

Measuring the Effect of Investment in Health Sector on Employment in Pakistan

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ABSTRACT

This piece of research dissects the secondary data available with the government of Pakistan. The purpose of study was to ensure whether investing in health sector is useful or not. The tool for analyzing the data was linear regression model to seek the relationship between the dependence of rural and urban employment on health investment. Conclusively, the research shows that investments in health sector create more jobs in rural areas than in urban areas. The absence of investment in health sector in urban and rural areas causes reduction of 58% and 178% of employment level respectively. Hence, the governments of developing countries should increase investment in health sector to enhance productivity to address the problem of unemployment in these areas.

Keywords: *Health sector, investment, rural employment, urban employment.*

1. INTRODUCTION

Human capital is a blessing of ALLAH if it's healthy. The economic development and activities are relied on human capital that a country possesses. The developed countries which are highly capitalized are also contingences on human capital to run economic system efficiently. Efficiency of human capital is relied health; the healthy human capital gives surety of economic growth. Health is the result of education, investment and social habits. These systems are good in developed world that's why they are enjoying benefits of human capital and are growing day by day economically. (Babar 2012)

The dilemma of developing countries is that they are not able to provide the basic needs to its nation i.e. clean drinking water, education, food and shelter. The human capital of these countries are not healthy due to which its burden for economy of these countries.

In developing countries, the concept of family planning is being adopted by new generation. Politicians and socialists says that population is a burden on our economy. In their view with huge population a country cannot improve its economy. Government of developing countries says that due to large population country is in bad faze of economy. Entrepreneurs/ financial analyst says that if a country's population growth rate is less than one percent it is positive sign for economic growth and its per capita income will increase with high rate. A group of economist says that country having population growth rate three percent or more than three percent will surely survive easily. (Babar 2012)

1.1 Problem Statement

Pakistan is facing worst economic scenario of its life. Most people are hungry for basic needs i.e. electricity, shelter, water, fuel and food. Government says that due to huge population they are unable to provide all facilities to every patriot of country. In fact Govt. is working on a phenomena that keep your people busy in search of basic needs they will not take interest in other

matters. Pakistan is the 7th biggest country according to population and is on 36th biggest country according to area. ALLAH blessed Pakistan with lot of resources and also blessed with talented human capital. The only requirement is to use human capital and resources efficiently to gain stable economic growth.

Human Capital need better education, social environment and health facilities to grow efficiently. Pakistan is blessed with 40 percent of youth in population but unfortunately due to mental stress some of them choose suicide as a best solution, some boys and girls are impressed by living style of west and adopted only bad things and are ruining their life and country's resources.

Pakistanis are patient of depression due to excellent reporting of media. Media shows and highlight only bad incidence of Pakistan. In case of bomb blast or any other natural disaster, it telecasts or presents even those dead bodies and human parts that cannot be seen by each and every person. As a result of their fabulous work our youth and specially children are having wrong psychological effects which will harm our society in long term.

The Govt. of Pakistan and private investors are investing in health sector but the need is to know that whether their investment is giving good results or the results are opposite to the expectations of investors. Most NGOs are investing only in women health care projects and ignoring other sectors. Govt. of Pakistan invests only 20 percent of budget on health sector and also management is not taking interest in health of poor patriots of Pakistan. They take interest and work for only elite class of Pakistan. (Babar 2012)

1.2 Research Question

Does the investment in different health departments effect the employment in rural and urban areas?

1.3 Objectives

- To know the relationship of investment on health sector, employment in rural and urban areas.
- To know the investment trend in health sector.
- To know the areas that needs more attention.
- To know the department which creates more jobs in comparison with other health divisions?

1.4 Significance

It will highlight the positive or negative relationship of investment in different health departments and employment level. Policy makers can use it to make efficient policies that will give maximum output by using minimum input. It will highlight the health departments that are not getting proper attention of investors. It will also show that health investment in rural areas is more beneficiary or in urban areas.

2. LITERATURE REVIEW

Khalif Bile Mohammad, Assad hafeez & Sania Nishter (2007) in their study gives the detail of investors and donors of health sector of Pakistan. According to them Pakistan's per capita expenditure on health in 2004-05 is RS. 375 and contribution by donors and international agencies is only RS.80 (US\$1.3). ADB, WB, EU, GAVI, GFATM, USAID, MOH, MOPW and DOH are major source of investment in health sector. They have invested in different long term and short term projects of Maternal and child health, communicable diseases, health system and planning and for budgetary support to MOH (ministry of health). Government of Pakistan spent RS.240 billion on health during (1995-2005) out of which RS.66 billion spent on non-developmental bill and RS.174 billion on developmental bills. Provincial government provides RS.185 billion and federal government provides RS.55 billion. According to their research Pakistan's population is increasing day by day whereas income is not increasing proportionally, health sector is unable to fulfill the needs of existent population efficiently, and more investment i.e. 50% more investment every year till 2015 in health sector for is needed to fulfill the gap between demand and supply of health services.

Abo ul Hassan, Shahnwaz Malik, Imran Sharif Chaudhry & Sidra Khalil (2011) discuss the relationship between health expenditures and poverty. To measure health status they used life expectancy as proxy. They conclude that increase in health efficiency will result in reduction of poverty. Due to increased health facilities the day to day loss will be minimized, the enrollment of students in educational institutions will be improved and hence it will provide good economic growth as well.

Mohammad Akram & Faheem Jehangir Khan (2007) analyzes the behavior of public spending on health in provinces. According to their analysis the government spending on health is progressive in Punjab and Baluchistan and regressive in Sindh, NWFP and rural

Punjab. The study indicates that poor can't afford to avail better health facilities because of high cost of services. . People of rural areas have to rely on primary health facilities only. All good hospitals are in cities only. Also doctors don't want to spend their time in rural areas for duty due to unavailability of luxuries.

Haleema Masud (2011) said that in Pakistan health policy is not only related with benefits of patriots of Pakistan, it is also treated as a political factor. Government designs health policy for those people and areas from where they can get votes for election in their benefits. She emphasized that health policy should be revised and made by analyzing the social and individual benefits of health.

Faisal Abbas (2010) said that the life expectancy of women is lowest in Pakistan in comparison of other developing countries and infant mortality rate is highest. Pakistan's elasticity of public health expenditure is negative in short run and less than one in long run. Infant mortality rate will be reduced due to increase in income and life expectancy will increase due to increase in income. He said that government should analyze human capital formation and poverty reduction while making health policy. The supply of healthy food should be available in every part of Pakistan to get better human capital with increased productivity.

Babar Tasneem Shaikh, Arslan Mazhar, Shahzad Ali Khan & Assad Hafeez (2012) study tells that healthcare facilities are very expensive in Pakistan due to which almost 150 million people suffer from economic disaster and 100 million become poor due to health expenditures. This problem predominately conquers in the resource constrained settings and Pakistan is one example where health financing options and social security contrivances for the households is either non-existent or very limited. With a maternal mortality ratio of 278/100,000 live births, contraceptive incidence rate of 29.6% and only 39% deliveries attended by the skilled birth attendants, Pakistan ranks 65th in Gender Inequality Index with an overall Human Development Index ranking of 125th over the last 3 years. Around 0.6% of GDP and least progressive expenses on health have been incurred over the last two decades in Pakistan.

Dr. Talib Lashari (2005) tells that the country's overall social sector financing needs to be mounted up further to make it alert to the real needs. Two major sources of the sponsoring i.e. public and private sector are working in vertical directions with no connections in the areas of financing and service delivery. According to assessments public sector provides 23 percent of the total health expenditures while rest (77) comes from out-of-pocket expenses in the private sector. Only one million of the population is protected through social insurance provided by Employees Social Security association, while another 0.93 million people have health protection through PIA, Pakistan Railways, WAPDA, PTCL and Fauji Foundation. Besides, public sector organizations, civil

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society is also contributing towards health of the population through its limited resources. Organizations like Edhi Foundation, Aga Khan Foundation, social marketing enterprises and others are providing healthcare to people in different parts of the country. According to assessments Aga Khan Foundation, Save the Children (US) and Saving Newborn Lives Initiative are running projects worth US\$304.19 million. Al Shifa Trust paid out RS. 1615 million during 1986-2004. The scenario that emerges from the above discussion makes it clear that the current rate of health financing is insufficient for the existing needs of the population.

Muhammad Iqbal Afridi (2008) indicates that situation in Pakistan about improvement in mental health services is not at the pace to reach a reasonable level. This important field of health is not popular, as it should be if we relate it to some other medical and surgical disciplines such as cardiology and ophthalmology etc. Bulk of the people have some knowledge about hypertension, cholesterol, ECG and too often reveal and verbalize at length about their cardiac illness, which were formerly used to be a stigma or personal weakness. Likewise using glasses were reflected to be a sign of old age until quite recently and their use was avoided particularly by women in our country. At the other end, seeking help regarding mental disorder is avoided. Even referring for sexual problem is considered debauched and is an unthinkable. One cause behind this could be that the image concerning mental patients, hospitals and related occupation and specialists e.g. psychologists, psychiatrists etc., is portrayed in an awkward manner by the beginners in a few sections of Pakistan's mass media. It hardly helps the purpose of promoting mental health and, at times, leads to dishonesty and caricature creating hatred about the subject. The incursion of TV channels accessible to persons of all age and brackets with sometime unethical and non-authentic opinions needs urgent attention.

3. METHODOLOGY

This study has been designed to find out the effect of investment in health on employment on rural and urban areas in Pakistan.

3.1 Population:

Data about the investment in health sector and rural and urban employment from year 1947 to 2012 is the population.

3.2 Sample:

To analyze the relationship of investment in health sector and rural and urban employment 16.6% of population is taken as sample. Sample consists of most recent past years that is 2001 to 2011 and consist of 11 values.

3.3 Variables:

3.3.1 Independent Variable:

Hospital, dispensaries, maternal and child health centers, rural health center, TB center and BHUs & sub health centers.

3.3.2 Dependent Variable:

Rural employment, urban employment

3.4 Type of Data:

Secondary data about number of hospitals (H), dispensaries (DS), BHUs and sub health centers (BH), maternity and child health centers (MC), rural health centers (RH), TB centers (TC), employment in rural and urban areas of Pakistan is gathered by economic survey of Pakistan.

3.5 Hypothesis:

H₀: Increased investment in building hospital, dispensaries, TB centers and maternal and child health centers will increase employment in urban areas.

H₁: investment in building rural health centers and BHUS and sub health centers will increase employment in rural areas.

3.6 Model:

Simple linear regression model is used to check the relationship between dependent and independent variable and OLS method is used due to its BLUE properties.

$$Y = \beta_0 + \beta_2 X + U_i$$

Above model is general form where X represents independent variables i.e. hospital, dispensaries, BHUs and sub health centers, rural health centers, TB centers and maternal and child health centers and Y represents dependent variables i.e. rural employment and urban employment. E-view has been used to find regression lines.

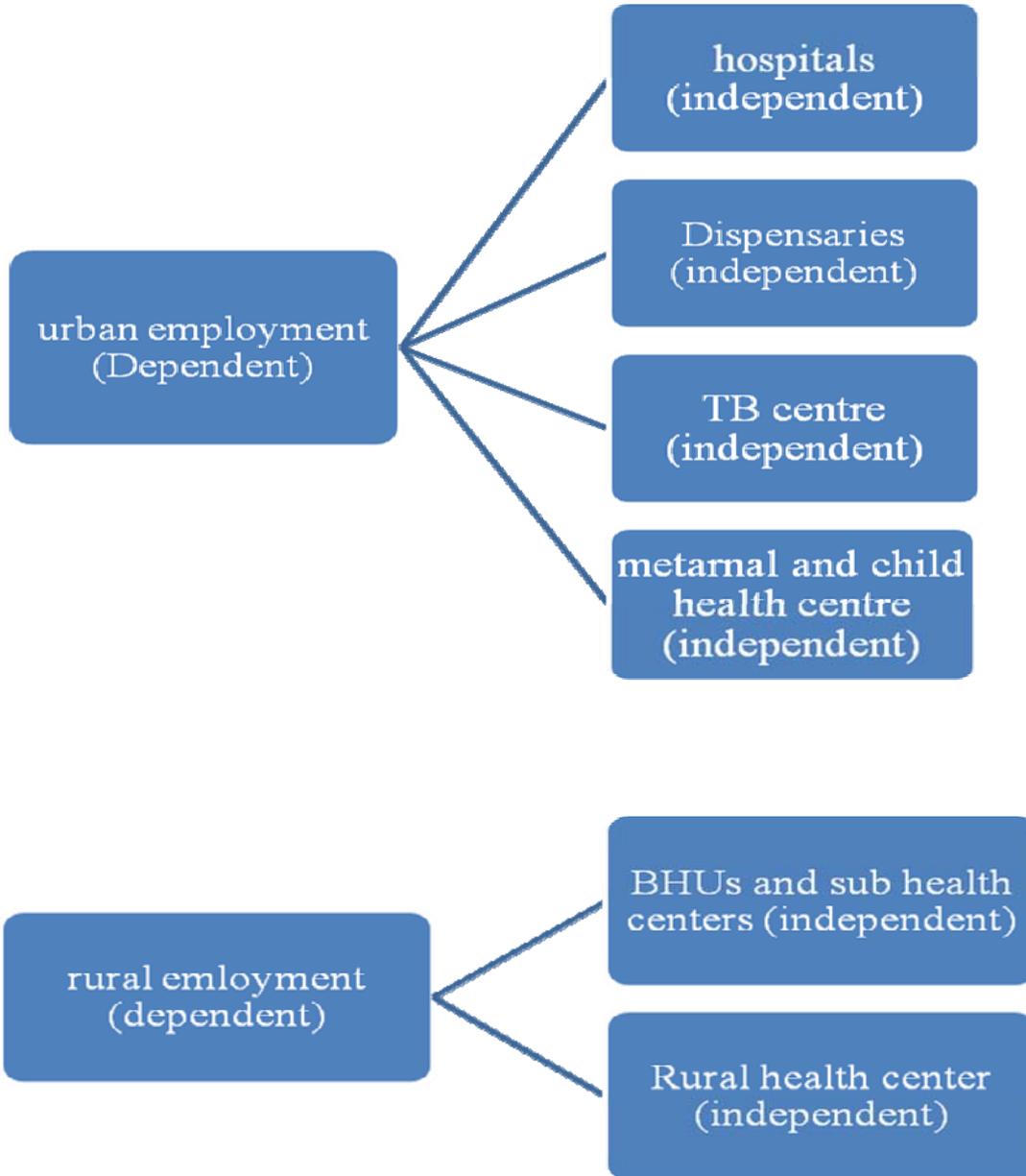
Regression line for urban employment:

$$UE = \beta_0 + \beta_1 H + \beta_2 DS + \beta_3 MC + \beta_4 TC + U_i$$

Regression line for rural employment:

$$RE = \beta_0 + \beta_1 RH + \beta_2 BH + U_i$$

3.7 Schematic Diagram



4. RESULTS AND DISCUSSION

We all know the general rule that investment in any sector creates jobs in the country. All sectors have different impact on employment some sectors creates

more jobs than other. Here the impact of health investment is checked on urban and rural employment in Pakistan.

4.1 Urban Employment and Investment in Health Sector

Dependent Variable: UE		
Method: Least Squares		

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Date: 12/14/12 Time: 14:25				
Sample: 2001 2011				
Included observations: 11				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-58.70374	8.684251	-6.759793	0.0005
H	0.007199	0.021317	0.337697	0.7471
DS	0.006714	0.004282	1.567957	0.1679
MC	0.030012	0.009730	3.084436	0.0215
TC	0.026521	0.027060	0.980096	0.3649
R-squared	0.961062	Mean dependent var		14.32909
Adjusted R-squared	0.935104	S.D. dependent var		1.437264
S.E. of regression	0.366140	Akaike info criterion		1.131351
Sum squared resid	0.804349	Schwarz criterion		1.312212
Log likelihood	-1.222429	F-statistic		37.02300
Durbin-Watson stat	2.430672	Prob(F-statistic)		0.000229

4.2 Regression Line for Urban Employment

$$UE = 58.70374 + 0.007199H + 0.006714DS + 0.030012MC + 0.026521TC$$

It shows that by increasing one percent increase of Hospitals (H), dispensaries (DS), maternal and child health centers (MC) and TB centers (TC) employment

rate in urban areas will be increased by 0.007199%, 0.006714%, 0.030012% and 0.026521% respectively. Although these are minor values but in absence of investment in these departments employment rate in urban areas will reduce by 58.70374% which will have negative impact on society. Investment in establishment of maternal health & child health centers and hospitals is more beneficiary than establishment of dispensaries and TB centers.

4.3 Rural Employment and Investment in Health Sector:

Dependent Variable: RE				
Method: Least Squares				
Date: 12/14/12 Time: 14:39				
Sample: 2001 2011				
Included observations: 11				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-178.6400	122.2111	-1.461733	0.1820
RH	0.294242	0.096342	3.054160	0.0157
BH	0.008694	0.031054	0.279965	0.7866
R-squared	0.835293	Mean dependent var		32.68273
Adjusted R-squared	0.794116	S.D. dependent var		4.340712
S.E. of regression	1.969574	Akaike info criterion		4.420512
Sum squared resid	31.03376	Schwarz criterion		4.529029
Log likelihood	-21.31282	F-statistic		20.28553
Durbin-Watson stat	1.297739	Prob(F-statistic)		0.000736

4.4 Regression Line for Rural Employment:

$$RE = -178.6400 + 0.294242RH + 0.008694BH$$

It shows that one percent increase in investment in rural health centers and BHUs and sub health centers will increase the employment rate in rural areas by 0.294242% and 0.008694% respectively and in absence of investment in these departments will reduce employment rate by 178.64%. Investment in establishing rural health centers is more beneficiary than establishing BHUs and sub health sector.

5. DISCUSSION

The data available about rural and urban employment was according to financial years, and some values were missing. So for calculation I assumed that same trend will be for the missing values. I used 11 observations in my project. The study shows that the overall impact of health investment is positive since last 11 years but the investment in establishment of maternal & child health center, hospitals and rural health center is not sufficient. The increase due to health investment is negligible due to reduced investment. The main point is that if we stop investing in health then we will lose large portion of employment i.e. 58% decrease in urban employment and 178% decrease in rural employment.

The decrease is not negligible because if the investment in health is reduced then people will remain sick and due to sickness absent ratio from jobs will be high. Thus employment will reduce.

6. RECOMMENDATIONS AND CONCLUSION

6.1 Conclusion:

The increase in employment due to health investment is negligible but the decrease in employment due to absence of health investment is not negligible. Rural areas are neglected. Overall health investment have increasing trend but with small percentage change.

6.2 Recommendations:

On the basis of estimated values and past history of health departments I suggest that

- More investment is needed in establishing hospitals, Maternal and child health care centers and rural health centers because these are the areas which are being ignored in past 11 years.
- Trend and statistical results also show that establishment of rural health centers increases rural employment with more percentage than BHUs and sub health centers. Similarly investment in maternal and child health center increases urban employment with more percentage than hospitals, dispensaries and TB centers.

- Practice in rural areas must be compulsory for all medical students and doctors for at least one year.
- Incentive and bonus should be given to those doctors and medical staff that serve in rural areas.

6.3 Limitations:

- Proxy variables are used to measure health investment.
- Repeated figures in rural and urban employment.
- Ignorance of variables that effect health investment.
- Small sample.

6.4 Future Gap:

This study is just meant to discuss whether investment in health is beneficiary or not. It can be explored further by incorporating more variables or by adopting a more sophisticated econometric technique.

- Identification of rural areas that need attention of ministry of health.
- Find out the reasons due to which investment is not sufficient in health sector.
- To find system which will increase efficiency of health sector?

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APPENDIX

YEAR	Hospital (H)	Dispensaries (DS)	BHUs and sub health centers (BH)	Maternity and child health center (MC)	Rural health(RH)	TB centers (TC)
2001	907	4625	5230	879	541	272
2002	906	4590	5308	862	550	285
2003	906	4554	5290	907	552	289
2004	916	4582	5301	906	556	289
2005	919	4632	5334	907	556	289
2006	924	4712	5336	906	560	288
2007	945	4755	5349	903	562	290
2008	948	4794	5310	908	561	293
2009	968	4813	5345	906	572	293
2010	972	4842	5344	909	577	304
2011	972	4842	5374	909	584	304

Source: Economic survey of Pakistan 2011-12

Employment by region and gender (million)

Years	employed rural	employed urban
2001	26.66	12.22
2002	26.66	12.22
2003	28.81	13.19
2004	28.81	13.19
2005	32.49	14.46
2006	33.11	14.54
2007	34.48	14.61
2008	35.54	15.25

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2009	37.25	15.96
2010	37.85	15.99
2011	37.85	15.99

Source: Labor survey of Pakistan

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<u>of promoting</u>	▲
<u>mental health and, at times, leads to dishonesty and caricature</u>	Good
<u>about the subject. The incursion of TV channels accessible</u>	Good
<u>This study has been an attempt to find out the</u>	Good
<u>POPULTION: Data about the investment in health</u>	Good
<u>employment 16.6% of population is taken as sample. Sample</u>	Good
<u>taken as sample. Sample consists of most recent past years</u>	Good

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