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# INCOME, CONSUMPTION, SAVING, POVERTY ALLEVIATION AND SOCIO-ECONOMIC DEVELOPMENT

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## Abstract

*Economic literature shows correlation in poverty alleviation and socio-economic development. The researchers become increasingly responsive to the poverty alleviation when giving policy suggestions to the stakeholders about socio-economic development. If socio-economic development is the function of poverty alleviation then the crucial role of the determinants of poverty alleviation cannot be challenged. Though poverty alleviation needs a multi-dimensional approach to combat the issue, however modern economic literature uses economic dimension e.g. income of the household as a determinant of poverty alleviation. Present study suggest that it's not only income that impact the poverty alleviation and socio-economic development but practically the capability of household for consumption and saving actually determines the poverty alleviation. Consequently the effective capability of the household to consume and save is the prerequisite. This study is based on the data obtained from 300 households using the proportional stratified sampling technique in the urban area of Peshawar District to quantify the factors that determine income, consumption and saving function of the urban households that in turn effect the poverty alleviation and socio-economic development. Hence the present study identifies the factors that directly or indirectly ascribed for poverty alleviation and socio-economic development in Pakistan.*

## Introduction

Poverty alleviation is the main discussed issue in the corridors of power in developing economies in the last century. Since 1950, the policy makers of the less developed countries were largely occupied with the poverty

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alleviation & economic growth. Every economic proposal for poverty alleviation was assessed in the light of its role towards economic growth & development. Different measures were adapted to combat poverty but unnecessary indulgence in growth & development without concerns for social indicators has proved the measures in ineffectiveness. As if poverty alleviation means handsome standard of living for a common man then we still have to determine the causes and remedies for it, even in 21st century. A vast majority of world population still live under the line of poverty. This is perhaps the most important question in human science. It is also a very intricate one; poverty alleviation is influenced by a multitude of economic as well as sociological factors. Consequently the policy makers have to rethink the issue again. The research carried out can suggest a very simple answer to the world's most multifaceted question i.e. this has been perplexity among the LDCs that has resulted in the new catalog of poverty alleviation drivers. Although poverty is defined in a number there are many different definitions and concepts of poverty however in context of developing economies, poverty can be defined as whether households or individuals have enough resources or abilities today to meet their needs; inequality in the distribution of income and consumption. Hence, the pattern of poverty alleviation must take into account the means available within the domestic economies themselves. The solution, which is great step forward in modernizing this approach, in general concise with that we have to go through the income and consumption expenditure of the consumer, explicitly we have not to amalgamate consumer poverty issues with growth & development issues.

Thus the LDCs should concentrate on the basic consumer needs at priority basis, which can assure the quality of life. The present article seeks to quantify the factors that determine income, consumption and saving functions of the urban households, the main engines of poverty alleviation in modern arena of economics.

Tullio J. & Luigi P.( 2010) evaluate and assess different empirical approaches that economist used to estimate consumption response to income changes and the empirical evidence on the sensitivity of consumption to determine income changes. Meyer et al(2013) examined changes in consumption and income inequality between 2000 and 2011. During the recession, unemployment augmented and assets declined penetratingly. The recession affected inequality in income. Income inequality increased throughout the period from 2000 to 2011. The 90/10 ratio was 19 percent higher at the end of this 2011 than 2000. In contrast, consumption inequality increased during 2000- 2005 but then reduced after 2005. By 2011, the 90/10 ratio for consumption was considerably lower than it was in the binging of this period. Omar (2010) founded that household in lower income category consume larger portion of their income lower income and have less to save that in turn negatively impact the poverty alleviation. Many notable economists in their research work explained the prevalence of

poverty trap. Most of them concluded that an increase in the income of the poor lead to save and then invest although their propensity to save is less than propensity to consume. Hence they established the fact that poverty alleviation is effected by income, consumption and saving. The present study is conducted to analyze the Pakistan's situation in the light of literature review with empirical evidence.

**Aims and Objectives**

The study is focused on the following objectives:

- To quantify the factors that determine income, consumption and saving function of the urban households.
- To identifies the factors that directly or indirectly ascribed for poverty alleviation and socio-economic development in Pakistan.

## Material and Methods

This section highlights the research site, sampling framework and sample size, research instrument, and the ways and means the data will be collected, analyzed and interpreted for the study under hand.

**Research Site**

The geographic coverage of the data was limited to Peshawar. This finds its justification that the urban society of Peshawar is not very much different from other major cities of Pakistan. The data was collected directly from the respondents.

**Sample Size**

The data is collected from low income, middle income and high income class. 100 households from each category were selected. Hence the samples of 300 households were selected on the purely random basis using the proportional stratified sampling technique, i.e.

$$ns = n\ Ns / N$$

Where

ns is sub sample drawn from the $n^{th}$ stratum , n is the total size of the sample, Ns is size of the $n^{th}$ stratum and N is size of population.

Two econometric molders were employed to determine the Income and Consumption Functions.

## Data Collection and Analysis

The necessary data was collected through interview schedule. The analysis of the data was carried out using suitable, Econometric Programming Techniques (ETP) described below.

**Econometric Modeling Techniques**

$$Y = f(X_i, D_i) \text{ ----------I}$$

Where Y is gross income, $X_i$ are all explanatory variables, which can be measured quantitatively, $D_i$ are all dummy variables, which are qualitative in nature.

$$C = f(Y, Z_i, D_i) \text{----------II}$$

Where C is total consumption, Y is gross income, $Z_i$ are quantitative explanatory and $D_i$ are qualitative variables.

Three income functions and three consumption functions were estimated each for low, middle and higher income groups. In addition an aggregate income, aggregate consumption, and traditional consumption and saving functions are also estimated.

## Specifications of Income Function

The general form of income function is:

$$Y = b_o + b_1F_s + b_2L_f + b_3L_m + b_4E_m + b_5I_{os} + b_6D_o + b_7D_{tf} + e$$

Where Y is monthly income of the household, $F_s$ is the family size, $L_f$ is labor force of the household, $L_m$ is literate members of the household, $E_m$ is employed members of the household, $I_{os}$ is the income from other sources (remittances, rents, etc.), $D_o$ is dummy for occupation (i.e. business=1, otherwise = 0) $D_{tf}$ is dummy for type of family ( joint = 1, otherwise = 0) and e is error term which absorbs the influence of all other variables which had not been included in the model.

**Estimation of Income Function**

The income function was separately estimated for each group. Estimated income functions by income group are as follows:

**For Low Income Group**

$$Y_L = 13.94 + 1.07F_s + 1.31L_f + 0.04L_m + 2.04Em + 0.94I_{os} + 0.61D_o + 0.45D_{tf}$$
(6.32) (0.43) (0.41) (0.01) (0.94) (0.35) (0.24) (0.21)

$R^2 = 0.76$ F = 195.6

For Middle Income Group

$$Y_M = 114.32 + 1.04F_s + 1.02Lf + 0.04L_m + 1.97E_m + 0.98I_{os} + 0.87D_o + 0.45D_{tf}$$
(13.50) (0.54) (0.30) (0.20) (0.82) (0.22) (0.14) (0.08)

$R^2 = 0.70$ F = 211.9

For High Income Group

$Y_H$=560.04 +0.99$F_s$ + 1.00$L_f$+ 0.05$L_m$+ 1.06$E_m$+ 1.57$I_{os}$+0.99$D_o$ + 0.43$D_{tf}$
(211.75) (0.64) (0.33) (0.01) (0.27) (0.71) (0.44) (0.17)
$R^2$ = 0.69 F = 219.3

**Aggregate Income Function**

$Y_A$ = 229.11 + 1.03$F_s$ + 1.10$L_f$+ 0.04$L_m$+ 1.74$E_m$+ 1.281$I_{os}$+0.82$D_o$ + 0.46$D_{tf}$
(74.99) (0.50) (0.40) (0.01) (0.76) (0.58) (0.39) (0.91)
$R^2$ = 0.72 F = 214.5

Figures in parenthesis are the respective standard errors.

## Interpretation of Income Function

For low, middle, high and aggregate income groups, the coefficient of multiple determination were 76%, 70%, 69% and 72%. The multiple R shows that more than the half of the total variations in the dependent variable are due to explanatory variables. All the respective standard errors are less than half of the value of the estimated coefficients shows that estimated coefficients are statically significant.

The statistical results suggest that in case of low income group the variable " employed members" of the household had greater influence on determination of their income. The degree of relationship is 2.04, which is significantly higher than middle and high-income groups. In case of high-income group other sources (remittances, rents) played very vital role in the determination of income. The coefficient of this variable is 1.57, which is remarkably higher than low and middle-income groups.

The intercept "$b_o$" of various estimated income functions portray that the standard of living and income groups are positively correlated. The value of intercept is 560.40 in case of high-income group, which is considerably high than the middle, and low-income groups. It means that standard of living for high-income group is high and vise versa. However the intercept of the aggregate income shows that in aggregates the standard of living is disappointing.

The model further recommends that important explanatory variables are $E_m$, $I_{os,}$ $L_f$ and $F_s$.

## Specifications of Consumption Function

The general form of consumption function is:

$$C = a_o + a_1F_s + a_2L_m + a_3E_{sa} + a_4V_{da} + a_5Y + a_6D_{tf} + e$$

Where

C is the total monthly consumption of the household, $F_s$ is family size, $L_m$ is the literate members of the household, $E_{sa}$ expenses on social activities, $V_{da}$

is total value of durable assets and electronics, Y is total monthly income, $D_{tf\ is}$ dummy for type of family (joint = 1, otherwise= 0) and e is error term.

## Estimation of Consumption Function

The consumption function was separately estimated for each group. Estimated consumption functions by income group are as follows:

**For Low Income Group**

$C_L = 16.38 + 1.97F_s + 0.83L_m + 2.63E_{sa} + 0.91V_{da} + 0.87Y + 0.76D_{tf}$

(7.34) (0.73) (0.41) (0.99) (0.03) (0.11) (0.27)

$R^2 = 0.90$ F = 199.9

**For Middle Income Group**

$C_M = 119.56 + 1.93F_s + 0.85L_m + 2.75E_{sa} + 0.97V_{da} + 0.81Y + 0.79D_{tf}$

(43.50) (0.54) (0.33) (1.03) (0.50) (0.43) (0.05)

$R^2 = 0.81$ F = 217.4

**For High Income Group**

$C_M = 654.78 + 1.96F_s + 0.94L_m + 2.96E_{sa} + 1.08V_{da} + 0.76Y + 0.82D_{tf}$

(311.7) (0.85) (0.37) (0.96) (0.20) (0.09) (0.03)

$R^2 = 0.76$ F = 200.7

**Aggregate Consumption Function**

$C_A = 259.67 + 1.94F_s + 0.88L_m + 2.81E_{sa} + 0.98V_{da} + 0.81Y + 0.79D_{tf}$

(86.99) (0.68) (0.35) (0.98) (0.28) (0.31) (0.14)

$R^2 = 0.83$ F = 210.4

Figures in parenthesis are the respective standard errors.

## Interpretation of Consumption Function

The parameter estimates of consumption function for different income groups indicate that expenses on social activities "$E_{sa}$" is the most important variable. The degree of relationship between consumption and "$E_{sa}$" is 2.96 for high-income group, where the corresponding figures for middle and low-income group are 2.75 and 2.63 respectively. The second important variable, which can influence the consumption level, is family size. The results obtained also conclude that the impact of income "Y" on the consumption is significantly different for different income groups. The difference in the standard of living could be judged from the value of intercept, which is 654.78 for high income group and 16.38 for low income group. However a very low overall standard of living is determined by the intercept of the aggregate consumption function.

## Specification of Traditional Consumption and Saving Function

A traditional consumption function $C= C_o+ bY$ is also estimated.
Where

$C_o$ is the intercept of consumption and b is marginal propensity to consume. In this case all explanatory variables are held constant and consumption is shown as a function of income only. This depicts the overall standard of living and consumption.

From the above consumption function the following saving function is derived:

$$S = S_o + aY$$

Where
S is saving, Y is total monthly income, $S_{o\ is}$ intercept of saving (i.e. S= -C) and a is marginal propensity to save (i.e. a = 1-b)

## Estimation of Consumption and Saving Function

Traditional consumption and saving functions are also estimated by income group.

**For Low Income Group**

$C_L = C_o+ bY$
$C_L = 571.78 + 0 .99Y$
(131.06) (0.38)

**For Middle Income Group**

$C_M = C_o+ bY$
$C_M = 663.19 + 0 .93Y$
(111.08) (0.25)

**For High Income Group**

$C_H = C_o+ bY$
$C_H = 703.37 + 0 .86Y$
(126.15) (0.33)

**Aggregate Consumption Function**

$C_A = C_o+ bY$
$C_A = 681.97 + 0 .92Y$
(121.63) (0.29)
Figures in parenthesis are the respective standard errors.

The traditional saving function is derived from estimated traditional consumption function is as follows:

**For Low Income Group**
$S_L = S_o + aY$
$S_L = -571.78 + 0\ .01Y$

**For Middle Income Group**
$S_M = S_o + aY$
$S_M = -\ 663.19 + 0\ .07Y$

**For High Income Group**
$S_H = S_o + aY$
$S_H = -703.37 + 0\ .14Y$

**Aggregate Saving Function**
$S_A = S_o + aY$
$S_A = -\ 681.97 + 0\ .08Y$

## Analysis of Traditional Consumption and Saving Functions

Keeping other variables constant and showing consumption as function of income only, different consumption functions are estimated for different income groups. The results show that the marginal propensity to consume is higher in low-income group. This situation reveals that the lower income group consumes greater fraction of income but at the same time intercept of the consumption shows a lower standard of living, and opposite was true in case of high-income group. The low-income group saves only 1% of the income and contrary the high-income group saved 14% of their income. In case of aggregate income groups the aggregate marginal propensity to consume is 0.92 and the aggregate marginal propensity to save is 0.08.

## Conclusion and Suggestions

On the basis of the results of econometric modeling it appears if we desire to boost the process of poverty alleviation in Pakistan through even distribution of income it is the family size that has to be controlled on one hand and literacy level and employment generation has to be increased on the other hand. In case of consumption: expenditure on social activities has to be controlled and consumption expenditures may be diverted toward education and durable assets of the household. Both of these factors can work to improve our human resources on one hand and domestic industrial production on the other as a result we will attract foreign direct investments. As well as household saving are concerned these should be converted from idol saving to investment in view of the fact that if the people of LDCs have a limited capacity to invest in capital, productivity is restricted, incomes are

inhibited, domestic savings remain low, and again, any increases in productivity are prevented.

Hence, the contemporary debate is focused on the household income and expenditure, which in turn can ensure more equitable distribution of income, fulfillment of basic needs and alleviation of poverty. More simply, poverty alleviation based on how evenly the income is spread over the classes in society and how that is consumed to maintain and improve living standard. Even distribution of consumer income leads to amplified consumption expenditure and increased consumption expenditure leads to augmented production, which in turn not only generates employment but also results in capital formation. This can be used as anti to the vicious circle of poverty.

The data analysis recorded significant difference between distribution of income and standard of living across the income groups (i.e. low, middle and high). It is recommended to put emphasis on the skill-oriented education, as well as short term training to improve the skill of labor force among low-income group without ignoring the contributions of middle and high-income groups. It is also recommended that more investments be made in micro credit program, which can be used as effective tool to increase the participation of low and middle-income group in economic activities.

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