

Does Fiscal Decentralization Nexus with Life Expectancy? Evidence from Pakistan

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Abstract:

The purpose of this study is to investigate association between fiscal decentralization and life expectancy in Pakistan. Panel data approach is used to detect empirical friendship between fiscal decentralization and life expectancy over the period of 1990-2010 in Pakistan. Life expectancy is used as dependent variables. The results of empirical study suggest that there is positive association between fiscal decentralization and life expectancy in some specific regions in Pakistan but these are statistically insignificant.

1. Introduction

Fiscal decentralization play key role in each sector of economy, therefore many countries give their preferences in decentralization process over the last decade. Nevertheless, the planners, policy makers, sociologists, economists and researchers can capture benefit from fiscal decentralization. Giannoni and Hitiris, 2002; Cantarero, (2005) look into the characteristic of fiscal decentralization and suggest that fiscal decentralization put positive impact on health. Cantarero et. al (2008) advocate that fiscal decentralization play utmost role in sector of life expectancy and infant mortality. They emphasize that local governments, planners and policy makers can improve proficiency as well as fairness and health outcomes of people with the tool of fiscal decentralization. However, this study presents a minute pragmatic verification and investigates the impact of decentralization on life expectancy. This study is based on provinces of Pakistan. The consequences of this experimental research suggest that fiscal decentralization has appropriate and significant impact on life expectancy of human being.

This organization structure of this study is as follows. Section II represents structure of the model. III section depicts results of the empirical study. Finally, finishing and final comments are given in Section IV.

II. The Model

The central point of this pragmatic research is to assess relationship between fiscal decentralization and life expectancy, nonetheless, in this study real per capita income; registered doctors, number of hospitals, and registered midwives are main component of fiscal decentralization. To examine relationship, panel data of in some specific regions in Pakistan is used for the period of 1990-2010. Life expectancy shows status of life period. Life expectancy is an important gauge of health in a society (Robts, 2001). The structure and definition of variables is given as below:

Table1. Variables and Definitions

Dependent variables

(health status-*H*) Definition

LN LFE Logarithm of life expectancy. Source: population Census of Pakistan

Independent variables

	Variables	Definition
Economic	LNRPCI	Logarithm of Real per Capita income. Source Economic Survey of Pakistan and Ministry of health, Finance division
Health Care	LNNH	No of Hospital. Source: Authors' calculation from Economic survey and Ministry of health
Health Care	LNRD	Registered Doctors Source: Ministry of health and Pakistan Medical, Dental council of Pakistan
Resources (<i>HC</i>)	LNRMW	Registered Midwives: Source: Authors' calculation from Economic survey and Ministry of health

Source: Authors own's Description.

Precisely, it is difficult to measure of health care decentralization. Government of Pakistan spend very low amount of GDP on health. The main source of the data is the Finance Ministry and Health Ministry of Pakistan. The result of general model is given below:

$$\ln LFE_t = \alpha + \beta_1 \ln RPCI_{rt} + \beta_2 NH_{rt} + \beta_3 RD_{rt} + \beta_4 RMW_{rt} + \lambda_{rt} \quad \text{-----}(1)$$

Where LFE_t denotes life expectancy in logarithm form; $RPCI_t$:shows real per capita income in logarithm form; RD_t represents registered doctors in logarithms; NH_t represents no of hospital; RMW_t shows registered midwives acute care beds (density per 1000 population); λ_{rt} stand for the standard residual. It has zero mean. It is uncorrelated with other independent variables. Where r shows homoskedastic and t is time from 1990 to 2010.

III. Results and Discussions

In this section, results of estimation of life expectancy and fiscal decentralization in provinces of Pakistan are presented. STATA 12.0 is used to detect the findings. The standard panel data techniques are used to detect the association between dependent and independent variables for the econometric estimation. Panel data has advantage over cross sectional data by controlling individual heterogeneity (Greene, 2003). Mostly panel data is used to find fixed effects and Hausman's test is used to find random effects. The results of estimation are represented in Tables 2. It is very interesting to point out that results show that $RPCI$, NH , RMW and RD are positively associated to life expectancy. Finally, R^2 shows the levels of explanation, which is acceptable. The sign of variables are also acceptable but they are statistical insignificance.

Table 2. Results

Dependent variable: Log of life expectancy

Variables	Fixed Effects	Random effects
RPCI	0.0341	0.0342
t-Statistic	1.47	(1.62)
NH	0.0002	0.0002
t-Statistic	(1.32)	(0.98)
RD	0.0045	0.004
t-Statistic	(1.03)	(1.06)
RMW	0.0075	0.0088
t-Statistic	(1.42)	(1.34)
R ² : within	0.7347	0.765
R ² : between	0.2822	0.235
R ² : overall	0.6370	0.567
F-Statistic and Prob	2228.72	
Prob	(0.0000)	
Wald chi2 statistic		736.62
Prob (Chi2)		(0.000)
Hausman statistic	64.32	
Prob (Hausman)	(0.000)	

IV. Conclusions

The study explores association between dependent and explanatory variables. The utmost important indicator of health is life expectancy, which is positively related to real per capita income, registered doctors, the number of hospitals and registered midwives but these are statistically insignificant. Furthermore, the results of the econometric estimations suggest that fiscal decentralization is positively associated to life expectancy in some specific regions in Pakistan. These consequences should be used in order to make adequate health policies in Pakistan.

References

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