Pakistan Economic Review
6:2 (Winter 2023), PP. 1-26

Factors Influencing Household Saving Behaviour Across Urban and Rural Households in Pakistan

Umer Khalid[1]

Abstract

This paper examines the differential patterns of household saving behavior across urban and rural households in Pakistan, by using data from the Household Integrated Economic Surveys (HIES) 2018-19. It extends the earlier body of empirical research in this area in the context of Pakistan by employing additional explanatory variables, which includes household wealth, domestic and foreign remittances. The findings show household income as the major variable influencing saving behavior of both urban and rural households, with a higher marginal propensity to save observed for rural households. For both urban and rural households, there is an inverse relationship between savings and the dependency ratio, while there exists a U-shaped relationship between age of household head and household saving rate, contradicting the life cycle hypothesis. Household wealth is negatively related with savings in rural areas, while it does not affect savings of urban households. Household savings increase with the receipt of domestic remittances for both urban and rural households, while foreign remittances are inversely related with the saving rate of urban households.

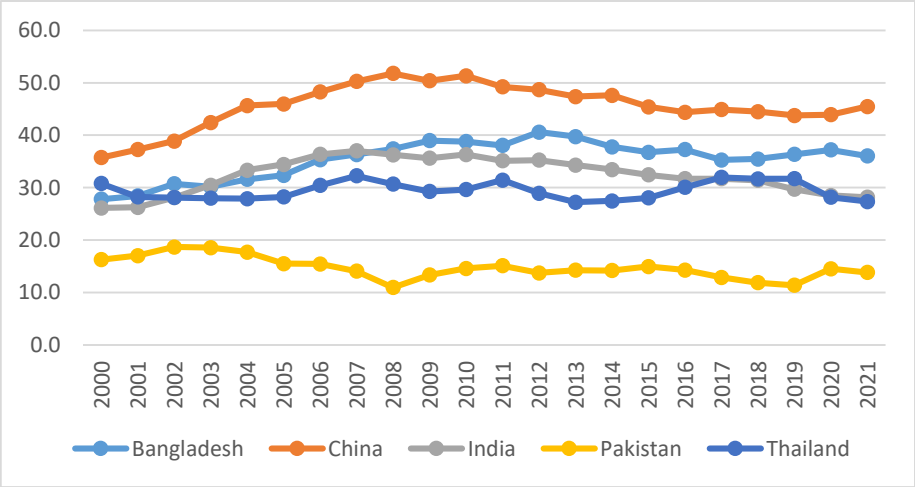
Keywords: Household saving, income, Pakistan
JEL Codes: D14, C30, E21

[1] Author is Director Research at PRIDE Consulting, Islamabad.
Email of author: umerkhalid@hotmail.com

1. Introduction

According to the growth literature, the level of investment is the primary factor determining the economic growth trajectory of an economy. Investment in turn is dependent upon the mobilization of savings, with many developing countries like Pakistan dependent upon foreign savings to finance their investment needs due to low domestic rates of saving. Countries dependent upon inflows of foreign savings to fund investment are vulnerable to external account imbalances usually characterized by large current account deficits which tend to make economic growth unsustainable over the long term (Vincelette, 2006). In case of Pakistan, the national saving rate has been historically low in comparison to peer countries and has witnessed a declining trend since the new millennium (Figure 1). Pakistan's national saving rate as a share of GDP has been in the range of 11-18 percent over the last 20 years, which is much lower in comparison to China (32-52 percent), India (26-37 percent) and even Bangladesh (27-41 percent).

Figure 1: Trends in saving rate in Pakistan and peer countries (% of GDP)



Source: World Development Indicators, World Bank

The national savings consist of private and public savings. Public savings in Pakistan have persistently been in the negative driven by large fiscal deficits. Private savings are made up of household and corporate savings, with the latter accounting for just 10-15 percent of private savings over the last 20 years (Akram, 2021). Therefore, household savings constitute the major share of not just private savings (85 – 90 percent), but also the overall national savings, as private savings account for over 90 percent of the national savings (Khan et al., 2016). Moreover, in

developing economies like Pakistan that are characterized by credit market imperfections, savings are considered an important determinant of household welfare, as they are utilized for hedging against unexpected emergencies, buying home, acquiring assets and making investments in human capital (such as education and health) as well as providing cushion for retirement (Aktas et al., 2010). In view of both the above macro and micro-economic considerations, an in-depth examination of factors affecting household saving behavior is vital for developing a better comprehension of how various household characteristics influence the level of savings in Pakistan. In addition, as the large body of empirical evidence on household saving behavior across the developing world has shown different motivations for saving by urban and rural households, it would be insightful to study separately the patterns of household savings across urban and rural areas of Pakistan.

The household saving behavior in Pakistan has been examined by a number of studies, which include Khan and Nasir (1999), Khan et al., (2016), Akram (2021) and Aslam et al., (2022). The present study examines the differential patterns of household savings across urban and rural households in Pakistan. The present study extends analyses of these earlier studies in a number of ways. First of all, the study makes use of the latest available nationally representative household survey dataset – the Household Income and Expenditure Survey for 2018-19, to get latest insights into household saving decision making. Secondly, the study focusses exclusively on exploring the heterogeneity in saving behavior across urban and rural households, as most of the earlier studies have mainly examined saving patterns at the national level. The present study also accounts for the effect of household wealth on saving, employing separate measures of household wealth relevant to households in the urban and rural areas. Moreover, the study uses additional variables in the analysis of saving behaviour not examined in earlier studies carried out for Pakistan, which includes the effect of domestic and foreign remittances.

The study is organized in six sections. Following the introductory section, Section II presents a review of the relevant literature, outlining the research gaps which the study seeks to address. The data source employed for the analysis is discussed in Section III, which also presents basic descriptive statistics of the dataset used. Section IV outlines the methodological framework used for analytical purpose, while findings of the empirical analysis are presented in Section V. Section VI concludes the paper by highlighting main findings and policy recommendations emerging from the analysis.

1. Literature Review

A large body of empirical research has sought to examine the determinants of household saving across both the developed as well as the developing economies, using data from nationally representative household survey datasets. The theoretical foundations of such analyses have been provided by the theories on consumption and saving, including the absolute income hypothesis put forward by Keynes (1936), the relative income hypothesis suggested by Duesenberry (1949), the life cycle hypothesis of Modigliani and Brumberg (1954) along with the permanent income hypothesis formulated by Friedman (1957). All these theoretical frameworks emphasize upon the primary importance of household income in determining the saving behaviour at the household level.

In addition to income, savings can be driven by life-cycle events, ability to smooth consumption in the face of unpredictable income flows as well as the need for accumulating resources for making large purchases. However, the motivation for saving, can differ significantly across households residing in the urban and rural areas of a developing economy, due to the heterogeneous nature of income and consumption in the two sectors. The majority of urban residents are paid workers/ labourers with a fixed income and retirement age, while incomes of rural households, engaged mainly in farming activities are more volatile and less stable due to weather uncertainties, market risks and management of production. Under these circumstances, rural households can be expected to have stronger incentives to accumulate savings for more effectively smoothing consumption, as aptly summed by Duesenberry (1949, "farm families have a higher propensity to save than city families".

One of the earlier studies on household saving behavior for Pakistan includes Burney and Khan (1992), who used data from the Household Income and Expenditure Survey (HIES) 1984-85. They estimate separate saving functions for rural and urban households using the ordinary least squares techniques (OLS). Their findings indicate that rural households have a higher marginal propensity to save than urban households. The dependency ratio and education of household head are negatively associated with savings, while age is positively related with saving, but savings start declining after a certain age threshold.

Khan and Nasir (1999) carry out a more detailed examination of household saving using HIES 1993-1994 data. Their findings are similar to those of the earlier study by Khan and Burney (1992), with respect to household income, dependency ratio and education. They observe that the average and marginal savings of rural households is higher than that of urban households. In

addition, they find that households with heads working in agriculture sector save more compared to those employed in the construction sector.

Ahmad and Asghar (2004) included a measure of household wealth as one of the explanatory variables in their analysis of savings of households in urban and rural areas, using data from Pakistan Integrated Household Survey 1998-99. Their results showed income to be the most important factor determining household saving, with savings positively related with level of income. Wealth proxied by ownership of house was observed to be negatively related to savings of both rural and urban households. The other household characteristics seen to influence household saving, for both urban and rural households included dependency ratio and age of household head, whose coefficients had the expected signs. In case of education of household head, savings were seen to be negatively related with the level of education in urban areas, while in rural areas this relationship was reversed, i.e., household savings increased proportionately with the household head's level of education.

Rehman et al., (2010 and 2011) examine saving behaviuor of households in Multan district using a sample of 293 households from which data was collected during 2009-2010. Their results show that household saving is positively related with household income, dependency ratio, spouse's participation in economic activity, and wealth. The saving level of households, on the other hand is inversely related with education level of head of household, educational expenditures, family size, marital status, and value of house.

Khan et al., (2016) analyzed determinates of household savings in Pakistan over a ten-year period utilizing data from the Pakistan Integrated Household Survey 2001-02 and Pakistan Social and Living Standards Measurement Survey 2011-12. Their analysis indicated that the average household saving rate in the country increased between 2002-11 for both urban and rural households. Other findings consistent with earlier studies included the negative association of dependency ratio and education level with saving and the positive relationship between household income and savings. Households with a male head and those living in a nuclear family setup were seen to have higher savings.

Akram (2021) examined socio-economic characteristics influencing savings in urban and rural households in Pakistan by employing data from the Household Integrated Income and Consumption Survey 2015–2016. The study found that savings were positively associated with household income, while this positive relationship was observed with respect to education and

female labour force participation for urban households only. Savings were seen to be higher for households with a nuclear family structure, owning a house, receiving foreign remittances and working in agriculture. On the other hand, savings were inversely related with dependency ratio and the age of the household head in case of urban households. Wealth as proxied by value of gold and land was seen not to have a significant role in affecting savings of both rural and urban households.

Aslam et al., (2022) investigated the saving behaviour of urban and rural households in Pakistan, using data from the HIES 2018-19. Their results indicate that rural households have a higher saving rate in comparison to urban households. In line with the existing body of empirical research, their findings showed a strong and positive relationship between household income and savings. Other household demographic characteristics like age of household head, dependency ratio, and family size were seen to have a negative relationship with household savings. Furthermore, the results with respect to household occupational staus revealed that households engaged in mixed crop farming and animal production have higher saving in urban areas compared to their counterparts residing in rural areas of Pakistan

In addition to Pakistan, empirical research on determinants of household savings has also been carried out across other developing countries. Bersales (2006) analyzed patterns of household saving in the Philippines and found that a higher share of younger and elderly dependents in the household lowers saving rate. Other significant drivers of household savings included level of income, education, and percentage of income from abroad; all of which displayed a positive association with the household saving rate.

Abdelkhalek et al., (2010) conducted a micro econometric analysis of household saving patterns in urban and rural areas of Morocco to examine the role played by different household characteristics in determining savings. Their findings reveal that income, household size and the number of workers in the household are significant drivers of household saving. However, the effect of household size on savings was observed to be only significant in the urban areas. Using the interaction term between gender and income, the study finds that women save more than men. Household wealth measured as ownership of lands or other real estate was seen to have no significant influence on saving behavior in rural areas in comparison to urban areas.

Newman et al., (2008) analyzed household savings in rural Vietnam by using Rural Household Survey of 2006. They found that household income was positively related with

household saving, while household size was inversely related with savings. Household wealth was seen to positively influence savings, with wealthier households having higher savings. Households dependent on financial support from children had a lower level of savings. Households who reported suffering from income shock an year prior to the survey were seen to have a higher propensity to save. This finding pointed towards the importance of precautionary motives for saving among the rural households, which are dependent on agriculture as main source of income and lack any insurance mechanism against agriculture-related risks. Another study on determinants of household saving for Vietnam – Minh et al., (2013) finds that the age structure of the household influences savings, in addition to other socio-economic factors, such as household income, household size, and number of dependent members.

Aktas et al., (2010) investigate the determinants of household savings in Turkey using data from multiple rounds of the Household Budget Survey over the period 2002-08. The study also employs measures of household wealth as an important explanatory variable to explain saving behavior, where wealth is represented by home ownership, possession of additional property and ownership of car. An important finding of the study is that saving rates increase with the share of working women in the household. Education and saving level are seen to be positively related, while households with more children per working member are observed to save less. The savings of households with a higher share of pension payments in income are lower.

The above review of the literature on determinants of household saving shows that a number of studies have been carried out for Pakistan. However, these studies are based on older datasets and may longer have policy relevance. In addition, the role of wealth in affecting household saving behvaiour has not been studied well in Pakistan's context, especially its likely heterogeneous effect across urban and rural households. Moreover, the broader literature on household saving behavior for developing countries has also sought to examine the role of remittances in determining the level of household savings. Such an analysis seems to be missing in the context of Pakistan, which has a large diaspora population working in other countries and sending foreign remittances back to their families residing in the country. The present study seeks to fill these gaps in the existing literature by using the latest available round of HIES dataset for 2018-19 and employing measures of household wealth and remittances (both domestic and foreign).

2. Data Source

The paper makes use of micro data tapes of the Household Integrated Economic Surveys (HIES) 2018-19 conducted by the Pakistan Bureau of Statistics. The HIES 2018-19 is a nationally representative household survey comprising a sample of 24,809 households and 159,949 individuals. Out of this sample, data on 84 observations was dropped from analysis as data on total consumption and household income values were missing, while 28 observations were dropped for households who reported that the head of household was employed in the armed forces. This gives a total sample of 24,725 households, out of which 8,853 (35.8 percent) are urban households, while 15,872 (64.19 percent) are rural households.

Household savings in this study are calculated using the residual approach, that is, by subtracting household consumption expenditure from household income. Two definitions of saving, as widely utilized in the existing empirical literature, have been calculated to get estimates of household saving rates, as shown below (Khan and Nasir, 1999, Khan et al., 2016 and Akram, 2021):

S1: Household income less household consumption expenditure

S2: Household income less household consumption expenditure, excluding expenditures on durables and education

For computation of savings, the gross income has been used as a measure of household income, as reported in the survey. The gross income includes earnt labour income along with other receipts, like business income, amount received from transfers, rent, interest, farm production, crops/ livestock, etc.

The household savings patterns according to the above two definitions, for urban and rural areas, are presented in Table 1, for the year under review, i.e., 2018-19. The figures show that household monthly income was much higher for urban households of the country in comparison to rural households (Rs. 51,077 *vs.* Rs. 33,917). Under the S1 definition, the saving rate of rural households is seen to be higher than their urban counterparts (9.3 percent vs. 8.8 percent). However, when household expenditures on durables and education are excluded from the computation of saving rates for the S2 definition, the saving rates of urban households become higher than rural households (14.2 percent *vs.* 12.2 percent), indicating the higher investment in productive assets by urban households. The analysis further indicates that a high share of

households in both urban and rural areas have zero or negative saving rates, under both the saving definitions employed.

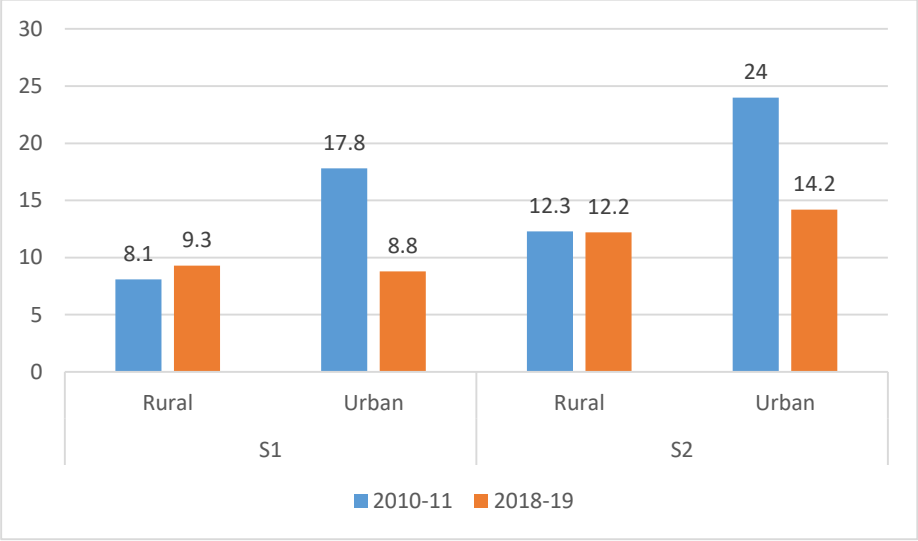
Table 1: Household savings in urban and rural Pakistan

	S1		S2	
	Rural	Urban	Rural	Urban
Average Monthly Income (Rs.)	33,917	51,077	33,917	51,077
Negative/ Zero Savers (%)	54.4	55.8	49.8	43.7
Average savings (Rs.)	3,166	4,500	4,121	7,270
Average Propensity to Save (%)	9.3	8.8	12.2	14.2

Source: HIES 2018-19

The comparison of these saving rates with estimates from the earlier study by Khan et al., (2016) based on 2011-12 data shows that saving rates under the basic definition have increased slightly for rural households but have declined significantly for urban households, while in case of the broader definition (S2), they have stayed constant for rural households and witnessed a fall for urban households (Figure 2).

Figure 2: Trends in average propensity to save of rural & urban households (%)



Source: HIES 2018-18 and Khan et al., (2016)

3. Methodology

In order to identify the important determinants of household saving, two saving functions have been estimated separately for the rural and urban areas of Pakistan, using the OLS technique. The estimated saving functions are represented below:

$$S_U = a_U + B_U Y_U + C_U Z_{U+} + e \quad (1)$$

$$S_R = a_R + B_R Y_R + C_R Z_R + e \quad (2)$$

Where

S_U = Saving rate of urban households

S_R = Saving rate of rual households

Y_U = Income of urban households

Y_R = Income of rural households

Z_U = Vector of socio-economic characteristics of urban households

Z_R = Vector of socio-economic characteristics of rural households

e = Error term

Variables and Theoretical Considerations

The study employs a variety of household socio-economic variables to examine household saving behavior for urban and rural households in the country, as explored in the empirical literature in this domain. The S2 definition of household saving has been employed as the dependent variable in this analysis, which shows the difference between household income and expenditures, excluding expenditures made on durable goods and education. The factors, whose impact on saving is studied includes income, wealth, dependency ratio, family type, receipt of domestic and foreign remittances, employment status, education level, age and gender. The list of these variables is presented in Table 2, while the following section presents an overview of the theoretical basis for inclusion of these variables along with the expected direction of the relationship with household saving.

Table 2: List of Variables

Variables	Description
Household Level Characteristics	
Saving Rate	Household income less household consumption expenditure (excluding expenditures on education and durables)
Ly income	Log of household monthly income in Rupees
Dependency ratio	(household size – no. of earners in household)/household size
Urban	Urban areas = 1, 0 otherwise (rural – reference category)
Family	Nuclear family (head, spouse & unmarried children) =1, 0 otherwise (joint family – reference)
Secondary earners	No. of additional earners in the household
Remittances	
Domestic Remit	Remittance received by household during last 1 year within Pakistan=1, 0 otherwise
Foreign Remit	Remittance received by household during last 1 year from outside Pakistan=1, 0 otherwise
Wealth Status of Household	
Agri Land × rural areas	Household members own or had owned agriculture land during the last 1 year × rural areas of Pakistan =1 (interaction term), 0 otherwise
Owned house × urban areas	Household owner-occupied (not self-hired) and households owner occupied (self-hired) × urban areas of Pakistan =1, 0 otherwise
Household Head Characteristics	
Head age	Age of the head of household (years)
Head age square	Age of the head of household square
Head gender	Male head of household =1, 0 otherwise (reference category - female,)

Educational level	
No formal education	No formal education =1, 0 otherwise
Below primary	Below primary (classes 1 to 4), play group, nursery =1, 0 otherwise
Primary but below matric	Primary pass (above class 5 and enroll in classes up to 9th class) but below matric =1, 0 otherwise
Matric but below intermediate	Matric but below intermediate include (Class 10 /O-Level, Polytechnic diploma/Diploma, F.A/F.Sc/I.Com/ICS/A-Level =1, 0 otherwise
Professional degree	Professional degree include (Medicine(MBBS/BDS/Pharm-D etc), Degree in Agriculture, Degree in Law, Degree in Engineering, Degree in Accountancy, M. Phil, PhD =1, 0 otherwise
Degree	B.A/B.Sc./B.Com/etc (2 year program), B.Ed/M.Ed, B.A/B.SC/BS/BE),etc (4 year program), M.A/M.S.C, etc (2 year program), MS=1, 0 otherwise (degree - reference category)
Occupational Status	
Legislators and Professionals	Legislators, senior managers and professionals = 1, 0 otherwise
Clerk and Service Workers	Clerk, service & sales workers =1, 0 otherwise
Craft and Plant Workers	Craft & plant workers=1, 0 otherwise
Skill agriculture workers	Skilled agriculture worker =1, 0 otherwise
Elementary Occupation	Elementary Occupation=1, 0 otherwise
Inactive	Individuals not economically active, neither working nor looking for work=1, 0 otherwise (reference category - technicians)
Employment Status	
Employer/ self-employed	Employer employing below 10 and greater than 10 employees and self-employed worker =1, 0 otherwise
Paid Employee	Paid employees = 1, 0 otherwise (reference category - unpaid family workers and inactive)

Income

The absolute income hypothesis and permanent income hypothesis stipulate that household income is the primary determinant of saving and is positively related with income. The existing

body of empirical evidence on household saving behavior has identified household income as the main factor infuencingsaving at the household level. Theoretically, a positive relationship between income and saving rate is expected, as households with higher income levels have higher savings.

Dependency Ratio

The dependency ratio is considered as an important determinant of household saving under the life cycle hypothesis,. The dependency ratio has generally been defined in the empirical literature to include the share of the children (aged upto 14 years) and the proportion of the elderly aged 65 and above, in the household. The pioneering study by Leff (1969) found a negative relationship between dependency ratio and household saving for a cross section of countries.

Later work has highlighted that this definition of dependency may not be very suitable, particularly in the context of a developing economy like Pakistan. When dependency ratio is defined this way, it is indirectly assumed that children and elderly while adding to household consumption, have no economic contribution towards their respective households. This assumption seems quite strong in case of developing countries, where the major share of the population resides in rural areas and where children at times supplement the household income by engaging in economic activities and where the elderly also continue working well into their older age due to lack of any social security or pension mechanisms. In order to more effectively measure dependency ratio, the earning status of all household members is explicitly taken into consideration rather than simply looking at the age structure of the household member. The present study uses this definition of dependency ratio as employed by earlier studies in Pakistan's context (Khan and Nasir, 1999, Ahmad and Asghar, 2004 and Khan, et. al , 2016). Accordingly, dependency ratio is defined below as:

$$DR = (HS - NE) / HS$$

Where DR is dependency ratio, HS denotes household size, while NE shows number of earning household members. When defined this way, the dependency ratio is expected to be inversely related with household saving, as shown by earlier studies in Pakistan's context.

Wealth of Household

Some of the empirical research reviewed above has also used household wealth as an important variable influencing household saving behavior. However, constructing a measure of

household wealth remains challenging using household survey data, especially as the measures of wealth can differ across rural and urban households This paper uses different measures of wealth for households in rural and urban areas of Pakistan. For rural households, an interactive term for rural households owning agricultural land has been taken as a wealth measure, while for urban households an interaction term showing house owned by urban households is used as a proxy of wealth.

Family Type

In case of developing countries, the family type has also been considered to affect the saving decision-making process. A large share of the population across the developing world lives in an extended/ joint family system, where the dynamics of consumption and saving are likely to be quite different from those living in a nuclear family structure more prevalent in developed countries. This difference can stem from the ability of households living in joint family systems to pool resources and enjoy economies of scale in production and consumption.

Education

The level of education has been postulated to be an important factor influencing household saving. However, the effect of education on savings can be ambiguous, as one hand more educated households can be expected to have comparatively higher consumption expenditures; while, on the other side, educated individuals have a likelihood of having higher earnings. It is, therefore, challenging to develop a corresponding composite measure of household education level (Burney and Khan, 1992). In this case, the education level of the head of household has generally been used to proxy education of the household, as household head usually makes decisions relating to consumption and saving of the household. In addition, the education level of the household head is also a good predictor of the earning level and pattern of expenditure and consequently savings. The present study measures the education level of household head on basis of six distinct categories as applied in Khan et. al (2016), starting from heads with no formal education and going all the way upto to household heads with degree level of education.

Age of Household Head

According to the life-cycle hypothesis formulated by Modigliani and Brumberg (1954), the lifecycle stage of a household influences its saving level, with savings having a positive association with age of household head upto a certain level, after which savings start declining as the head

becomes economically inactive at older ages. This paper includes age of head of household and its square term to model the association between age and savings.

Employment Status

The difference in household saving rates in developing countries can also be accounted for by the employment status of the household head. In this regard, Kelley and Williamson (1968) and Ramanathan (1969) find that self-employed individuals have higher savings in Indonesia and India, respectively. In case of Pakistan, some of the earlier studies (Burney and Khan, 1992, Khan and Nasir, 1999 Ahmad and Asghar, 2004) have found a positive relationship between employment of household head and saving. However, the employment status variable in these studies has been constructed simply as a dummy variable that takes the value of one if head is employed and zero, otherwise. The present study uses a more comprehensive definition of employment status, as employed by Khan et. al. (2016) where three status categories have been used, which include employer/ self-employed, paid employee and unpaid family helpers and inactive.

Gender of Household Head

The gender of the household head is also an important characteristic influencing household consumption and saving decisions. The existing research highlights that male headed households are generally observed to save less than female headed households, when income and other household characteristics are controlled for. The higher savings observed for female headed households can be attributed to a number of factors, which includes relatively women's relatively lower retirement age (Warren et al., 2001), lower stability in income flows (Fisher, 2010) and greater responsibility for child bearing and care (Abdelkhalek et al., 2010). In this study, the gender of household head has been measured as a dummy variable that takes the of one for a male head, and zero otherwise.

Receipt of remittances

Migrant households where one or more family member is working outside of their original area of residence, either within the country or outside the country have been shown to have different consumption patterns (Khan and Khalid, 2010). For such households, domestic and/ or foreign remittances sent by working members constitute a large share of overall household income. The present study captures the effect of migration on household saving by including two dummy

variables, one for household receiving domestic remittances and the other for households getting foreign remittances.

4. Results

The main findings of the empirical analysis are presented and discussed in this section. First, the summary statistics of the variables used are discussed briefly. The main findings from the estimation of the OLS models are then presented and discussed.

***Summary* statistics**

The summary statistics of the variables used in the analysis are given in Table 3, for the sample of urban and rural households in the dataset. The last column of Table 3 shows the results of the two-sample t-test which is applied to test for the differences in means characteristics of urban and rural households. The mean proportion of urban and rural households is seen to be statistically different in case of all variables, as shown by the high values of the t-statistics.

The mean saving rate is seen to be positive for the sample of urban households at 1.4 percent, while this average is negative 3.1 percent for rural households. As expected, the log of monthly household income is higher for the sample of urban households in comparison to rural households. On the other hand, the dependency ratio is higher in rural areas compared to urban areas (6.29 vs. 6). The share of families who are nuclear in nature. i.e. they consist of parents and unmarried children is slightly higher in urban areas in comparison to rural areas (60 percent vs 58 percent).

The share of secondary earners is higher across the sample of urban households, where 77 percent of the households have a secondary earner compared to 65 percent of their rural counterparts. An importance statistic relates to the share of households receiving both domestic and foreign remittances. In this regard, a higher share of rural households is observed to be recipients of both domestic (13 percent vs. 6.5 percent) and foreign remittances (7.3 percent vs. 6.4 percent), indicating that a higher share of rural inhabitants migrant for economic purposes. The distribution of wealth across the sample of rural households seems to be highly skewed, as only 10 percent of households report owning agricultural land. In comparison, over 72 percent of urban households indicate owning their house

With respect to household head characteristics, it is seen that the average age of household head is slightly higher in urban households in comparison to rural households (46.3 years vs. 45.6 years). The share of male headed households is slightly higher in urban areas as compared to rural

areas, with the overwhelming share of households being headed by males in both sectors. The analysis of educational attainment indicates much lower education outcomes for rural household heads compared to their urban counterparts. The share of heads with no formal education and education below primary level is much higher in rural areas (55.6 percent) compared to urban households (34.3 percent). For successively higher levels of education, the share of rural household heads is lower than the corresponding share of urban heads, with this gap highest at the matric but below intermediate level (15.3 percent vs. 26.3 percent) and for degree holders (4 percent vs. 11 percent).

The analysis by occupational groups indicates a higher share of household heads in the urban sample are economically inactive compared to their rural counterparts (20.2 percent vs. 17.4 percent) At the top end of the occupational spectrum, a higher share of urban heads are working in white collar jobs in the category of legislators and professionals as compared to rural heads (9.5 percent vs. 4.4 percent). Similarly, a higher share of urban household heads are engaged in blue collar occupational categories of clerk and service workers and craft and plant workers. On the other hand, a higher share of rural heads is working as skilled agricultural workers and are involved in elementary occupations. The analysis of employment status of head of household reveals that a higher share of urban heads are working as paid employees, while a relatively higher share of heads in rural areas are employers and self-employed.

Table 3: Summary statistics

Variables	Urban Areas		Rural Areas		t-statistics
	Mean	Std. Deviation	Mean	Std. Deviation	
Household Characteristics					
Saving Rate	0.014	0.640	-0.031	0.887	-4.194
Ly income	10.592	0.647	10.223	0.618	-44.195
Dependency ratio	5.999	3.206	6.291	3.298	6.758
Family	0.60	0.49	0.58	0.49	-2.724
Secondary earners	0.767	1.054	0.645	0.969	-9.183
Remittances					
Domestic Remit	0.065	0.247	0.130	0.337	15.989
Foreign Remit	0.064	0.244	0.073	0.260	2.656

Wealth Status of Household					
Agri Land ✕ rural areas	-		0.096	0.295	-
Own house ✕ urban areas	0.722	0.448	-		-
Household Head Characteristics					
Head age	46.339	13.022	45.562	13.915	-4.306
Head age square	2316.811	1279.853	2269.476	1364.532	-2.673
Head gender (Male)	0.918	0.274	0.898	0.302	-5.177
Educational level					
No formal education	0.305	0.461	0.508	0.500	31.386
Illiterate & below primary	0.038	0.191	0.048	0.213	3.530
Primary but below matric	0.261	0.439	0.248	0.432	-2.227
Matric but below intermediate	0.263	0.440	0.153	0.360	-21.155
Professional degree	0.020	0.141	0.004	0.059	-13.073
Degree	0.112	0.315	0.039	0.194	-22.430
Occupational Groups					
Legislators & Professionals	0.095	0.293	0.044	0.205	-15.834
Clerk & Service Workers	0.254	0.435	0.122	0.327	-26.825
Craft & Plant Workers	0.231	0.422	0.140	0.347	-18.420
Skill agriculture workers	0.039	0.194	0.277	0.448	47.626
Elementary Occupation	0.131	0.337	0.223	0.417	17.878
Inactive	0.202	0.401	0.174	0.379	-5.359
Technicians	0.046	0.209	0.017	0.128	-13.620
Employment Status					
Employer self employed	0.280	0.449	0.387	0.487	17.034
Paid Employee	0.518	0.500	0.434	0.496	-12.762
Unpaid Family Helpers	0.001	0.030	0.006	0.074	5.629
Number of observations	8,853		15,872		

Results

The results of the models (1) and (2) estimated for the urban and rural households, separately are given in Table 4. These models have been estimated using the S2 definition of

saving, while results using the narrower S1 definition (not shown) are similar in nature. The results from the savings model estimated for the urban households are shown in the first column of Table 4, while results of the model for the sample of rural household are presented in the second column. The coefficient of income is positive and highly significant at a higher level of significance (1 percent), across both urban and rural households, indicating income as the most important determinant of household saving. The marginal propensity to save is seen to be higher for rural households in comparison to urban households. The finding of both models with regards to income is in line with the *a priori* expectation and the findings of the large strand of empirical research on determinants of household saving. Moreover, the higher MPS of rural households is also aligned with findings of earlier studies for Pakistan.

The dependency ratio has a strong negative affect on household saving for both urban and rural households, with its coefficient being larger for rural households. This result is also consistent with the existing body of empirical research both for Pakistan as well as broadly for developing countries. The findings with respect to family type show that household saving rate is higher for nuclear families in both urban and rural areas, in comparison to the reference category of joint family structure. In addition, this effect of family type is seen to be greater for rural households, who have a higher coefficient compared to their urban counterparts. The higher savings of households with nuclear family stricture are supported by the previous studies of Khan et. al. (2016) and Akram (2021)

Table 4: Results of regression from rural and urban areas of Pakistan

Variables	Urban Areas (1)	Rural Areas (2)
Household Characteristics		
Ly income	0.527	0.837
	(0.013)***	(0.013)***
Dependency ratio	-0.029	-0.056
	(0.002)***	(0.002)***
Family	0.041	0.069
	(0.015)***	(0.015)***
Secondary earners	0.002	-0.011
	(0.007)	(0.008)
Remittances		

Domestic Remit	0.054	-0.010
	(0.027)**	(0.022)
Foreign Remit	-0.106	-0.183
	(0.028)***	(0.027)***
Wealth Status of Household		
Agri Land ✕ rural areas	-	-0.059
		(0.022)***
Owned house ✕ urban areas	-0.021	-
	(0.014)	
Household Head Characteristics		
Head age	-0.015	-0.019
	(0.003)***	(0.003)***
Head age square	0.0001	0.000
	(0.00003)***	(0.000)***
Head gender (Male)	-0.045	-0.065
	(0.028)	(0.029)**
Educational level		
No formal education	0.275	0.417
	(0.026)***	(0.038)***
Illiterate & below primary	0.263	0.395
	(0.039)***	(0.047)***
Primary but below matric	0.197	0.317
	(0.025)***	(0.039)***
Matric but below intermediate	0.117	0.209
	(0.024)***	(0.038)
Professional degree	-0.123	-0.081
	(0.048)***	(0.111)
Occupational Groups		
Legislators & Professionals	-0.043	-0.048
	(0.035)	(0.055)
Clerk & Service Workers	0.005	0.039
	(0.031)	(0.049)
Craft & Plant Workers	0.023	0.053
	(0.032)	(0.049)
Skill agriculture workers	-0.043	-0.020
	(0.044)	(0.050)
Elementary Occupation	0.092	0.164
	(0.035)***	(0.048)
Inactive	-0.060	0.103
	(0.209)	(0.099)

Employment Status		
Employer self employed	-0.071	0.019
	(0.207)	(0.087)
Paid Employee	0.017	0.111
	(0.207)	(0.089)
Constant	-5.111	-8.113
	(0.256)	(0.177)
R-squared	0.1767	0.2053
Adj R-squared	0.1745	0.2042
Number of Observation	8,853	15,872

Note: Figures in parentheses are standards errors

***Denote coefficient as statistically significant at 1 % level of significance

**Denote coefficient as statistically significant at 5 % level of significance

*Denote coefficient as statistically significant at 10 % level of significance

Coming to the effect of household wealth on saving, the results indicate that in urban areas, wealth (proxied by ownership of house) does not influence saving of urban households. However, in case of rural households, wealth exerts a negative impact on household savings. The coefficient of the interactive term of agricultural land and rural areas is observed to be negative and significant at 1% level of significance. These results with respect to wealth partially validate the earlier findings of Ahmad and Asghar (2004), who found a negative relationship between wealth and household savings for both urban and rural households in the country. On the other hand, Akram (2021) who used the ownership of gold or land as a measure of wealth did not find any statistically significant relationship between savings and wealth across both rural and urban households. The insignificant effect of wealth on savings of urban households may be attributed to the fact that wealth – a stock variable showing accumulated assets over the lifetime, is mainly utilized for smoothing consumption with expenditure from wealth being spread over the lifecycle.

Another newer insight into saving behaviour comes from role of domestic and foreign remittances. Our results show that urban households that receive domestic remittances from within the country have a higher saving rate. On the other hand, the effect of foreign remittances on savings of urban households is the opposite, their savings are significantly less than their counterparts that do not receive foreign remittances. In case of rural households, the effect of

remittances only appears to be significant in case of foreign remittances. Rural households receiving foreign remittances are also seen to have lower saving rates, like their urban counterparts. While no previous study has included domestic remittance as an explanatory variable, the findings of Akram (2021) with respect to the positive effect of foreign remittances are contrary to our findings. Our results would seem to suggest that foreign remittances are mainly used for financing consumption of durable items or invested in human capital development, as shown earlier by Khan and Khalid (2010).

Another important variable influencing household saving is the age of the head of the household. The negative sign for the coefficient of age and the positive sign of the age square, indicates that while saving declines with age of the household head, it tends to increase when age crosses a certain threshold. This result appears to be consistent with the earlier studies carried out for Pakistan, including Khan and Burney (1992), Khan and Nasir (1999), Ahmad & Asghar (2004) and Khan, et al., (2016). These findings, however, are not consistent with the life cycle hypothesis, which indicates that savings initially increase upto the middle ages and after crossing a threshold level (retirement age), they start falling. The violation of the life cycle hypothesis in case of Pakistan can be attributable to a number of factors, which primarily can include lack of access to capital markets to borrow for effectively smoothing consumption over the life cycle. With reference to the gender of the household head, the findings show that male-headed households have lower savings relative to female-headed households. However, this effect is statistically significant only in case of rural households. This finding contradicts the earlier finding by Ahmad and Asghar (2004) who find that male-headed households have higher savings compared to female-headed households.

The education of household head plays a major role in influencing household saving behaviour. The results for the varying levels of education of household head seem to confirm the influence of education on saving behaviour, although there exist differential impacts of education on saving of urban and rural households. With a reference category of ‘degree’ level of education, urban households are seen to have significantly higher saving rates for all other education categories except professional degree. The coefficient is highest for households with head having no formal education, and it falls progressively for each successively higher level of education. The results with regards to rural households show a similar pattern upto the educational attainment of between primary but below matric level, with the coefficients at each level being higher than the

corresponding coefficient for urban households. The findings with respect to educational attainment above matric appear to be insignificant. These findings are consistent with earlier studies for Pakistan, including Khan and Nasir (1999), Ahmed and Asghar (2004) for urban households and Khan et al., (2016). However, the results of Akram (2021) contradict the present and earlier studies and finds that savings increase with education level of household head for urban households, while results for rural households are insignificant. The progressively lower saving rates of more educated household head may be driven by the relatively higher spending of these households on education and human capital development and consequently lower savings.

The findings with respect to the occupational status of the household head do not show any significant results, across both urban and rural households. The only noteworthy result pertains to households with head working in elementary occupations in urban areas, whose saving is higher than the base category of technicians. Similarly, the analysis with regard to the employment effects across both urban and rural households does not show any significant results. The findings with regards to employment status are consistent with some of the earlier studies for Pakistan, including Khan and Nasir (1999) and Khan et al., (2016).

5. Conclusion and Policy Recommendations

The present study examined the major socio-economic characteristics affecting household saving in Pakistan, separately for the urban and rural areas of the country. The analysis is based on the latest round of nationally representative household survey dataset of Household Integrated Economic Survey 2018-19. For the descriptive analysis, the study employed two definitions of saving, relevant to Pakistan's context as used in earlier studies. The analysis indicates that saving rates under the basic definition were slightly higher for rural households in comparison to urban households (9.3 percent vs. 8.8 percent); while under the broader definition of saving that treats expenditures on durable items and education as investment, the saving rates are observed to be higher for urban households in comparison to rural households (14.2 percent vs. 12.2 percent).

Findings from the multivariate analysis are mostly in conformity with the existing theories of saving as well as earlier empirical evidence from Pakistan and other developing countries. The results show that household income appears to be the most important variable influencing saving behavior of both urban and rural households. Households with a higher income have a higher saving rate controlling for other household socio-economic characteristics, with rural households

having a higher marginal propensity to save compared to their urban counterparts. Similarly, as expected the dependency ratio is negatively associated with household savings for both urban and rural households – a finding consistent with the Life Cycle Hypothesis and the existing body of empirical literature.

Household wealth is negatively related with savings in rural areas, while it has no significant effect on savings for urban households. The findings with respect to age of head of household do not support the life cycle hypothesis, as there exists a U-shaped relationship between age and household saving rate. Households with a nuclear family structure have relatively higher saving rates in comparison to their counterparts living in joint families, a finding that is consistent with previous research. Receipt of domestic remittances is associated with higher savings across both urban and rural households, while foreign remittances are inversely related with saving rate of urban households. The education of head of household is seen to be inversely related with household saving, implying that the less educated tend to save more, a finding that is in line with earlier research for Pakistan.

In terms of policy implications, the findings of the study point towards the potential of mobilizing savings from the rural areas of the country, where the households have a higher marginal propensity to save. It is, therefore, suggested that the footprint of formal financial institutions, like banks should be expanded in rural areas, to encourage rural households to invest their saving in formal saving instruments and thereby increase financial intermediation and make funds available for investment purposes. Moreover, as our findings show that saving rates are highest in households where the heads have no formal education, there is a need for increasing financial literacy of households with lower levels of literacy to increase their awareness of the benefits of keeping savings in formal financial instruments. The major limitation of the current study can serve as an area for future research, which relates to an examination of the mechanisms and modes of saving adopted by both rural and urban households. Such an analysis can further enrich the understanding about the potential utilization of savings in the country and the extent to which they are invested in productive activities.

References

Abdelkhalek, T., Arestoff, F., Freitas, N.E.M.D. and Mage, S. (2010). A microeconometric analysis of household savings determinants in Morocco. *African Review of Money Finance and Banking*, 7-27.

Ahmad, M., & Asghar, T. (2004). Estimation of Saving Behaviour in Pakistan using Micro-Data. *Lahore Journal of Economics*, 9(2), 73-92.

Akram, N. (2021). Household's Saving Behaviour in Pakistan: A Micro-Data Analysis. *Studies in Microeconomics*, 11(2), 1–18.

Aktas, A.; Guner, D.; Gursel, S. & Uysal, G. (2010). *Structural Determinants of Household Savings in Turkey: 2003-2008*, Working Papers 007, Bahcesehir University, Betam,

Aslam, M.; Saleem, S.; Mukhtar, W. and Firdous, R. (2022). Assessing the Household Saving Behavior of Urban and Rural Households in Pakistan: Evidence from PSLM/HIES 2018-19. *Pakistan Journal of Humanities and Social Sciences*, 10(4), 1439–1446

Bersales, L.G.S. & Mapa, D. (2006). *Patterns and determinants of household saving in the Philippines*, Technical Report, USAID/Philippines OEDG.

Burney, N.A., and Khan, A.H. (1992). Socio-Economic Characteristics and Household Saving; An analysis of the Household Saving Behaviour in Pakistan. *The Pakistan Development Review*, 31(1), 31-48.

Duesenberry, J.S. (1949). *Income, Saving and the Theory of Consumer Behavior*. Cambridge, MA: Harvard University Press.

Fisher, P.J. (2010). Gender differences in personal saving behaviors. *Journal of Financial Counseling and Planning*, 21(1), 14-24.

Friedman, M. (1957). *A Theory of the Consumption Function*. Princeton, NJ: Princeton University Press.

Kelley, A. C & Williamson, J. W. (1968). Household Saving Behaviour in Developing Countries: The Indonesia Case. *Economic Development and Cultural Change*. 16 (3).

Keynes, J.M. (1936). *The General Theory of Employment, Interest and Money*, Macmillan, London.

Khan, A.H. & Khalid, U. (2010) Household Consumption Patterns in Pakistan: Evidence from Micro Data for the Year 2000-01. *NUST Journal of Business and Economics*. 3(1), 1-14

Khan, A.H.; Khalid, U. & Shahnaz, L. (2016). Determinants of Household Savings in Pakistan: Evidence from Micro Data. *Journal of Business & Economics*, 8(2), 171-201.

Khan, A. H. & Nasir, Z.M. (1999). *Household Savings in Pakistan* (Report 200 No. 167). Washington DC, USA: World Bank.

Leff, N.H.. (1969). Dependency Rates and Saving Rates. *American Economic Review*. 59(5).

Modigliani, F., and Brumberg, R. (1954). Utility Analysis and the Consumption Function: An Interpretation of Cross-Section Data. In K.K. Kurihara (Ed.), Post Keynesian Economics. New Brunswick, NJ: Rutgers University Press.

Minh, N.T., Nhat, N.H., Anh, T.T., Duc, P.M. & Son, L.T. (2013). Demographics and saving behavior of households in rural areas of Vietnam: an empirical analysis. *Journal of Economics and Development*, 15 (2), 5-18.

Newman, C., Tarp, F., Van den Broeck, K., Quang, C.T. & Khai, L.D. (2008), Household savings in Vietnam: insights from a 2006 rural household survey. *Vietnam Economic Management Review*, 3 (1), 34-40.

Ramanathan, R. (1969). An Econometric Exploration of Indian Saving Behaviour. *Journal of the American Statistical Association*, 64 (325), 90-101.

Rehman, H., Faridi, M.Z., and Bashir, F. (2010). Households Saving Behaviour in Pakistan. *Pakistan Journal of Social Sciences*, 30(1), 17-29.

Rehman, H., Chaudhary, I.S., Faridi, M.Z., & Bashir, F. (2011). Rural-Urban Saving Differentials in Pakistan: Investigation from Primary Data. *A Research Journal of South Asian Studies*, 26(1), 19-35.

Vincelette, G.A. (2006). *Determinants of Saving Behaviour in Pakistan.* Report No. SASPR-10, South Asia Region PREM Working Paper Series.

Warren, T., Rowlingson, K. & Whyley, C. (2001). Female finances: gender wage gaps and gender asset gaps. *Employment and Society*, 15 (3), 465-488.