

## **Saving Behavior among Different Income Groups in Pakistan: A Micro Study**

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### **Abstract**

*National saving is composed of public and private savings. Private saving includes household savings as a major part. Household saving behavior differs among various income groups. The study explores the socio economic and demographic factors influencing household savings of various income groups. For that purpose, authors have selected Multan district as study area. They have gone for stratified random sampling technique and selected 88, 97 and 107 households from lower, middle and higher income group following per capita income method. It is concluded that education, children's educational expenditure, family size, liabilities and value of house are reducing factors while total dependency rate and income are inducing factors for household savings of lower income groups. Savings of middle income group is positively related to total dependency rate and total income. On the other hand, it is inversely affected by children's educational expenditures, liabilities, marital status, size of land holdings, and value of house. Higher income households are likely to save more due to age, spouse participation, total income and size of land holdings and likely to save less due to age square, children's educational expenditures, liabilities to be paid by household head and marital status. It is also suggested that Govt. should give emphasis for the promotion of free health and educational facilities in rural regions especially.*

**Keywords:** Household savings, Income groups, Education, Marital status, Liabilities, Spouse participation, Income, Size of land holdings, Multan district

### ***I. Introduction***

National savings is the sum of savings by public and private sector. Public savings can be mobilized by increasing revenue resources and by controlling non-development public expenditure, thereby generating a budgetary surplus. Private savings can be organized by banking system, development of financial institutions and the stock exchange. In private savings, large portion of savings is due to large share of household sector. Smith (1776) emphasized that capital accumulation must precede the introduction of division of labor. Like modern economists, Smith regarded capital accumulation as a necessary condition for economic development. So the problem of economic development was largely the ability of the people to save more and invest more in a country. The rate of investment was determined by the rate of saving and savings were invested in full. But almost all savings resulted from capital investments or the renting of land, so only capitalists and landlords were held to be capable of savings. The labour class was considered to be incapable of saving. Malthus (1820) suggested a concept of the optimum propensity to save. According to him, saving from the stock which might have been destined for immediate consumption, and adding to that which is to yield a profit; or in other words the conversion of revenue into capital. His conclusion is that saving, pushed to excess, and would destroy the motive to production.

Households belonging to lower income group may have different saving behavior, middle income households may have different and same as higher income households may have different savings trend. Previously this saving behaviour for different income groups was not discussed properly in the literature. This matter needs to be discussed more at micro level. So that savings in different income groups (Lower, middle and Higher) may be analyzed. Considering this problem, it is necessary to study determinants of household savings of Pakistan and suggest some policies at micro level. As a matter of fact, District Multan being front line district of southern Punjab (Pakistan) has been given little attention in the past, because the largest part of this district is rural area. Generally, few are interested to analyze saving behavior in villages of this area especially. That is why we have selected Multan district as our study area. Many studies regarding Households' saving behavior have been conducted at micro level for Punjab province of Pakistan.

But few studies are made regarding saving behavior in the district Multan. In this way, our study differs from all studies conducted previously for Pakistan. The present study is aimed at investigating some socio economic and demographic factors concerning household savings of various income groups and also to accomplish comparison among them. The study is structured as follows. Following the introduction section, section II offers review from some past studies, data and methodology is discussed in section III, section IV interprets results, and finally concluding remarks are presented in section V.

## **II. Review of Previous Studies**

Many studies have been conducted on household savings by many researchers and policy makers at international and national level. We have discussed and summarized few of them in the present section. According to Mill (1848), “the rate of capital accumulation depends upon: the amount of the fund from which saving can be made and the strength of the disposition to save.” Capital is the result of saving, and savings come from less present consumption for the sake of future goods. Ricardo (1917) concluded that capital accumulation is the outcome of profits because profits lead to saving of wealth which is used for capital formation. Capital formation depends upon two factors: First, the capacity to save; and second, the will to save. The capacity to save is more important in capital accumulation. Keynes (1930) regarded saving as a social vice for it is excess of saving that leads to a decline in aggregate demand. Again, this idea is not applicable to underdeveloped countries because saving is the panacea for their economic backwardness. Capital formation is the key to economic development, and capital formation is possible through increased saving on the part of the people.

Bautista and Lamberte (1990) compared saving behavior of rural and urban households living in Philippines. Data was collected on 16971 families from 12 regions of Philippines using Family Income and Expenditure Survey of 1985. The study concluded positive association among income, permanent income and transitory income. Values of MPS were varying from 0.218 to 0.548. Khan *et al.* (1992) examined significant impact of socio economic and financial variables on national saving rate of Pakistan. Analysis found saving rate as positively affected by per capita income, real interest rate, GDP growth rate, terms of trade and total trade while inversely influenced by dependency ratio, foreign capital inflows and foreign aid for the period 1959 - 1990. Burney and Khan (1992) examined various socio economic and demographic factors as determinants of savings. Impact of Income, earning status, occupation, and age square of household head on saving were appeared to be positive but inverse of household income, dependency ratio, education, employment status, secondary earner and age were inversely related to savings of urban and rural households. Marginal Propensity to save was 0.22 for urban household and 0.37 for rural household.

Muradoglu and Taskin (1996) investigated the effectiveness of some variables on household savings. For that purpose, they collected data from 19 developing and 11 industrial countries for the period 1975 to 1989 and employed Ordinary Least Square method to estimate the results. Results of study concluded that the effect of Income growth, trend income, deviation of income from trend were positive on household savings of industrial countries. Real interest rate, foreign savings and dependency ratio had negative parameter value for industrial countries. For developing countries, households' saving was inversely effected by trend income, real balance and dependency ratio. Brata (1999) showed saving behavior of rural industry households. The author collected information about 93 respondents by conducting survey of small industries in Bantul Sub district in 1996. In the survey, he found that respondents were more interested in keeping financial assets than real assets as their savings. They preferred to save their financial assets in non-bank institutions like co-operations, credit unions etc. He concluded that Income, Education, Male (Sex) and Industry type were found to have direct significant impact on savings.

Wen and Ishida (2001) obtained the picture of china's rural savings during the period 1979 to 1998 and used Ordinary least square technique to estimate the coefficients. Positive results were found in case of income and interest rate on saving level of rural households. Ahmad and Asghar (2004) estimated saving function based on HIES (1998-99) primary data. 8933 rural and 5374 urban respondents were chosen from the survey. It was found that saving was directly influenced by income, employment status, age square and sex of rural and urban respondent. Wealth, dependency ratio, and age of the respondents were found negatively affecting savings of rural and urban respondents. Choudhury (2005) found the saving behavior of urban and rural households in India using time series data from the time period 1950 – 1962. He concluded that income and population were found to have positive influence on savings in rural, urban and overall all the regions of India. Marginal propensity to consume was 0.5373 in urban and 0.0156 in rural India. Fazoranti (2007) traced out the influence of rural saving on economic development of rural areas using primary source of data collected from specific areas of rural Nigeria. Income, Human capital, Investment and assets were estimated to have positive impact on saving. Newman *et al.* (2008) determined household saving behavior in rural Vietnam in 2006 using survey conducted by Vietnam Access to Resource Household (VARHS).

Percentage analysis was done on the data collected about 2324 respondents. Savings were found increasing among wealthy households. Households' saving was inversely affected due to average age of respondent and income shock. Education was not found to have any significant effect on savings. Gonzalez and Ozcan (2008) aimed at empirically investigating the effect of risk of marriage instability on saving behavior of married households. They used Living in Ireland Survey for the Irish sample and European Commission Household Panel Survey (1994-2001) and chose 2800 married couples. They explored that non-religious family and larger family risk exerted inverse impression on saving behavior. They were motivated to save more due to religious family, higher income level, age, female sex and risk of marital breakup.

Khalek *et al.* (2009) assessed impact of different economic and demographic variables on household savings of Morocco. The authors conducted survey on 300 households in March – April 2007 for that purpose. Ordinary least square method was employed for the reliable results. Income and interaction term of Gender & Income had significantly positive effects on Savings while Impact of Household size, no. of unemployed persons and Gender was negative on Savings in rural as well as in urban areas. Kibet *et al.* (2009) investigated factors influencing savings of teachers, entrepreneurs and farmers. Cross sectional primary data of 359 respondents was collected using Multistage sampling technique in 2008 from rural areas of Kenya. The analysis summarized the following points; teachers were more likely to saving due to having more income and service charges. Direct relationship between Income and saving was found for Businessmen. Income and rate of interest had direct effect on farmers' savings. Age and transportation cost affected inversely saving decision of teachers. Age of businessmen and their savings had negative relationship. Similarly, Credit access to farmers was reducing their saving levels.

Bendig *et al.* (2009) analyzed remittances, risk exposure, shock experience as key determinants of savings. 350 villagers were selected from rural areas of Ghana in 2008. Empirical findings suggested that household size, schooling, assets, remittances, death in family and other shocks were seemed to have a significant direct affect while female head of the family, self employed, not employed, risk assessment, and Brakwa region were inversely associated with savings. Sabri (2010) compared saving behavior and financial problems experienced by the students using primary data of 350 students studying in colleges of Malaysia. Multiple regression analysis was used as an estimation technique. The author evaluated that financial literacy, childhood consumer experience, females, only child were the factors inducing savings. Rehman *et al.* (2010) described the socio economic factors influencing households' saving behavior for Pakistan. They collected sample of 293 households from Multan district and conducted survey in 2009 – 2010. They came to the fact that age squared, education, children's educational expenditures, family size, liabilities to be paid by household head, married marital status, and value of house appeared to reducing per month household savings. There was increase in household savings due to Age of household head, female to male ratio in the house, spouse participation, urban region of residence, total dependency rate, total income of household, size of land holdings and number of live stocks.

### III. Data and Methodology

#### 1. Data Description

The present study uses cross sectional primary data that is collected by the authors through field survey of district Multan. Systematic and stratified random sampling technique is exercised for collection of data. Multan district is initially divided into two major groups i.e. Urban and Rural Multan. Total 20 union (10 from urban areas and 10 from rural areas) councils are selected out of 98 union councils of the study area. Information about income, household size, marital status, liabilities, expenditures, education etc are asked through simple questionnaire from 293 respondents. Among these 293 respondents, 88, 97 and 107 households are belonging to respectively lower income group, middle income group and higher income group. To discriminate between lower income, middle income, and higher income groups, we have made use of Per Capita Income (PCI) method. PCI may be defined as the ratio of total income of household to total household or family size. It can be calculated as:

$$\text{Per Capita Income} = \frac{\text{Total Income of Household}}{\text{Total Family or Household Size}}$$

But to acquire Per Capita Income of Low income group, middle income group, and higher income group of Pakistan is another issue because it is not clearly declared by the Govt. of Pakistan in Economic Surveys. So we have assessed from HIES (Household Integrated Expenditure Survey) 2007-08 that was published recently in 2009. HIES 2007-08 survey was conducted in 2007-08 by the Federal Bureau of Statistics, Pakistan. They have made five income quintiles in accordance with their income levels. 1<sup>st</sup> quintile gives an idea about lowest income of Household and 5<sup>th</sup> quintile illustrates higher income of household. We have mingled 1<sup>st</sup> and 2<sup>nd</sup> quintile to have income level of Lower Income group, 3<sup>rd</sup> and 4<sup>th</sup> to obtain income level of Middle Income group, and 5<sup>th</sup> quintile to acquire Income level of Higher Income group.

**Table 1. Average Monthly Income per Household (HIES 2007-08)**

Income Groups	Quintiles	Average Monthly Income
Lower Income	1 <sup>st</sup>	7812
	2 <sup>nd</sup>	9910
Middle Income	3 <sup>rd</sup>	11172
	4 <sup>th</sup>	13227
Higher Income	5 <sup>th</sup>	24659

From Table 1, it is apparent that Average Monthly Income per Household for Lower Income group is Rs. 9910, Middle Income group is Rs. 13227 and Higher Income group is Rs. 24659. To compute Per Capita Income, we must have Average Household Size at their respective Income Quintiles. From table 2, it is comprehensively clear that Average Household size of Low Income group is 7.61, Middle Income group is 6.08, and Higher Income group is 4.99. We can now easily reckon Per Capita Income for each group by dividing Average Household Income by their respective Average Household Size.

**Table 2. Average Household Size (HIES 2007-08)**

Income Groups	Quintiles	Average Household Size
Lower Income	1 <sup>st</sup>	8.57
	2 <sup>nd</sup>	7.61
Middle Income	3 <sup>rd</sup>	6.83
	4 <sup>th</sup>	6.08
Higher Income	5 <sup>th</sup>	4.99

Household Survey (HIES 2007-08) was organized in 2007-08 but this study is being conducted in 2009-10; there would be difference between Per Capita Income of 2007-08 and 2009-10. To cope up with this problem, we have predicted new Per Capita Income on the basis of past trend of 3 years. We have presented Household Average Income, Family Size and Per Capita Income of HIES 2004-05, 2005-06, and 2007-08 in tables 3, 4, and 5 respectively. We have brought to a close that Per Capita Income for Low Income group is Rs. 1649.86, Middle Income group is Rs. 2600.69 and Per Capita Income is Rs. 6000.63 for Higher Income group. We have broken up our collected data on the basis of Per Capita Income, and we have three more dependent variables with respect to Income groups as follows;

1. Low Income Household Savings (LHS)
2. Middle Income Household Savings (MHS)
3. Higher Income Household Savings (HHS)

Household Savings for each group is worked out by subtracting Total Income of Household by their respective Total Expenditures.

**Table 3. Average Household Monthly Income (HIES)**

Income Groups	Quintiles	Average Monthly Income of Household			
		2004-05	2005-06	2007-08	2009-10
Low Income	1 <sup>st</sup>	5567	6725	7812	11879*
	2 <sup>nd</sup>	6719	8393	9910	
Middle Income	3 <sup>rd</sup>	7488	9788	11172	15110*
	4 <sup>th</sup>	8990	11493	13227	
Higher Income	5 <sup>th</sup>	16182	20811	24659	28743*

\* Calculated by authors

**Table 4. Average Household Size (HIES)**

Income Groups	Quintiles	Average Household Size			
		2004-05	2005-06	2007-08	2009-10
Low Income	1 <sup>st</sup>	8.97	8.74	8.57	7.20*
	2 <sup>nd</sup>	8.02	7.89	7.61	
Middle Income	3 <sup>rd</sup>	7.46	7.10	6.83	5.81*
	4 <sup>th</sup>	6.77	6.35	6.08	
Higher Income	5 <sup>th</sup>	5.55	5.19	4.99	4.79*

\* Calculated by authors

**Table 5. Per Capita Income of Household**

Income Groups	Per Capita Income of Household			
	2004-05	2005-06	2007-08	2009-10
Lower Income	837.78	1063.75	1302.23	1649.86*
Middle Income	1327.92	1809.92	2175.49	2600.69*
Upper Income	2915.66	4009.83	4941.68	6000.63*

\* Calculated by authors

## 2. Methodological Discussion

To analyze the behavior of household savings among different income groups, we have employed multiple regression analysis technique to estimate values of slope and intercept coefficients. Econometric problems regarding OLS method are traced out using appropriate examinations and then are removed during the analysis. Multicollinearity problem is avoided by furnishing correlation matrix among each set of variables and by dropping one of the multicollinear variable. Autocorrelation is not a serious problem when we are working with cross sectional data series. Heteroskedasticity problem may be removed by applying OLS with white standard errors.<sup>1</sup> The present study is based on the life cycle hypothesis proposed by Ando and Modigliani in 1963.

## 3. Model Specification

To distinguish impact of Income distribution, we have accomplished our analysis on three Income groups. We have arranged our total sample size on the basis of Per Capita Income into three groups; Lower Income, Middle Income, and Higher Income group. Then we have indicated some variables for Lower Income Household Savings (LHS), Middle Income Household Savings (MHS), and Higher Income Household Savings (HHS).

$$LHS = f \left[ \begin{array}{l} AGE, SQA, EDU, EEX, FMR, FSZ, LAB, \\ MAR, SPT, RR, TDR, TYH, SLH, VHS, NLS \end{array} \right]$$

$$MHS = f \left[ \begin{array}{l} AGE, SQA, EDU, EEX, FMR, FSZ, LAB, \\ MAR, SPT, RR, TDR, TYH, SLH, VHS, NLS \end{array} \right]$$

$$HHS = f \left[ \begin{array}{l} AGE, SQA, EDU, EEX, FMR, FSZ, LAB, \\ MAR, SPT, RR, TDR, TYH, SLH, VHS, NLS \end{array} \right]$$

## 4. Description of the Variables

Determinants of Household Savings can be investigated at macro as well as at micro level. Several researchers have explored determinants at macro but few have shown their interest at micro level. Considering importance of micro determinants of savings, we have included some variables in our study described in detail as follows;

**Table 6. List of Variables used in Household Savings Analysis**

Variables	Description of Variables
<b>Dependent Variables</b>	
<b>LHS</b>	A continuous variable used for Low Income Household Savings
<b>MHS</b>	A continuous variable used for Middle Income Household Savings
<b>HHS</b>	A continuous variable used for Higher Income Household Savings
<b>Explanatory Variables</b>	
<b>AGE</b>	A continuous variable used for Completed years of age of Household Head
<b>SQA</b>	Square of Age in Completed years of age.
<b>EDU</b>	A discrete variable used for Completed years of Education of Household Head.
<b>RR</b>	A Dummy variable for Region of Residence =1 If Household belongs to Urban Area =0 If Household belongs to Rural Area
<b>MAR</b>	A Dummy variable to represent Marital Status of Household Head =1 If Household Head is Married. =0 If Household Head is Un-married.
<b>LAB</b>	A discrete variable for Liabilities to be paid by Household Head.
<b>FMR</b>	It is ratio of Total Female Members in House to Total Males.
<b>SPT</b>	A Dummy variable for Spouse Participation. =1 If Spouse is actively participating in Economic activity =0 If Spouse is not actively participating in Economic activity
<b>TYH</b>	A discrete variable for Total Income of Household
<b>EEX</b>	A discrete variable for Children's Educational Expenditures by Household Head
<b>FSZ</b>	A discrete variable for Household/ Family Size
<b>TDR</b>	It is Ratio of Total Dependents to Total Household Size
<b>SLH</b>	A continuous variable for Size of Land Holdings (in Acres)
<b>VHS</b>	A discrete variable for Value of House
<b>NLS</b>	A discrete variable for number of Live Stocks in Household

<sup>1</sup>Heij *et al.* (2004)

#### IV. Results and Discussions

Based on budget household survey, tables shown in the section portray five columns. In the 1<sup>st</sup> column, names of explanatory variables are specified, 2<sup>nd</sup> column is about values of coefficients, standard errors are given in third column. For reliability of our estimates, two tailed t-test is used and values are given in 4<sup>th</sup> column. For level of significance, we have included probability values in 5<sup>th</sup> column. Constant shows value of intercept in saving functions. Age of household head is positively associated with household savings for all income groups. It suggests that age factor is helpful for more saving in the life time of everyone. Because households are getting more experience from their job, they are paid well. And with the passage of time every hardworking person can come up with the new, improved and high salaried job according to the status and experience. At the same time, their sons and daughters are also growing they may be doing job and contributing in family budget and hence they may be a cause of higher household saving. Coefficient for lower income group and middle income group is statistically insignificant but it is of higher income is interpretable having significance level of 2 percent. Households belonging to higher income group tend to save Rs. 1967 more to 1 year increase in their age.

Our findings are matched with Gonzalez and Ozcan (2008) and Rehman *et al.* (2010). Square of age has direct relationship with savings of lower income group and middle income group with statistically insignificant coefficient. Same findings are given by Burney and Khan (1992) and Ahmad and Asghar (2004). Reasons behind positive sign may be that households of lower income group and middle income group need more earnings to sustain in the critical situations of country. Mostly people are job holders or labor class in these groups that's why they have to save more for precautionary purpose for future need (marriage, emergencies, education of children, etc). On the other side, square of age for higher income is highly significant at 3 percent level and inversely related to savings [Rehman *et al.* (2010)]. It indicates that up to age of 52 years, higher income households can increase their savings significantly but beyond that their savings will decline due to low efficiency in old age or due to reduced potential of work in this age. It proves the presence of life cycle hypothesis in higher income group.

**Table 7. Dependent variable Lower income household savings (LHS)**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-2239.16	1479.114	-1.51	0.13
AGE	13.18	87.44442	0.15	0.88
SQA	0.09	0.998372	0.09	0.92
EDU	-97.02	37.58738	-2.58	0.01
EEX	-0.93	0.143877	-6.48	0.00
FMR	-100.39	154.6023	-0.64	0.51
FSZ	-143.76	78.99295	-1.81	0.07
LAB	-0.39	0.245349	-1.68	0.09
MAR	-303.69	798.6155	-0.38	0.70
SPT	-65.44	299.5823	-0.21	0.82
RR	125.02	402.1255	0.31	0.75
TDR	2415.21	986.4030	2.44	0.01
TYH	0.43	0.050409	8.55	0.00
SLH	-235.80	174.0769	-1.35	0.17
VHS	-0.0001	0.000112	-1.68	0.09
NLS	-16.16	96.30679	-0.16	0.86
R-squared	0.77	<b>F-statistic</b>		16.20
Adjusted R <sup>2</sup>	0.72	<b>Prob (F-statistic)</b>		0.00

For all income groups, education of household heads has turned out to be inversely affecting their savings [Burney and Khan (1992), Rehman *et al.* (2010)]. The rationale behind such type of relationship may be their preference towards education of their children. Because educated parents will desire their children to be highly educated and for that purpose they can sacrifice for every thing of life even they forgo their all the savings. In fact their savings or assets are their children for which they have struggled a lot. They hope their children will be able to get good status in the society after getting education from well known institutions that's why they forego their current saving for higher saving in future. Significant result is found only for lower income group signifying that one more year of education of household head can decline savings by Rs. 97 per month on the average. Children's educational expenditures are expected to exert off-putting consequence for household savings [Rehman *et al.* (2010)]. This is largely confirmed by the results given in tables implying that there will be reduction in savings by Rs. 0.93, 0.98 and 1.30 respectively of lower income, middle income and higher income group households due to increase of one more rupee for their children's educational expenditures on the average.

Savings of higher income group will decrease comparatively more than other groups specifying that higher income people having higher income always prefer their children to study from well known institutes of their areas, they will forego their more savings as compared to lower or middle income groups.

**Table 8. Dependent variable Middle income household savings (MHS)**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-1734.27	5830.751	-0.29	0.76
AGE	9.01	299.6007	0.03	0.97
SQA	0.51	3.347535	0.15	0.87
EDU	-96.26	110.4220	-0.87	0.38
EEX	-0.98	0.145072	-6.78	0.00
FMR	129.76	237.2124	0.54	0.58
FSZ	-92.63	343.2819	-0.26	0.78
LAB	-1.07	0.144357	-7.43	0.00
MAR	-3394.08	1825.520	-1.85	0.06
SPT	1132.33	1033.806	1.09	0.27
RR	223.45	1205.640	0.18	0.85
TDR	4644.43	1981.732	2.34	0.02
TYH	0.53	0.075004	7.18	0.00
SLH	-211.46	109.7637	-1.92	0.05
VHS	-0.0005	0.000242	-2.17	0.03
NLS	105.91	165.8364	0.63	0.52
R-squared	0.76	<b>F-statistic</b>		17.66
Adjusted R <sup>2</sup>	0.72	<b>Prob (F-statistic)</b>		0.00

With regards to female to male ratio, results are quite surprising which reveal negative impression on lower income group savings. Reason may be that females belonging to this group are not allowed to work in labor force due to social constraints of education, religion, and conservative environment of house. Usually large family size is seen in lower income class and ratio of female to male is much higher under this group. From survey it is found that mean of female to male ratio is 1.102 for lower income group, 1.025 for middle income group, and 1.038 for higher income group. On the other side, middle income and higher income group households are likely to save more as coefficient is positive for these groups [Rehman *et al.* (2010)]. Female of these groups are liberal enough to work outside the home at the same time they are well educated as well. Education of females also leads to higher saving level of households. But results for all groups are statistically insignificant.

Family size is found to be negatively related to savings of all groups. Due to more members of the family, their savings decline but due to insignificant results it is not explained for middle and higher income groups. But results of lower income group denote that a rise of one member of family diminishes their savings by Rs. 143 on the average, it is significant at 7 percent level of significance. In our study area, average family size is 6.98, 7.06, and 5.92 for lower, middle and higher income groups respectively. Results are re conciliated with the findings of Gonzalez and Ozcan (2008), Khalek *et al.* (2009) and Rehman *et al.* (2010).

**Table 9. Dependent variable Higher income household savings (HHS)**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-48227.05	19065.47	-2.52	0.01
AGE	1966.97	875.9126	2.24	0.02
SQA	-18.77	8.932434	-2.10	0.03
EDU	-173.39	441.0555	-0.39	0.69
EEX	-1.30	0.166087	-7.85	0.00
FMR	2120.84	1844.102	1.15	0.25
FSZ	-774.40	728.6873	-1.06	0.29
LAB	-1.11	0.300545	-3.72	0.00
MAR	-17740.44	7714.570	-2.29	0.02
SPT	10073.49	3945.662	2.55	0.01
RR	8245.78	6728.896	1.22	0.22
TYH	0.64	0.101779	6.31	0.00
TDR	-2004.56	8695.830	-0.23	0.81
SLH	718.54	319.5334	2.24	0.02
VHS	-0.0003	0.000402	-0.97	0.33
NLS	50.64	210.3177	0.24	0.81
R-squared	0.98	<b>F-statistic</b>		318.40
Adjusted R <sup>2</sup>	0.97	<b>Prob (F-statistic)</b>		0.00

As regards, liabilities to be paid by household head are significant cause of lower savings (LHS, MHS, HHS) [Rehman *et al.* (2010)].

Household savings drop off by Rs. 0.39, 1.07 and 1.11 for respectively lower, middle and higher income groups. It may have simple explanations that households have to pay their past borrowings from their total income. So after paying that amount their saving level will obviously decline. But in our analysis, decline in saving is more for higher income group than other groups because higher income groups may have higher earnings ultimately they have to pay back more debts. Similarly middle income group having higher income than lower income group may have to pay back more debt than lower income group. As expected marital status of all the income groups are estimated to have inverse affect on savings (LHS, MHS, HHS) [Rehman *et al.* (2010)]. Usually it is seen that married households are less capable to save more amount as they were saving before marriage. Possible reason may be the fulfillment of responsibilities of the spouse. After marriage, there will be rise in family expenditure and they have to do more struggle for family survival. Results for lower income groups are statistically insignificant but there is significant coefficient for middle income and higher income group indicating that savings of middle and higher income married households decline by Rs. 3394 and 17740 per month on the average.

Looking upon spouse participation is indirectly influencing savings of lower income group households in our study area having statistically insignificant impact. Normally it is noticed that in lower income group there is large female to male ratio as also seen in our study. Normally females of lower income group are also not allowed to work with men in the society due to conservative thoughts of household heads. If spouses of this category are working they are not paid sufficient amount of money required for family survival. Their husbands are not willing to work when their wives are working and they are dependent on earning of wives. If spouses work outside the home, their kids suffer a lot with poor health and lack of education. Due to all these reasons spouses of lower income group inversely contribute to their saving levels but of course they contribute to family budget. Quite the opposite, spouse participation of middle and higher income groups are pleasantly playing their role in significant family support [Rehman *et al.* (2010)]. Higher income level encourages members of household to live healthy and peaceful life. In our study spouse participation of higher income group plays significant role. It suggests that actively participating spouse may enable households to save Rs. 10073 more per month for better life.

Region of residence gives positive influence on saving of all income groups with insignificant coefficient value [Rehman *et al.* (2010)]. In urban areas, more economic activities are found, members of all income groups can find good and relevant jobs in urban areas than in rural. In urban areas, discrimination of gender does not have much importance, females are also given same status in society as males are getting that's why households living in urban areas are experienced to earn more than rural people. Total income of households has causal relationship with savings. Income is always positively affecting savings of all income groups. In our study, income is found to be statistically significantly affecting household savings. We have calculated Marginal propensity to save i.e. 0.64 for higher income group, similarly it is 0.53 and 0.43 for middle and lower income group. Strange results for total dependency rate are found in our study. Positive relationship among total dependency rate and saving are observed for middle and lower income group with significant coefficient [Rehman *et al.* (2010)]. Underlying principle is that they are responsible enough that they know their future needs. They work hard to fulfill the needs of their children and family. They are well aware about children's education, marriages before time so they save for precautionary purposes. An increase in total dependency rate by one point is bound to lead more savings by Rs. 2415 of lower income group and Rs. 4644 of middle income group. For higher income group, total dependency rate is found negatively correlated to savings suggesting that due to more dependents in family, their savings decline. Khan *et al.* (1992), Burney and Khan (1992), Ahmad and Asghar (2004) have also drawn the same conclusions. But results are not much impressive due to insignificant value.

Findings related to holdings of assets (size of land holdings, value of house and number of live stock) are dramatically changed among various income groups. Size of land holdings is found as reducing factor for savings in case of lower and middle income group. The possible reason is just to have few acres of land. Due to higher cultivation expenditures and agricultural uncertainties, people having little land (0.38 acres of lower and 4.16 acres of middle income group) are not able to save much amount of money. But in case of higher income group, size of land holdings is conquered to have significant and positive effect on household savings [Rehman *et al.* (2010)]. Coefficient for lower income group is not significant but it is for middle income group statistically significant at 5 percent level. Savings of middle income group is reduced by Rs. 211 and that is of higher income group is increased by Rs. 718 on the average per month due to one more acre of land. For all income groups, value of house is indirectly affecting savings indicating that households have to do more expenditure for the maintenance of house [Rehman *et al.* (2010)]. House having more value of Rs. 10000 need more of Rs. 1 and Rs. 5 from household savings for maintenance. Number of live stock has turned out to be insignificant for all income groups.

Due to having one animal per household in lower income group, it leads to lower savings. Quite opposite, savings of middle and higher income group is directly affected by number of live stocks [Rehman *et al.* (2010)]. R-squared is calculated as 0.77, 0.76 and 0.98 suggesting that 77, 76 and 98 percent variations in household savings of lower, middle and higher income group respectively are explained by the variation in all explanatory variables. F-statistic having probability value 0.00 certifies that overall saving models are reliable and statistically significant.

### **V. Concluding Remarks and Policy Implications**

Savings from household sector is as important as from business sector. The present study is based on cross sectional data of Multan district which is collected by using stratified random sampling technique. Authors collected data about 293 respondents among them 88, 97 and 107 households are belonging to lower, middle and higher income group respectively. Per capita income method is employed to discriminate among various income groups. Savings of lower income group is statistically increased due to total dependency rate and income but inversely affected by education of household head, children's educational expenditure, family size, liabilities to be paid by household head, and value of house. Age, age square, female to male ratio, marital status, spouse participation, region of residence, size of land holdings and number of live stocks insignificantly affect saving levels. Marginal propensity to save is 0.43 for lower income group.

Factors determining savings of middle income groups are also found in current study. Saving is positively associated with total dependency rate and total income of household. There is strong inverse correlation of children's educational expenditure, liabilities to be paid by household head, marital status, size of land holdings and value of house with savings. The study found insignificant factors as age, age squared, education of household head, female to male ratio, family size, spouse participation, region of residence and number of live stocks. Higher value of marginal propensity to save is discovered as 0.53 as compared to lower income group. Study concludes the existence of life cycle hypothesis in higher income group. Savings are positively influenced by age of household head, spouse participation, total income of household and size of land holdings. Household savings decreased due to age square, children's educational expenditures, liabilities to be paid and marital status. The study found education of household head, female to male ratio, family size, region of residence, total dependency rate, value of house and number of live stocks are insignificant variables. Recorded value of marginal propensity to save is 0.64.

On the basis of results, it is recommended that government should provide free education, healthy work environment to female, rebate on agriculturist products and subsidies for live stock dairy farms. Industries should be developed in rural areas as cheaper labor resources are available. These old age benefits should also be given to each and every person having age more than 60 years. These steps may be helpful in raising the standard of living of poor and middle class of the society.

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