Global Scientific JOURNALS

GSJ: Volume 6, Issue 3, March 2018, Online: ISSN 2320-9186

www.globalscientificjournal.com

HOW INCOME LEVEL DISTRIBUTION RESPONDS TO POVERTY: EMPIRICAL EVIDENCE FROM PAKISTAN

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Abstract

The study is proposed to examine the impact of income level of individuals on poverty in Pakistan. The research focuses on exploring the spending behavior of people and how it affects with change in income level. This is a cross sectional study. The time series secondary data ranges from 1987-2013 extracted from the World Bank data bank inflation and consumer price manual is taken for research analysis. The data further analyzed and interpreted by using multiple variable regression model with Stata 12. The findings reveal mixed responses of individuals towards spending level. The poverty headcount ratio @ $1.90 a day has the most significant impact of various income share consumption exercised by overall population of Pakistan.

Keywords – Poverty, Income Level, Purchasing Power Parity (PPP), Multidimensional Poverty Index (MPI), Pakistan Economic Survey (PES), Pakistan

Introduction

Poverty is being a major issue since the evolution of mankind. Today, it has become a big phenomenon. According to UNESCO (2015), poverty is, the lack of money or materials which are necessary to get basic needs such as shelter, food and clothing. Poverty has become a multifaceted concept which is influenced by social, political and economic elements. The World Bank forecasts 702.1 million people are living in extreme poverty which is reduced from 1.75 billion people back in 1990. About 347.1 million people are from Saharan-African countries and 231.3 million are living in South Asia. The percentage of the people living in extreme poverty has been reduced from 37.1% to 9.6% falling below 10% for the first time between 1990 to 2015. It is further proposed that it would take 100 years to bring world's poorest to the previous poverty line of $1.25 a day. According to UNDP (2016), half of the children from all over the world estimated 1.1 billion are living in poverty. Extreme poverty is a global challenge which is not only observed in developing countries but also faced by developed economies.

Literature Review

Miankhail (2009), stated poverty is a state where people are unable to satisfy their basic needs which are mandatory for their survival. It breeds crimes, frustration, moral degradation and bribery which dismantle civilization and produce malnutrition followed by infectious diseases and so on. Sociologists, philosophers and economists had different views over poverty. They believe it cannot be described rather felt. According to Pervez & Rizvi (2014), poverty differs from time to time and place to place. Miankhail (2009), explained poverty has gained more attention in literature in the form of absolute relative and moral poverty. Absolute poverty refers to the deprivation of basic needs required for living which includes education, health and food. Relative poverty refers to the low living standard with compare to average one. Moral poverty goes beyond material wellbeing and focuses on the value system with equal amount of opportunities and living standards.

As per Barr (2012), income is a saving or consumption opportunity which is generally expressed in monetary term held by an entity within a specified timeframe. It is also in the form of salaries, wages, rents, profits, interest payments, and earnings received in various forms during a course of time. Another definition includes, income is the accumulation of monetary and non-monetary consumption ability of an individual. According to Miankhail (2009), poverty is measured through income and consumption level. Pervez & Rizvi (2014), stated the term includes more such as hunger, lack of basic civic provision, education, health, and deprivation of other basic essential needs required for living. They also stated that 90% of poor people are living in Asia and Africa. 7% people are living in Latin America and Caribbean. Pervez & Rizvi (2014), further explained poverty is measure through three methods:

Head count ratio- It is measured through the population proportion below national and international poverty line.

Poverty gap ratio- It is obtained by multiplying average distance at which the poor are from poverty line.

Severity of poverty measure- In this method a weight is given to each poor person which is relative to the square of income loss from the poverty line.

The research is proposed to find out the impact of income level over poverty. Usually poverty is calculated through income and consumption level. The population of the study is Pakistan which is an under developed country and 39% of the population is living under multidimensional poverty. In this scenario head count ratio approach is selected for data analysis.

Poverty in Pakistan

Tahir et al. (2014), described poverty is being a major issue since evolution of Pakistan. Over the last 65 years' poverty is badly disturbing the economy of Pakistan. As per PES (2016-17), poverty is being reduced since last decade. According to World Bank (2018), poverty is fallen from 64.3% in 2002 from 29.05% in 2014. The human development index is 0.550 which is lowest in South Asia. Ashfaq et al. (2004), stated 28% of the Pakistani population living below poverty line. The percentage of poverty in

rural areas is 32 percent while 19 percent in urban areas. According to Pakistan's first ever report on multidimensional poverty UNDP (2016), 39% of the Pakistani's are living under poverty. The highest rate of poverty is observed in FATA and Baluchistan provinces. Poverty level in rural areas is 54.6 percent while 9.3 percent in urban areas from 2004-2015. Chani et al. (2011), proposed relevant factors such as inflation, economic growth, investment and trade openness which are linked to poverty in Pakistan. They further demonstrated that economic growth and investment reduces poverty while trade openness and inflation increases poverty in Pakistan. Tahir et al. (2014), stated in their research findings that GDP growth rate is continuously decreasing in Pakistan. Electricity, gas shortages, soaring oil prices, reduction in crops cultivation, decreasing textile, cement, other small industries products, inflation and terrorism are responsible for unemployment, poverty, and low GDP which is increasing the gap between rich and poor. Similarly, Yaseen & Mishal (2017), demonstrated globalization has significant impact on poverty reduction in long run. Furthermore, Tariq et al. (2014), concluded that fiscal measure on government level which controls government expenditures, trade off balances and distribution of money would help to reduce poverty and increase income level. According to UNDP (2016), different regions of Pakistan have uneven progress. The MPI is continuously declining from 2004 to 2015 and now it is at 39% from 55%. Deprivation in education is the largest contributor in poverty with 43% share followed by living standard with 32% and health contributing with 26%. The findings further confirm that social indicators are weaker while economic indicators are appearing healthier for multidimensional poverty. Pakistani government has presented Pakistan's vision 2025 National Development Plan which is aimed to reduce poverty and to enhance living standard of Pakistani people. The plan is proposed to devise policies and strategies to imbalance the social and economic development by improving factors like population welfare, literacy, health, gender mainstreaming and other amenities of life.

Research Methodology

Data

This Study Analyzing the effect of Income share held by different levels of population in Pakistan, for the purpose study data collected from world data bank. So, Data is quantitative and it covers the time period from 1987 to 2013 along with few availability concerns. Data used in the study is concerned with the individuals of Pakistan who are facing poverty and consuming income share.

Variables

This Study involves the Poverty and Income share consumption so to collect and operationalize the data three level of poverty are used as a proxy for poverty. Poverty is performing the role of the dependent variable. Whereas, Income share levels with respect to consumption also having five major proxies and two sub proxies to be measured and to be tested as the independent variable. These proxies include IL2 lowest 20% people consuming income share, IH5 (21% to 40%) is the greater level then lower 20% to 40%. IH4 (41% to 60%), this includes the third level of hierarchy in consumption pattern of income share. IH3 (61% to 80%), includes the second highest level of people to consume income share. IH2 (81% to 100%), includes the top level consumer of income share. Whereas, these level of income share consumption includes two sub-level IL1 and IH1, which are 10% top consumer and 10% lowest consumers. Further explanation is in below table.

Variables Table

Symbols	variables
Dependent	
Variables	
P3	Poverty headcount ratio at $5.50 a day (2011 PPP) (% of population)
p2	Poverty headcount ratio at $3.20 a day (2011 PPP) (% of population)
p1	Poverty headcount ratio at $1.90 a day (2011 PPP) (% of population)
Independent	
Variables	
IL1	Income share held by lowest 10%
IL2	Income share held by lowest 20%
IH1	Income share held by highest 10%
IH2	Income share held by highest 20%
IH3	Income share held by fourth 20%
IH4	Income share held by third 20%
IH5	Income share held by Second 20%

Models

This study having three models because dependent variable having three studies. So, models are as below

Model 1

$$P3 = \alpha + \beta1\, IL1 + \beta2\, IL2 + \beta3\, IH1 + \beta4\, IH2 + \beta5\, IH3 + \beta6\, IH4 + \beta7\, IH5 + \varepsilon$$

Model 2

$$P2 = \alpha + \beta1\, IL1 + \beta2\, IL2 + \beta3\, IH1 + \beta4\, IH2 + \beta5\, IH3 + \beta6\, IH4 + \beta7\, IH5 + \varepsilon$$

Model 3

$$P1 = \alpha + \beta1\, IL1 + \beta2\, IL2 + \beta3\, IH1 + \beta4\, IH2 + \beta5\, IH3 + \beta6\, IH4 + \beta7\, IH5 + \varepsilon$$

Data Analysis

The above-mentioned models are analyzed through OLS Multivariate Regression. Following results tables can be seen. When study analysis the model 1. R-Square and P values were respectively 0.9015 and 0.1444. This means that income consumption level explains the poverty level at $ 5.5 a day 90% and model is not significant because p-value is above 0.05. More comprehensively it can be seen through below table significance is only shown in IL2 and IH1. IL2 having negative significance whereas IH1 having positive significance at 10% level of significance.

Models 1 Result Table

variables	Coef.	St. Err.	P	95% Conf Interval	
IL1	59.83434	35.43242	0.19	-52.92743	172.5961
IL2	-91.6805*	33.46675	0.071	-198.1867	14.82564
IH1	33.70459*	13.5593	0.089	-9.447163	76.85635
IH2	-51.01733	22.9909	0.113	-124.1846	22.14996
IH3	16.52726	22.95357	0.524	-56.52124	89.57576
IH4	-54.9552	24.66897	0.112	-133.4629	23.55247
IH5	36.92673	23.66674	0.217	-38.39138	112.2448
Cons	1938.416	1676.019	0.331	-3395.424	7272.256

Note: ***, **, * Indicate significant at 1%, 5% and 10% level of significance.

In Model 2 R-square and P values were respectively 0.923 and 0.1032. This shows income distribution levels with respect to consumptions explains Poverty headcount ratio at $3.20 a day 92.3% and model is not significant as p-value is not below 0.05. The more comprehensive view can configure that IL2 is significant at 10% level and have a negative relationship.

Model 2 Result Table

variables	Coef.	St. Err.	P	95% Conf Interval	
IL1	146.2466	90.04978	0.203	-140.332	432.8251
IL2	-226.666*	85.05413	0.076	-497.3462	44.01424
IH1	77.06477	34.46031	0.111	-32.60333	186.7329
IH2	-112.9807	58.43025	0.149	-298.9318	72.97041
IH3	43.98366	58.33538	0.506	-141.6656	229.6329
IH4	-132.0034	62.69499	0.126	-331.5269	67.52001
IH5	107.269	60.14786	0.173	-84.14837	298.6863
Cons	3938.994	4259.521	0.423	-9616.702	17494.69

Note: ***, **, * Indicate significant at 1%, 5% and 10% level of significance.

In Model 3 R-square and P values are 0.984 and 0.0107. This shows that levels of income distribution with respect to consumption proportion explains Poverty headcount ratio at $1.90 a day 98.4% and model is significant as P-value is below 0.05. More comprehensive view of below table will show IL1, IH2 and IH3 having significance at 10% level of significance whereas IL2, IH1, IH4 and IH5 having significance at 5 % level of significance. As Betas are larger than standard error this show data is normal. IL1, IH1, IH3 and IH5 having positive relationship whereas IL2, IH2 and IH4 having a negative relationship. Which means individuals at lower 10%, 10% higher, 61% to 80% and 21% to 40% will increase the consumption as they will get the income share. Whereas, Individuals at lower 20% (which shows 11% to 20% effect more effectively here), higher 20% (which shows 81% to 90% more effectively here), 41% to 60% consumption levels will start saving when they will get more share of income than existing.

Model 3 Result Table

variables	Coef.	St. Err.	P	95% Conf Interval	
IL1	135.0484*	51.32936	0.078	-28.30456	298.4013
IL2	-209.9657**	48.48179	0.023	-364.2564	-55.67497
IH1	85.75731**	19.64276	0.022	23.24529	148.2693
IH2	-105.3295*	33.30588	0.051	-211.3237	0.6646745
IH3	87.91228*	33.25181	0.077	-17.90982	193.7344
IH4	-135.5836**	35.73683	0.032	-249.3142	-21.85305
IH5	124.9836**	34.28494	0.036	15.87363	234.0936
Cons	2152.565	2427.974	0.441	-5574.331	9879.461

Note: ***, **, * Indicate significant at 1%, 5% and 10% level of significance.

Conclusion, Implications and Future Direction

Considering poverty a most important challenge to the recent world, it can be understood how crucial it is to respond it. Several techniques and ways have been studied since inception and recognition of it. But any problem could only be encountered if we exactly know the problem location. This study was about the poverty level significance with respect to income distribution along the consumption proxy. Three distinct models with the same level of the income distribution have been studied and concluding remarks are that poverty level of Poverty headcount ratio at $5.50 a day and $ 3.20 a day both were not having a significant relationship with income distribution. Whereas, Poverty headcount ratio at $1.90 a day was having an overall significant model with respect to income distribution levels. So, through this, it can be inferred that most important and key level of poverty to effect in Pakistan is Poverty headcount ratio at $1.90 a day. This Study will help concerned regulatory authorities to plan to eliminate the poverty and will guide them which are the key areas to focus. Limitations of the study data collected were facing irregularities and more over this study

utilized the poverty headcount ratio future researcher could use poverty gap ratio and severity of poverty measure.

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