

Determinants of Household Savings in Rural and Urban Areas: The Case of Chitral District, Pakistan

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Abstract

Household saving is the source of investment and is considered as an important factor in economic growth. The main objective of this study is to explore important determinants of household savings in both urban and rural areas of Pakistan. Purposive sampling technique was used to select the study areas in Khyber Pakhtunkhwa. The data were collected through a standardized questionnaire from 50 households. Through stratified random sampling, 25 urban and 25 rural household's heads were interviewed. Simple multiple regression was employed to explore the relationship between a household saving and socio-economic

determinants such as income, age, dependency ratio, education, employment status, and marital status. Results showed that overall model was a good fit in both urban and rural contexts. Income, age and employment had a significant and positive association with household savings in both urban and rural areas whereas education had significant negative association with household savings in both areas. However, dependency ratio with negative coefficient was only significant in rural areas. Contrarily, education was found as significant negative determinant of savings in urban areas.

Keywords: Household savings, rural, urban, consumption, income, Pakistan

1. Introduction

Household saving is the amount left after consumption. It is the difference between household income and consumption. According to the life cycle hypothesis, individuals do savings to finance their expenditures in the future. Savings are used as buffer-stock and whenever the time is bad it is used for smoothening consumption (Abid and Afridi, 2010). Hence, income is the main source of savings as stated by Keynes (1936). There are many sources of income such as salary, business profit, corporate profit, interest payments and earning from farm production, etc. Consumption is the total amount of goods and services that is consumed by households during a year. Consumption includes expenditure on food, clothing, housing, rent, education, utilities, traveling, festivals, ceremonies, health, recreation and charities.

For many countries household savings constitutes the biggest proportion of aggregate domestic savings. For example, in the developed countries saving ratio lies from 15% to 20% and individual savings account from 10% to 15%. Among Asian countries where domestic saving ratios lies from 25% to 30%, household savings account lie from 20% to 25%. In developing countries, typically the household sector accounts for a large proportion of the total savings and it contributes to economic growth significantly. In Pakistan efforts have been made over the last several years to raise domestic savings. Their outcomes were not very encouraging. Although, Pakistan has maintained economic growth, but performance regarding saving has been poor. National/domestic savings consists of three components corporate savings, household savings and government savings. During 1999 -2000 to 2000-2001 national savings had remained between 14.1 to 15.4 % and during 2002-2003 to 2003-2004 it was 16.46 to 6.35% of GDP, which was about 33% to 50% lower than the saving rate in the region (Ahmad and Asghar, 2004) and 9.9% in 2009 (ur Rehman et al., 2011).

Several studies have revealed that several socioeconomic factors determine savings at the individual and household level. These determinants include, Income of household head (Ghafoor et al., 2010; Jamal et al., 2014; Khan et al., 2013; Soharwardi et al.; ur Rehman et al., 2011), Children education (Jamal et al., 2014; Soharwardi et al.; ur Rehman et al., 2010), Age of the household (Ghafoor et al., 2010; Soharwardi et al.), Landholding (Jamal et al., 2014; Soharwardi et al.), education (Abid and Afridi, 2010; Ghafoor et al., 2010; Khan et al., 2013; ur Rehman et al., 2011; ur Rehman et al., 2010), family size (Abid and Afridi, 2010; Soharwardi et al.; ur Rehman et al., 2011; ur Rehman et al., 2010) and dependency ratio (Ghafoor et al., 2010; Jamal et al., 2014; ur Rehman et al., 2010).

Saving rates in Pakistan have remained very low both in absolute and relative terms compared to other developing countries. A variety of reasons ranging from the socio-cultural to the purely economic have been advanced for this lackluster performance. The most frequent cited causes include a high propensity for conspicuous consumption, increased availability of new products, a production structure that has emphasized consumer goods production and

negative real returns to financial savings. In addition, the propensity to save based on the above mentioned factors cannot satisfactorily explain certain features of the saving behavior in Pakistan. Furthermore, merely referring to cultural factors as the reason for low saving rates, may undermine the significance of other important socio-economic factors as determinants of household savings. Some of these factors are more relevant when considering the ways by which the saving performance can be improved (Khan et al., 1992). Therefore, the objective of this study is to explore the important determinants of household saving both in urban and rural areas in Pakistan.

2. Material And Methods

2.1 Research design

The study has used survey design for data collection and the data were collected through a standardized questionnaire. Moreover, this research is explanatory in nature that explores the casual relationship of household saving with selected socio-economic determinants.

2.2 Study area

The geographical coverage of this study is confined to the Chitral District of Khyber Pakhtunkhwa, which is the northernmost district of Pakistan. The total area of the district is 14,850 square kilometers. The total estimated population is 318,689 with a population density of 21 persons per square kilometers. The population constitutes 52% males and 48% females. The average household size is 7.9 in Chitral District. The literacy rate of the district is 42%, out of which 23% is of females. 70% of the population depend on agriculture (Government of Pakistan, 2010). Major crops of the area are maize, wheat and other seasonal vegetables. Among fruits, apples, pears, apricots and grapes are the major products of the area .

Study Area

Chitral District, Khyber Pakhtunkhwa, Pakistan



Map 1. Chitral District Map

2.3 Sampling

The total households in Chitral District are 40,340. Out of them, we drew a sample size of 50 by using Yamane's formula (Yamane, 1967) with 14% precision value. Further, the data were collected from 25 urban and 25 rural households. The standardized questionnaire was used to collect the data by interviewing the household heads.

$$n = \frac{N}{1 + Ne^2} \quad (1)$$

n = Sample size

N = Total number of farming households in an area

e = Precision value, set as 14% (0.14)

2.4 Study Variables

2.4.1 Dependent Variable

Rural and urban household saving (Y)

Household savings are calculated by subtracting total monthly expenditures from total monthly income of household. It is measured in Pakistani Rupee (PKR). Rural and Urban Household savings are used as dependent variables in our study. Urban household saving is also calculated by subtracting total monthly expenditures of urban households from their total monthly income. Rural household saving is also taken as dependent variable and it is calculated by subtracting total monthly expenditures of rural households from their total monthly income.

2.4.2 Independent Variables

Total Income of household (X1)

Total Income of household is the sum of all monetary income. It is calculated through Income approach that includes wages of the workers, rent from land, and profit of a firm. It also includes income from farming, live stocks, remittances, bonuses, pensions, and social security payments as well

Dependency ratio (X2)

In literature, the total dependency rate is defined as, 'the number of household members less the number of earners divided by total household size' (Ahmad and Asghar, 2004; Burney and Khan, 1992). It can be calculated as:

$$\text{TDR} = \frac{HS - NE}{HS} \quad (2)$$

Where

HS is household Size

NE is total number of earners in a house, and

TDR is total dependency rate.

Education of household head (X3)

To capture effect of education, we have used completed years of education of household head in our study. Education is main determinant of higher earnings and savings as well. It can have positive influence on household savings. But on the other side, educated parents pay more attention on the quality of education of their children. They spend more on their education and save less.

Age of household head (X4)

Household head is a person who is considered by all other members in house. We have considered age of household head in our study that is expected to be positively related with household savings

Employment status of the household head (X5)

Different studies have found that self-employment persons save the most. In this paper the effect of employment status on household savings was analyzed by using employment status of the household head as quantitative variable, considering two broad categories i.e. (i) the employee and (ii) the self-employed/employer. A dummy variable is defined taken the value 1 if household head is self-employed and 0 otherwise.

Marital status of household head (X6)

Marital Status of household head is also an important factor that has very significant effect on household savings. When household head is un-married, he has no responsibility regarding family. He has less expenditures and more money to save for future needs. But after marriage, he has to look after his family, children, relatives, and have more domestic expenditures than past. Theoretically, household saving is expected to be negatively affected by Marital Status. We have exercised dummy variable to distinguish between un-married and married status.

Econometric Model

Multiple regression (OLS) was employed to explore the relationship of dependent variable with independent variables. For urban and rural households separate models were used;

$$Y_u = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 X_3 + \alpha_4 X_4 + \alpha_5 X_5 + \alpha_6 X_6 + \mu \quad (3)$$

$$Y_r = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + e \quad (4)$$

Where

α_i = coefficients of urban household model, where $i = 0, \dots, 6$

β_i = coefficients of rural household model

μ and e = stochastic error terms

X_i = independent variables

3. RESULTS**3.1 Descriptive analysis of the variables**

The dependent variable is savings per household per year. In urban area, the savings are more compared to rural areas. The average savings in urban areas were PKR. 98,928 whereas in rural areas it was PKR. 15,235.5 mentioned in Table 1. Regarding independent variables, monthly average income in urban areas was PKR. 17,828 and in rural areas was PKR. 4500. Likewise, dependency ratio in urban areas was 0.69 and 0.71 was in rural areas. For years of schooling, in urban areas, it was higher (10 years) compared to rural areas (7 years). Similarly, the average age in years of the household in urban areas was 36.5 and 38 years in rural areas of Chitral District. The employment rate in urban areas was, on average, higher than rural areas. In case of marital status, in urban areas the average value for dummy is 0.60 and for rural areas it was 0.70.

Table 1
Descriptive Analysis of Variables

Variables	Description and Level of Measurements	Mean	St. Dev.
Dependent Variable			
Y_u	Urban household savings in PKR	98,928	15,235.5
Y_r	Rural household saving in PKR	53,730	17,356.8
Independent Variables			
X_1	A continuous variable for total income of household, urban and rural	17828 4500	425.25 772.20
X_2	It is ratio of total dependents to total household size, urban and rural	0.69 0.71	1.08 1.30

X ₃	Years of education of household head, urban and rural	10 7	8.0 6.5
	Age in years of household head, urban and rural	36.5 38.0	13.16 15.3
X ₅	A dummy variable is defined taken the value 1= household head is self-employed and 0 otherwise, urban and rural	0.7 0.26	0.46 0.44
	A dummy variable for marital status, urban and rural	0.60 0.70	0.44 0.46
X ₆	1= household head is married 0 = household head is un-married		

Sources: Field Survey,2014

3.2 Multiple regression analysis

Results of regression analysis are shown in Table 2. The R² values for both of the models shows goodness of fit. In case of urban households, R² value was 0.65 whereas in case of rural households, it was 0.726 which are significantly higher values for coefficient of determination. Among the determinants of savings in table 2, income has a positive coefficient 0.895 for urban households and 0.621 for rural households and found significant at p-value 0.000. Likewise, employment has also positive association having coefficients 0.41 and 0.51 in urban and rural areas respectively. Employment was found highly significant at p-value 0.06 and 0.009 for urban and rural household respectively. Age of the household heads had also positive coefficient 0.562 for urban and 0.367 for rural households, and it was significant at p-value 0.018 and 0.022 respectively. Education was also found significant determinant for urban households and had negative coefficient -0.542 and p-value 0.015, however, it was insignificant for rural households. Likewise, dependency ratio was found significant having a negative association with the saving for rural households with coefficient -0.436 and p-value 0.038.

Table 2
Multiple Regression Results

Variables	Regression Model 1 Urban Households		Regression Model 2 Rural Households	
	Coefficients	P-values	Coefficients	P-values
Income (X ₁)	0.895 (0.195)	0.000***	0.621 (0.141)	0.000***
Dependency ratio (X ₂)	-0.221 (0.194)	0.269	-0.436 (0.194)	0.038**
Education (X ₃)	-0.542 (0.202)	0.015**	-0.06 (0.129)	0.464
Age (X ₄)	0.562 (0.216)	0.018**	0.367 (0.147)	0.022**

Employment status (X_5)	0.41 (0.204)	0.06*	0.581 (0.199)	0.009***
Marital status (X_6)	-0.423 (0.558)	0.459	-0.754 (0.665)	0.272
Constant	2.407 (1.449)	0.114	0.039 (0.776)	0.96
R²	0.65		0.726	

Sources: Field Survey, 2014

Standard errors are in parenthesis

Significance Levels: $P \leq 0.10^*$, $P \leq 0.05^{**}$, $P \leq 0.01^{***}$

4. Discussion

The findings of our study that are mentioned in Table 2 reveal that income had a positive association with savings in both urban and rural areas of the study district. It means that as the income increases savings among the household also increase. In other words, as the people gain more income, they will have more money to save which is also the stated function of macroeconomics: saving is the function of income $S=f(y)$, Y here stands for income. Hence, proves that holding other things constant, saving in both rural and urban areas increases as income increases and this finding is in line with the economic theory of Keynes (1936). Our findings are in accordance with the findings of Chhoedup (2013), Ghafoor et al. (2010), Jamal et al. (2014), (ur Rehman et al., 2011), Muradoglu and Taskin (1996), Wakabayashi and MacKellar (1999), Salam and Kulsum (2002), and Ahmad and Asghar (2004). They all have reported income had a positive association with household's savings. Age is also found as significant determinant that affect savings of the household in our findings. The positive coefficients means that as the age of the respondents' increase, their tendency to save also increases. The findings of our study confirm the findings of Chhoedup (2013), and Obayelu (2012), who reported that with an increase in age, the household savings also increased. However, our findings are in disagreement with the findings of Ahmad and Asghar (2004). Their findings revealed negative association of savings with age. In addition to this, ur Rehman et al. (2011) also found no significant relationship of age with household savings. Regarding education of the household head, in our study, we found that, as education increases, it reduces the household savings among urban households whereas no relationship was found among rural households. Our findings regarding education are in accordance with the findings of ur Rehman et al. (2010), for urban household and for rural household with the findings of Abid and Afridi (2010), and Chhoedup (2013), who reported no significant relationship of saving with education of the household head. However, our findings are in contrast to the findings of Ghafoor et al. (2010), who reported the positive relationship of household savings and education. In case of employment status, our findings reveal that the household having employment as source of income will have more savings than their counterparts. Our results are in disagreement with the findings of (Chhoedup, 2013), who reported that there is no significant relationship of occupation/ employment with household savings. Regarding the dependency ratio, our results are in agreement with the findings of (ur Rehman et al., 2010), and Abid and Afridi (2010). Their studies have reported that the dependency ratio was increased as the savings of the household decreased.

5. Conclusion And Recommendations

The findings of the study revealed that socio-economic determinants of savings in urban and rural areas are equally important. The Keynesian theory of savings is proved by the findings of our study that income is main determinant of savings. The life cycle hypothesis is also indirectly tested and was proved by the findings of the study that maturity in age is also an important determinant of savings in the study area. The people who were employed had consistent flow of income and were saving comparatively more than their counterparts. The findings suggest that the government should encourage the micro finance institutions and banks to deliver credit for small scale enterprises so that the people should have employment opportunities and can enhance income which may further increase household's savings. It is also suggested particularly for NGOs that they should have awareness and capacity building oriented program at community level regarding the importance of savings to encourage the people for saving by spending income according to their actual needs.

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