue ratio and composite ratio while the last ratio has more explanatory power than the previous two. All the measures of decentralisation have the

same results that the fiscal decentralisation has positive correlation with HDI, life expectancy, and GDP while negative correlation with infant mortality rate. Elhiraika (2007) studies the impact of fiscal decentralisation on the public service delivery basic focus is on the sub-national governments' autonomy measure by own-source revenue in South Africa. He finds that the provincial own-source revenue is negatively related to the health expenditure as the health service is assumed to be the responsibility of central government but positive relationship with per-capita income that means if the population gets richer the provincial government will allocate more resources to health but the result is contradictory. Education demand is also found insignificant to the changes in intergovernmental grants. It is also found out that the richer provinces get more revenue. Fjeldstad (2001) finds out whether fiscal decentralisation is better or worse in the prevailing economic condition of Tanzania and further discusses the role in public sector delivery. He suggests that the high corruption, poorly defined taxes, distortion in public service could further aggravate the distortion if decentralisation is increased further without judging the capacity of local bodies. So there is a need of restructuring, capacity building and improving the integrity of the system otherwise decentralisation will result in mismanagement and high corruption. Atsushi Limi (2004) finds out the empirical relationship between fiscal decentralisation and economic growth in Pakistan using instrument variables cross-country from 1997 to 2001. He measures decentralisation by the local share of expenditure to the total expenditure. The results show that fiscal decentralisation has positive impact on the per-capita of a country and further it improves the public service provision. Atsushi emphasises that the fiscal decentralisation on expenditure side is more effective for economic growth.

Peterson (2002) presents a draft for World Bank about the fiscal decentralisation of Pakistan and highlights the political, governance, and service delivery issues. He discusses that the uncertain authority that is allocated to the provinces and local government raise many conflicts, there should be the need of the direct grants to private organisation to encourage the citizen's participation. Citizen Community Boards are the non-profit bodies which should be developed in a way to increase and improve the service delivery; and to enhance the accountability and better resource mobilisation. As the District governments have the important human service delivery functions: education and health care, but the efficiency of the service delivery is the outcome of many factors: skill of employees, adequate government resources, willingness of public institutions and employees. He further mentions some important flaws in the fiscal decentralisation like low level of own-source revenues, failure of the quality service delivery, higher dependence on grant by the provinces than the urban population, predetermined taxes and tax rates. Hafiz and Aisha (2001) presented a paper on fiscal decentralisation and the devolution of power at Social Policy and Development Centre. He discusses the major issues of fiscal decentralisation that arises from National Reconstruction Bureau (NRB) devolution plan. He proposes that as the federal government has the surplus revenues while the provincial and local governments are in deficit so there is a need for large transfers from federal to provincial governments but it is important whether the transfer criteria should depend on the population, measure of backwardness, service delivery and many other factors. Taxes assignment should be clear cut to avoid the overlapping of tax bases, immobile taxes should be levied by local bodies otherwise there will arise a

problem of tax competition. Tax exporting should be reduced as it creates regional disparities. And revenue assignment should be simple and include other criteria than population like service transfer, revenue collection, and backwardness. While grants should be for general purpose so that the local governments may have the autonomy to spend according to their needs and preferences.

Levaggi and Smith (2003) find the implication of decentralisation on the efficiency and equity of health sector in UK, Spain and Italy. He concludes that there are three important issues to deal with, when decentralisation in health care is done: utilising of information advantages, need of diversity amongst local laws, spill over effect between laws. Minassain (1997) finds out that how the fiscal decentralisation constraints central government ability to carry out their predetermined macroeconomic management and this cost could be minimised. He concludes that hard budget constraint and much involvement of sub-national governments in macroeconomic management could reduce this cost. Habib, *et al.* (2003) used the panel data set and found positive impact of fiscal decentralisation on health and education among the provinces of Argentina. He observes that the disparity in educational output and infant mortality rate between high and low income provinces decreases significantly from 1970 to 1994 due to rise in per-capita health and education expenditure in low income provinces. Abay, *et al.* (2001) tests empirically the impact of fiscal decentralisation on rural mortality rate in India from 1990 to 1997. He argued that fiscal decentralisation could be more effective If it is done alongside political decentralisation. The results of random effect model show the statistically significant negative relation between fiscal decentralisation and infant mortality rate.

Skira (2006) studies the relationship between fiscal decentralisation and poverty for 200 countries from 1965-2000 and 2004. He has derived some ratios for decentralisation like expenditure decentralisation, education decentralisation and health decentralisation and also included the LIS (Luxemburg Income Study) poverty data, which is percent of persons living in families below 50 percent of the median family income. He separately measures the decentralisation impact of these ratios. The result of simple to moderate levels of fiscal decentralisation and poverty reduction measured by HDI shows negative result while on high level of decentralisation findings are contrary to it, positive association between decentralisation and poverty reduction outcomes. While poverty measured by LIS shows that fiscal decentralisation does not reduce poverty. Results of Poverty measured by health and education decentralisation show that there exists negative correlation between drop out ratios and fiscal decentralisation meaning that it has a positive effect on poverty reduction. Beox, *et al.* (2006) studies the linkages between poverty and fiscal decentralisation, showing how the poverty reduction is possible by expenditure assignment, revenue assignment and intergovernmental transfer. He finds out that when the expenditure assignments are clear and stable, the devolution will be more pro-poor. He emphasises that local government should have power to levy fees and local taxes that will improve their potential and service delivery at all levels. Decentralisation in health and education will lead to the involvement of citizens in decision-making and make local service provisions more accountable.

Rao (2003) has done a comparative study in the pre and post reform era in case of China and India and further identified the emerging challenges for the transition countries. He concludes that it is necessary to develop an efficient expenditure, tax and

intergovernmental system and capacity-building of institutions at centre and local level. Anwar (2004) has studied the fiscal decentralisation problems and progress in 33 developing and transition countries 1980-1999. Among them in 12 countries the primary education was the sole function of local bodies while in 9 additional countries it was shared between centre and local bodies and Pakistan is among one of them. He finds that the transition countries' sub-national governments expenditure as percentage of GDP, total expenditure, educational and health expenditure represents a declining trend while in case of developing countries the expenditure on education and health spending is increasing over time. Shah (2003) presented a report at UNESCO seminar about the decentralisation in educational system in Pakistan. He has highlighted certain issues like citizen have no access in the decision making and limited access to social service, central government does not respond to the local bodies need. Highly centralised education system is the main reason of distortion and lack of efficiency and effectiveness of service delivery at grass root level.

3. OBJECTIVES OF FISCAL DECENTRALISATION IN PAKISTAN

Objective of fiscal decentralisation in Pakistan is the same as in other developing countries, the provision of service delivery and increase the fiscal autonomy of sub-national governments. It creates harmony among the provinces and strengthens the federation. Public finance literature suggests that fiscal decentralisation increases the efficiency of sub-national governments in the provision of service delivery. In contrast to the theory of real fiscal decentralisation, due the central type of government in Pakistan, most of the revenues collected by central government and distributed among the provinces through typical revenue sharing formula (NFC). The provinces in turn redistribute the revenue among the lower tier of governments or spend through the ministries in the absence of local governments (PFC). Table1 shows that the provincial share increases with the passage of time and in 7th NFC award it crossed the limit of fifty percent. This significantly changes the ratio of allocation of transfers to the provinces up to 56 percent of the total share enhancing the decentralisation process.

Under the constitution (1973), maintaining local governments is a provincial subject. Constitution allows national government to empower the provinces and establish local governments. Unfortunately, in Pakistan local governments have been established by the Dictators without any protection from parent provinces and therefore fail to deliver. Pakistan has a confused system of fiscal decentralisation having large expenditure assignments almost 27 percent in 2010 to provincial governments with limited tax autonomy of provinces which was 13.77 percent in 2010. The expenditure decentralisation and tax autonomy in 1989 were 25 percent and 17 percent respectively (Fig. 1). This indicates limited tax decentralisation in the country. It is observed through calculations, the tax autonomy of the provinces is limited and they do not have decision power to collect the tax, set the rate and determine the base. Rodden, Gunnar, and Jennie (2003) suggested that the accountabilities and responsibilities of central and sub-national governments should be divided into well-defined, mutually exclusive categories. Unfortunate many efforts failed to create fiscal federalism in country.[1]

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[1]Fiscal federalism refers to a political system with a constitution and powers to both of central and decentralised level of governments, see Oates (1999).

Table 1

Year	Federal %	Provincial %
1974	80	20
1979	80	20
1985	Interim Award	Interim Award
1990	80	20
1996	62.5	37.5
2000	Interim Award	Interim Award
2010	44	56

Source: Economic Survey of Pakistan.
7th Award: 44:56 for 1st year and remaining year it will be 42.5:57.5.
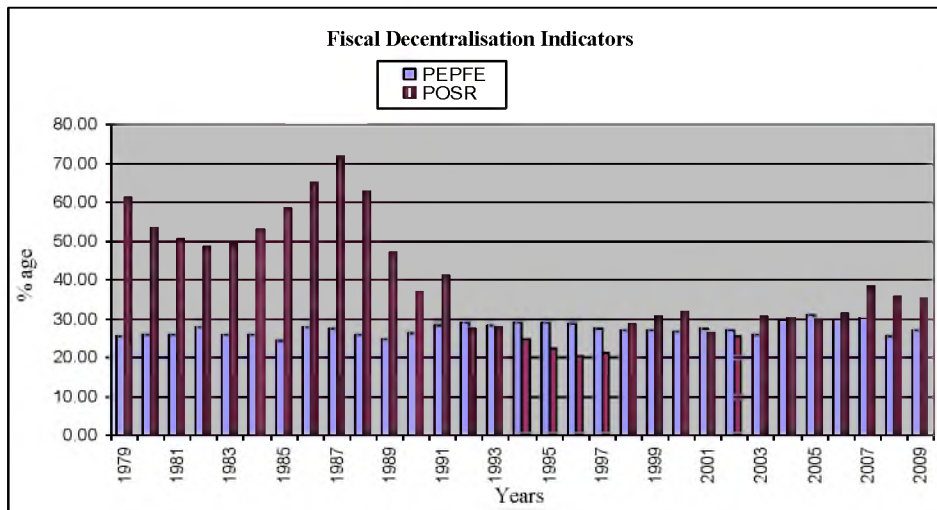
Source: FBS, *Statistical Year Book.*
PEPRF = Ratio of Provincial Expenditure over total Expenditure.
POSR = Ratio of Provincial own-source revenue over total revenue.

Fig. 1.

3.1. Human Development Index (HDI)

HDI is developed by UNDP in 1990 it's a better measure for Human Development. HDI is a fraction and capture the over all human developments in the country. It measures the three basic areas of human development: the longevity, measured by life expectancy at birth; Knowledge, measured by adult literacy rate and gross enrolment ratio assigned 2/3 and 1/3 weights respectively and the decent standard of living, measured by per-capita PPP income of the country. Sikira (2006) uses HDI as a dependent variable and regressed on expenditure decentralisation and other variables and found positive relation. In this paper we are too using HDI as a dependent variable and regressing it on expenditure as well as revenue decentralisation variables: provincial own-sourced revenue, ratio of provincial expenditure over the total government expenditure and further adding the ratio of urban population to the total population as the urban population contributes to push and pull factors which exert pressure on service delivery.

3.2. Revenue Decentralisation
Own-source Revenue of Sub-national Governments

Figure 2 shows that provincial own-source revenue as a percentage of total revenue of provinces starts decreases in 1987 and then in 1996 after 5the NFC award increases slightly. In case of those countries where sub-national governments have less control over tax autonomy, and sub-national governments are dependent on the transfers from central government, own-source revenue is better measure. In public finance literature it is considered as a weak measure of decentralisation which does not show the tax autonomy of sub-national governments.

Provincial Own Source Revenue as % of TR
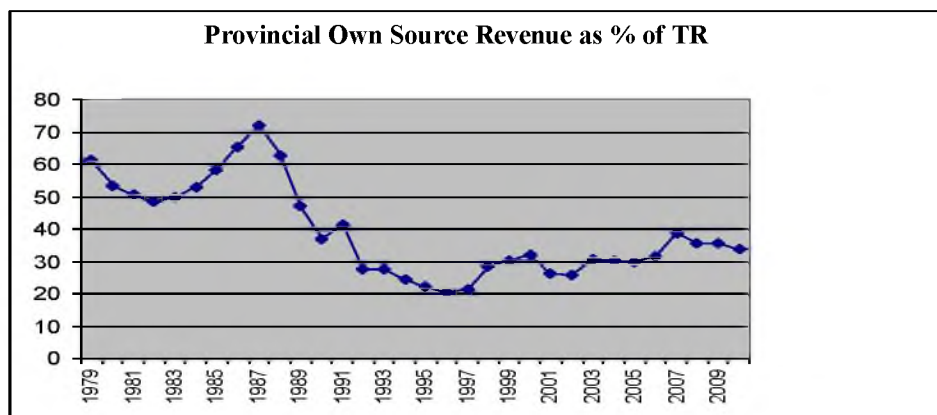
Source: Fifty Years of Statistics.

Fig. 2.

3.3. Tax Autonomy of Sub-national Governments
(Degree of Tax Revenue Decentralisation)

Tax autonomy of sub-national governments shows the rights of sub-national governments to define the tax base, determine the rate and define the tax relieves for individual and firms under the jurisdiction. The tax autonomy of sub-national governments is necessary for the discretion and preferences in spending. In fact Stegarescue (2005), this indicator captures the real decentralisation in revenues generation and decision power of the sub-national governments. Leviathan literature suggests that the decentralisation of the taxing powers increases the efficiency of the governments. Brennean and Buchannan (1980) examined that the taxing powers should have separate jurisdictions with restrictions. It increases the competition among jurisdictions. Figure 3 suggests that the degree of tax autonomy of the provincial governments decreased significantly since 1987 then its starts increasing slightly after 1995.

$$TA = \frac{SNG\,Own\,Tax\,Revenue}{SNG\,Own\,Tax\,Revenue + Federal\,Tax\,Assignments}$$
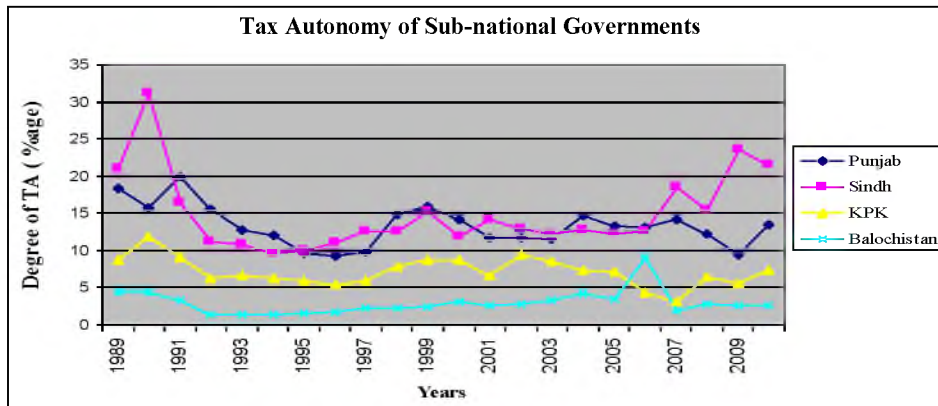
Where TA = Tax Autonomy, SNG = Sub-national Governments
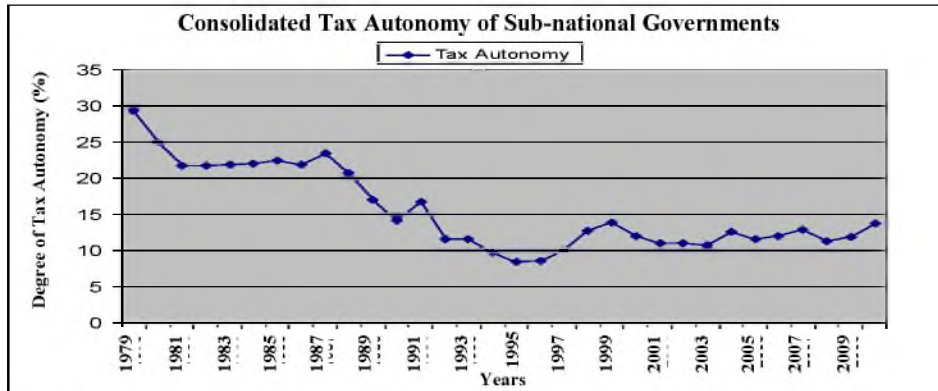
Source: *Statistical Year Book*, FBS.

Fig. 3.

Figure 4 shows that the tax autonomy of Balochistan among the all provinces and it depends on the federal transfers more than other provinces, which accounts for 93 percent of its total revenue. Own-source revenues are low because of a narrow revenue base and poor revenue administration. [ADB (2008)]. The tax autonomy of Sindh and Punjab gives mix results but after 2006 Sindh's own tax revenue increases significantly than other. It is importantly argue that the increase in this ratio shows the independency of provinces than federal transfers and indicate the potential of revenue generation.

Source: *Statistical Year Book*, FBS.

Fig. 4.

### 3.3.1. *Impact of Tax Autonomy of Sub-national Governments on Education and Health*

In common practice decentralisation is considered effective in the public sector management and improving the overall health facilities. World Bank reports suggest that; delineate responsibilities among stakeholders and formally codified responsibilities in legislation, regulation or in other instruments. In general, the impact of decentralisation on service delivery is not efficient. Rational Choice theory suggests that individual thinks

how to achieve the concrete goal that embodies his values to allocate his scarce resources in terms of means and ends [Beer (1976)]. Fiscal autonomy empowers the sub-national governments to allocate resources according to needs and preferences of residents. While in centralisation the allocation of resources might be inefficient due to heterogeneity of choices among the regions. Modern economic theory also assumes that the individual allocates their resources in the way where its utility maximises. If along with the tax autonomy the sub-national governments maximise the utility of their residents in the provision of social services, the revenue of sub-national governments will be enhanced.

3.4. Expenditure Decentralisation

Figure 5 shows the little increase in provincial expenditure as percent of federal government expenditure. In 1979 sub-national governments' expenditure was 25 percent reaches maximum of 31 percent in 2005-06 and after ups and downs it's nearly 27 percent in 2009. As the sub-national government expenditure shows upward trend from 2009 due to the formation of local government and the huge transfers of fund to the local bodies through provinces.
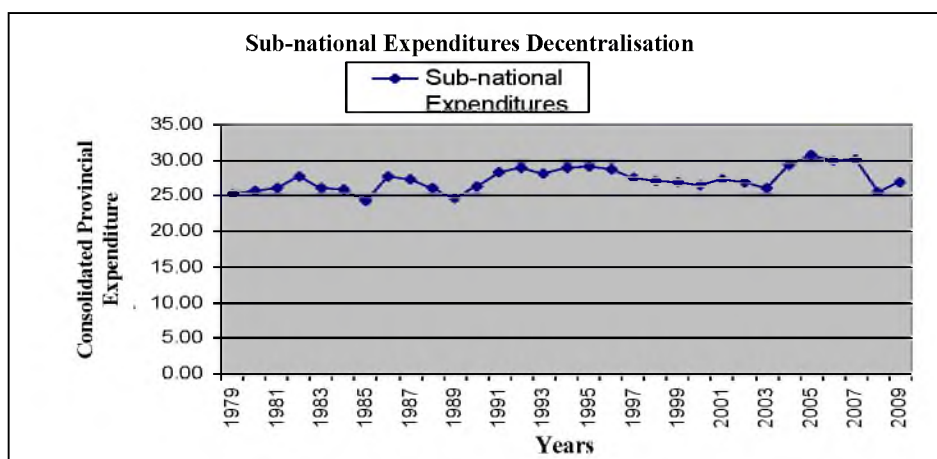
Source: Statistical Year Book, FBS.

Fig. 5.

3.5. Urban Population

The considerable growth in urban population impacts the human development in Pakistan. According to 1981census population in urban areas was 28.3 percent and in 1998 it increases up to 32.5 percent. Urbanisation attributed to push and pull factors. The significant growth (4.8 percent) in urban population in 80s is mostly due to rural immigration. The pull factors in urbanisation are availability of jobs in industry and services, better education and health facilities [Zaidi (2005)]. The pull factors of urbanisation also exert a pressure on service delivery in social sectors. Service delivery in social sector increases the revenues and expenditure composition and enhances the human development. While the push factors like unemployment, price and availability of land has adverse effect on the human development.

3.6. Service Delivery Health and Education and Their Outcomes

Provincial Health and Education Expenditure as percent of Total Expenditure.

Table 2

	1989-1996		1997-2009	
	Health	Education	Health	Education
Punjab	5.80	25.49	4.8	14.20
Sindh	6.14	22.50	4.76	13.47
KPK	6.30	23.32	5.69	20.59
Balochistan	6.83	17.44	4.88	11.80

Source: Statistical Year Book (Various Issues).

Provincial Expenditure on Education FBS and Health
(percent of Federal Expenditure)

After 18th amendment the health and education sectors are the solely provincial domain. The provincial governments can improve the social services delivery and set the expenditure composition [Tiebout (1956)]. This process can enhance the resources and social capital. The Figure 6 shows that the sub-national governments are more decentralised in health and education expenditure. This variable measures the expenditure autonomy of sub-national governments over the expenditure of health and education, and affects the service delivery [Skira (2006)].
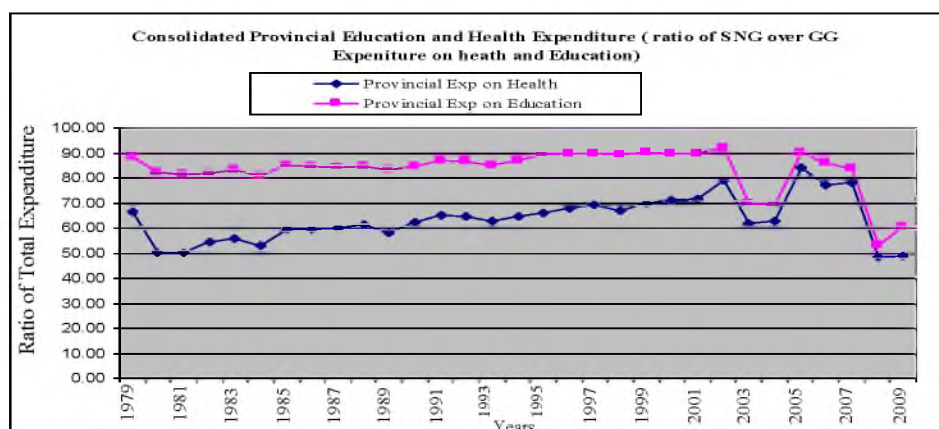

Source: Statistical Year Book (FBS).

Fig. 6.

Autonomy in service delivery sets the preferences of sub-national governments to improve the human development in the region. Figure 6 shows the trend in sub-national governments' expenditure preferences in the provision of health and service delivery across the provinces, this measure suggests in Government Finance Statistics (GFS) as health and educational decentralisation. World Bank (2006) studies consider that, in common practice decentralisation could be effective in the public management and improves overall health facilities. Studies suggest that responsibilities are formally

codified in legislation, regulation other budget binding instruments that are the hurdles in the way of provision of service delivery. Khaleghian (2004) also finds mix results for different service provision in different countries. Fiscal decentralisation is fruitful along with political decentralisation. Before the devolution plan education expenditure was stagnant during 1995 to 2001 and it starts increasing significantly after 2003 almost 31 percent at all levels of governments. Before the devolution plan annual growth in literacy rate was 0.3 percent, which significantly increases after devolution up to 1.4 percent. The other indicator of social development is health. There is no significant change in the rate of improvement in key health outcomes like life expectancy and mortality. During the period the share of allocation to general hospitals and clinics by three provinces excluding Sindh declined. [*SPDC Annual Review* (2006-07)].
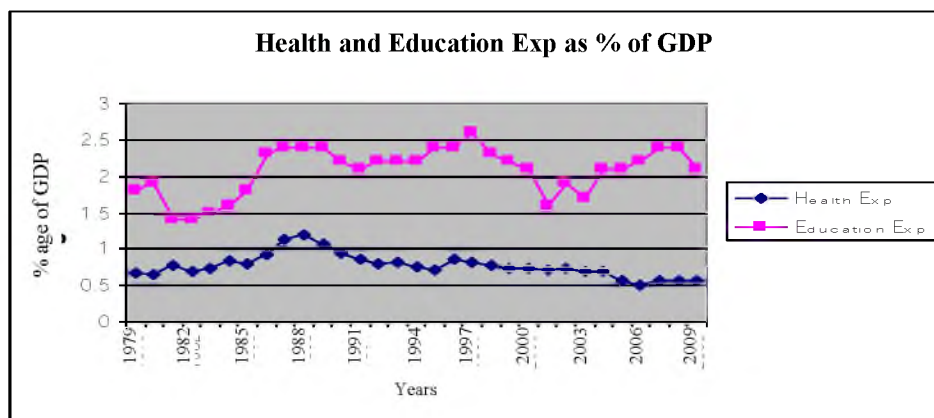
Source: Pakistan Economic Survey, various issues.

Fig. 7.

Figure 7 Show that health and education expenditure as percent of GDP is very low. Pakistan among the SAARC countries has lowest rank in case of expenditures on afore-mentioned sector. Education expenditure was 2.6 percent of GDP and health expenditure was 1.4 percent of GDP (1997) were ever highest in the history of country. The squeeze in social sector expenditure is one of the major causes of slow economic and social development [PHCR (2003)]. During nineties Pakistan falls in low development countries list. After 2003 the HDI improves slightly and again come in medium development.

4. MODEL SPECIFICATION

$$HDI = F (POSR, PEPFE, PUP) \qquad \ldots \qquad \ldots \qquad \ldots \qquad \ldots \qquad \ldots \qquad (1)$$

Where

HDI = Human Development Index, POSR = Consolidated provincial own-source Revenue.

PEPFE = Ratio of Provincial Expenditure over Total Government Expenditure, PUP = Ratio of Urban population to the total population.

4.1. Methodology

As the time series has usually the unit root problem so we apply the Augmented Dickey Fuller (ADF) unit root test to make it stationary. We further examine Long run relationship among variable so we will use Johnson co-integrating test. After applying unit root test to each variable the results show that all the variables are stationary at first difference so we apply Johnson co-integrating test to find out the Long run relationship between the variables. (Table 3). The null hypothesis of the ADF is that series has unit root.

$$\Delta Y_t = \Psi_o + \delta_t + \Psi_1 Y_{t-1} + \beta \Sigma \, \Delta Y_{t-1} \qquad \ldots \qquad \ldots \qquad \ldots \qquad \ldots \qquad \ldots \qquad (2)$$

Long run Co-integration Test

For long run relationship we have applied the likelihood ratio test that is based on the maximum eigenvalue and trace statistics of the stochastic matrix of the Johansen (1988) procedure. As our ADF test results show that all variables are co-integrated at the same level so JJ co-integration test is appropriate to find the long run relationship among the variables.

4.2. Data and Empirical Evidence

4.2.1. Model I

The model has been estimated using annual data from 1976- 2009. Data has been collected from fifty years of statistic and other various Annual reports of SBP, World Development Indicator and Human Development report by UNDP and SPDC reports.

Table 3

Test for Unit- Root: (ADF with Drift and Trend)

Variables	Level	First Difference
HDI	−0.876788	−5.001944*
PEPFE	−2.08233	−6.082967*
POSR	−1.644923	−4.07786*
PUP	1.575772	−10.42968*

Note: Schwarz information criterion is used to select the optimum lag length.
(*) Significant at 1 percent Level (**) significant at 5 percent level (**) significant at 10 percent level.
All the entire three variables are Non Stationary at level but found Stationary at 1ˢᵗ Difference.

Once the series may be integrated at first difference by using ADF, it is appropriated that by applying Johnson Co-integration technique can check long run relation. The results in Table 4 suggested that there exists long run relation among the variables. Both Maximum Eigen value and Trace statistics shows two co-integration equation at 5 percent level of significance. Table 5 shows that decentralisation indicator of revenue, expenditure and ration of urban population are significant and having positive sign. As urban population increase, the income per-capita and the demand for health and education increase. With the more decentralisation and increase in urban population impacts significantly and positively human development across the country.

Table 4

Johnson Unrestricted Co-integration Rank Test

Hypothesised No. of CE(s)	Hypothesis	Trace		Max Eigen Statistic	
		Statistic	Critical Value	Statistic	Critical Value
None *	Ho; r=0,				
	H1; r≥1	74.48846	47.85613	34.14526	27.58434
At Most 1 *	Ho; r=1,				
	H1; r≥2	40.34320	29.79707	29.56517	21.13162
At Most 2 *	Ho; r=2,				
	H1; r≥3	10.77804	15.49471	8.048749	14.26460
At Most 3 *	Ho; r=3,				
	H1; r≥4	2.729288	3.841466	2.729288	3.84146

*Denotes rejection of the hypothesis at the 0.05 level.
Trace test indicates 2 co-integrating eqn(s) at the 0.05 level.
Max-eigenvalue test indicates 2 co-integrating eqn(s) at the 0.05 level.

The derived Equation (3) states the long run relationship among HDI, Decentralisation and urban population.

$$HDI_t = 0.00412 PEPFE_t \Delta + 9.96 \, POSR_t + 0.0239 \, PUP_t \qquad \dots \qquad \dots \qquad (3)$$

Table 5

Normalised Cointegrating Coefficients

Dependent Variable: HDI	
PEPFE	0.00412
POSR	9.9650
PUP	0.023968

4.2.2. Model II (Panel Data)

The model has been estimated using four cross-sectional data for four provinces for the period of 1989-2009. Equations (5) and (6) are health and education. In both equation dependent variables are health and education expenditure as percent of total provincial expenditure. Independent variables are provincial revenue and decentralisation indicators as used in GFS. Panel data is used to pool the cross-sectional units at time. This data have both the cross-section as well as time series dimension. There are two main regressions of panel data: fixed effects regression and random effect regression. The estimated model is simple linear model:

$$Y_{it} = \alpha + \beta X_{it} + \mu_{it} \qquad \dots \qquad \dots \qquad \dots \qquad \dots \qquad \dots \qquad \dots \qquad (4)$$

For $i = 1,2 \dots N$, and $t = 1, 2, \dots\dots,T$

$$HE = F \, (POSR, \, PEFE) \qquad \dots \qquad \dots \qquad \dots \qquad \dots \qquad \dots \qquad \dots \qquad (5)$$

$$EDE = F \, (POSR, \, PEFE) \qquad \dots \qquad \dots \qquad \dots \qquad \dots \qquad \dots \qquad \dots \qquad (6)$$

Table 6

	Education		Health	
	Coefficients	*t*-statistic	Coefficients	*t*-statistic
Constant	12.4752*	7.340572	5.9375*	14.36838
POSR	0.1140*	3.429157	0.0175	0.993251
PEFE	0.1829	1.373243	−0.0898**	−1.949059
R^2	0.72		0.32	

Fixed Effects; (**) and (*) indicate significance at the 5 percent and 1 percent levels, respectively.

The results (Table 6) of panel data estimation for provinces shows that provincial own source revenue have positive and significant impact on educational expenditure across the provinces. But we get opposite results in case of health expenditure as share of total provincial expenditure own-source revenue has insignificant relation while the provincial expenditure as the share of total expenditure shows negative and significant result. These results indicate the squeeze in health expenditures across the provinces.

5. CONCLUSION

The main focus of this paper is to provide empirical evaluation, theory and evidence on the relationship between fiscal decentralisation and human development for Pakistan. Fiscal decentralisation is the basic tool for the efficient provision of service delivery. The effectiveness of fiscal decentralisation can increase the human development and also strengthens the federation. As our study have suggested that the fiscal decentralisation at the expenditure and revenue side has positively attributed to the HDI and results further suggested that the urbanisation variable has positively and significantly impact on HDI because of the pull effects outweigh the push factors. As Table 2, shows that there is high distortion in education and health expenditure especially last two years in all the provinces so there is a need of efficient allocation and prioritising of expenditure. As far as the tax autonomy and own-source revenue is concerned we have seen gradual distortion continuously and show little bit recovery in last two years and distortion respectively (Figures 2 and 3). Especially tax autonomy of Balochistan is lowest in all provinces. As fiscal decentralisation variables are positively related to the human development so there is a need to increase the fiscal autonomy of the sub-national governments and it should be linked with the service delivery in social sector. Fiscal decentralisation on expenditure side is more effective for economic growth as the local bodies have the autonomy to mobilise their resources in the most efficient way. Fiscal autonomy empowers the sub-national governments to allocate resources according to needs and preferences of residents. There should be direct grants from federal government to encourage the citizens' participation which could be effective if done along with political decentralisation in Pakistan.

Local governments should have the power to levy fees and local taxes which will improve their provision of service delivery and increase the fiscal autonomy of

sub-national tiers of government. Decentralisation in health and education will lead to the involvement of citizens in decision-making and make local service provider more accountable. But there is a need of sub-national government to take part in the education and health service delivery at provincial level as it will increase the efficiency and service delivery at grass root level and improve the human development.

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