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# Assessing the Household Saving Behavior of Urban and Rural Households in Pakistan: Evidence from PSLM/HIES 2018-19

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**ABSTRACT**

The purpose of this article is to examine household saving behavior in urban and rural areas of Pakistan. The study obtained microdata from the Household Integrated Economic Survey (HIES) 2018-19 and Pakistan Social Living Standards Measurements Survey (PSLM) 2018-19 conducted by the Pakistan Bureau of Statistics (PBS). A nationally representative sample of 5499 households is selected, 3155 from rural areas and 2344 from urban areas by using systematic sampling. The impact of socioeconomic and demographic characteristics on household saving behavior is investigated by applying a multiple linear regression model through Ordinary Least Squares (OLS) estimation method. A strong relationship between household saving behavior and socioeconomic and demographic characteristics is observed. Income has a positive impact on household saving, but age, dependency ratio, and family size have a negative effect. Furthermore, it is found that as the household income rises, their savings rise as well. Although, people residing in rural areas tend to save more amount contrary to urban households. However, saving rates of household with large families exhibited a decline in saving. Government should introduce new saving schemes in banks and reduce non-development expenditures for productive plans. It will provide motivation for domestic saving and an upsurge in employment opportunities.



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## 1. Introduction

A major factor in the long-term economic growth and financial stability of emerging nations is saving, as one of the important economic indicators. Household saving is a major contributor to economic growth since it serves as a source of investments in the economy (Ali & Marwat, 2021). To sustain their consumption in the face of adversity, households rely on savings as a source of wealth and as a safety net (Nadeem, Shoukat, & Abdullah, 2021). Families prudently save to lessen the financial impact of risks like those to income, health, and lifespan. On the other hand, families may also set money aside for their children's education and bequests (Abbott, Miao, Phan, & Sun, 2022). Some of the Asian and Latin American countries have high saving rates due to slow population growth rates and low dependency rates. Currently Pakistan is 5$^{th}$ most populous country of the world with one of the world's highest growth rates having population 212.2 million (Worldometer, 2023). The high growth rates usually lower the saving rate, depresses the capital formation and deteriorates economic development of a country (Nawaz, Chaudhry, Shehzad, & Sheikh, 2021).

In the analysis of economic growth, studies on saving and investment behavior are very significant. Four basic hypotheses on household saving behavior are found in modern economic



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research attempt to explain "why, how much, and how" families save. Saving is linked to absolute income in Keynesian ideas, but Friedman separates permanent and transitory income before linking them to saving. The household-level empirical research mostly studied aggregate saving determinants and has partial focus on heterogeneities, particularly regional differences, in investigating the dynamics of the saving rate. Specifically, despite the large rural–urban disparity, there has been no rigorous analysis in the literature of the different forces driving the upsurge in household savings (Pan, 2016). Several studies about poverty in the country show that the prevalence rate and intensity of poverty are much higher in the villages than in the towns (Gaus, 2009).

Several theories have been put forward to explain the high saving rates, including demographic changes (İmrohoroğlu & Zhao, 2018; Lugauer, Mark, & Curtis, 2011; Modigliani & Cao, 2004), income uncertainty (M. Chamon, Liu, & Prasad, 2013), private expenditures (M. D. Chamon & Prasad, 2010), economic reforms (Song, Coupé, & Reed, 2021), and gender-related issues (Wei & Zhang, 2011; Zhou, 2014). , most household-level empirical research along these lines has studied aggregate saving determinants and has limited focus on heterogeneities, especially regional differences, in analyzing the dynamics of the saving rate. In particular, despite the large rural–urban disparity, there has been no rigorous analysis in the literature of the different forces driving the rise in household savings.

Numerous studies from literature found several socioeconomic determinants of household saving which are income of household head (M. A. Ahmad, Hashmi, Shehzadi, & Nawaz, 2021; Bashir, 2011; Ghafoor, Hussain, Naseer, Ishaque, & Baloch, 2010; T. Khan, Gill, & Haneef, 2013; Soharwardi, Khan, & Sherani, 2014), age of the household (Ghafoor et al., 2010; Soharwardi et al., 2014), children education (Bashir, 2011; Soharwardi et al., 2014), education (Abid & Afridi, 2010; Bashir, 2011; Ghafoor et al., 2010), family size (Abid & Afridi, 2010; Bashir, 2011; Siraj, Zafar, & Ibraheem, 2021; Soharwardi et al., 2014), and dependency ratio (Bashir, 2011; Ghafoor et al., 2010). Household saving is positively linked up with spouse participation in economic activity, dependency rate, household income and size of landholdings. However, the saving level of households drops significantly with education of household head, children's educational expenditures, family size, liabilities to be paid, marital status, and value of house (Jadoon, Tanveer, Javed, & Sarwar, 2021). Unlike other developing countries, Pakistan has not sustained high growth rate, as its saving performance is not particularly impressive. Pakistan has been heavily reliant on foreign capital to bridge the gap between domestic saving and domestic investment (M. Ahmad & Asghar, 2004).

This present study assessed the saving behavior of households based on two household surveys conducted during 2018-2019 by Pakistan Bureau of Statistics (PBS). The goal of this study is to look into the potential socioeconomic and demographic characteristics affecting the household saving behavior such as: age, income, saving, region, dependency ratio, household size, gender, education level, employment status, occupational group. Multiple linear regression model is applied through Ordinary Least Squares (OLS) method to reach the significant factors driving the saving pattern in Pakistani households.

In this paper, we investigated the relationship of occupational group with the dependent variable savings. In Pakistan, the people whose occupation is mixed crop and animal producers and secondary school teacher have high saving rates as compared with the other occupational group. Furthermore, it is found that mixed crop and animal producers can save more in urban areas than in rural areas of Pakistan. The significance of the study is related to the current Pakistan Economic Vision 2025 that has set a target of achieving growth rate of 8 % between 2018 and 2025. The growth rate increases with the increased level of domestic savings required for micro investment. The main difference between this study and the aforementioned literature is that we have analyzed the two latest micro datasets of Household Integrated Economic Survey (HIES) and Pakistan Social Living Standards Measurements Survey (PSLM) conducted between 2018-2019. We have selected socioeconomic and demographic variables, which are related and important to determine the household saving behavior. The rest of this article is organized as follows: in section 2, we discuss data description and methodology. Section 3 explains elementary data analysis and model specification. Section 4 describes econometric data analysis. In addition, section 5 elaborates conclusions and policy recommendations.

## 2. Methodology

### 2.1 Data

The present study examines the household saving behavior in Pakistan during the period 2018-2019 from Household Integrated Economic Survey (HIES) and Pakistan Social Living Standards Measurements Survey (PSLM). A nationally representative sample of 5499 households is selected, 3155 from rural areas and 2344 from urban areas by using systematic sampling.

### 2.2 Study Variables

The logarithm of saving is taken to compute response variable whereas independent variables are: age, income, region, dependency ratio, household size, gender, education level, employment status and occupational group. The residual approach is used to calculate household savings by calculating the difference between household income and consumption expenditure as reported in the survey. The effectiveness of the savings obtained from this strategy is vitally dependent on accurate assessment of numerous areas of income and spending (A. H. Khan, Khalid, & Shahnaz, 2016). The household income considered is gross income, which includes earnings from work as well as earnings from other sources such as transfer payments, home production, rent, interest/profit, crops/livestock, etc.

**Table 1: Descriptive of variables considered in the model**

| Variable | Description |
|---|---|
| | **Dependent Variable** |
| In (Savings) | Total Income of Household – Total Households' Expenditure) |
| | **Household Characteristics** |
| Income | Total household income in rupees |
| In(income) | Log of total household income |
| Dependency ratio | (Household size-number of earners in the household)/household size |
| Region | Urban=1, Rural=0 |
| | **Household Head Characteristics** |
| Head Age | Age in years |
| | **Education level** |
| Primary but below metric | Primary but below metric=1, 0 otherwise |
| Metric but below degree | Metric but below degree=1, 0 otherwise |
| Professional degree | Professional degree =1, 0 otherwise |
| | **Marital Status** |
| Currently Married | Currently married =1, 0 otherwise |
| Unmarried | Unmarried =1, 0 otherwise |
| | **Employment Status** |
| Self employed | Self-employed=1,0 otherwise |
| Paid employed | Paid employed =1,0 otherwise |
| | **Occupational Group** |
| Secondary education teachers | Secondary education teachers=1,0 otherwise |
| Shop keeper | Shop keeper=1,0 otherwise |
| Mixed crop and animal producers | Mixed crop and animal producers=1,0 otherwise |

Table 1 shows variables related to household heads and household members, as well as their definitions. The variables include various socioeconomic and demographic factors, as well as income, on household savings. Income, dependency ratio, employment status, marital status, education level, age, and gender are investigated in this study.

### 2.3 Multiple Linear Regression Model

The empirical study of savings or consumption behavior is based on a number of consumption and saving theories, beginning with the Absolute Income Hypothesis put forward

by Keynes. The model developed for estimating household savings rates by Absolute Income Hypothesis can be expressed mathematically (Ismail & Rashid, 2013) presented in Equation 1.

$$\ln(S) = a_0 + a_1 ln(Y) + Z \quad (1)$$

ln(S) denotes natural log of savings, ln(Y) denotes natural log of household income. The logarithm of income is usually more normally distributed. As a substantive reason, income changes are often multiplicative, at least to a good approximation. The regression parameters $a_0$ and $a_1$ denotes estimate of regression intercept and regression slope respectively, Z shows a factor of household socioeconomic variables. In order to identify the factors that influence household saving in different in rural and urban areas of Pakistan, we developed the following model in Equation 2;

$$\ln(Savings) = a_0 + a_1 \ln(income) + a_2(age) + a_3(no\ of\ earners) + a_4(family\ size) + a_5(dependency\ ratio) + a_6(marital\ status) + a_7(employment\ status) + a_8(educational\ status) + a_9(occuptation\ group) + a_{10}(region) + Z \quad (2)$$

## 3. Elementary Data Analysis

The response variable is saving measured from each household per year. Table 2 summarized the minimum, maximum and mean of continuous variables. On the average 42 years, aged individuals with average income 554022 are sampled. There are on the average 2 earners in household with family size 5.

**Table 2: Descriptive statistics of continuous demographic determinants**

| Variables | Minimum | Maximum | Mean |
|---|---|---|---|
| **Income** | 36000 | 18000000 | 554022.75 |
| **No. of earners** | 0 | 9 | 2.51 |
| **Family size** | 1 | 25 | 5.86 |
| **Dependency ratio** | 0.00 | 2.00 | 0.502 |
| **Age** | 15 | 92 | 43.60 |
| **Saving** | 6 | 15664856 | 158751.72 |

Table 3 shows employment status, marital status, and education level and job nature of the sampled households of Pakistan. The result indicated that out of 5499 respondents only 1253 (22.8%) were Self-employee, 3053 (55.5%) respondents paid employee and remaining respondents (22%) had other nature of earning which are excluded from this research. Almost 92% respondents are currently married, 5% are unmarried and remaining respondents had other marital status (2.6%).

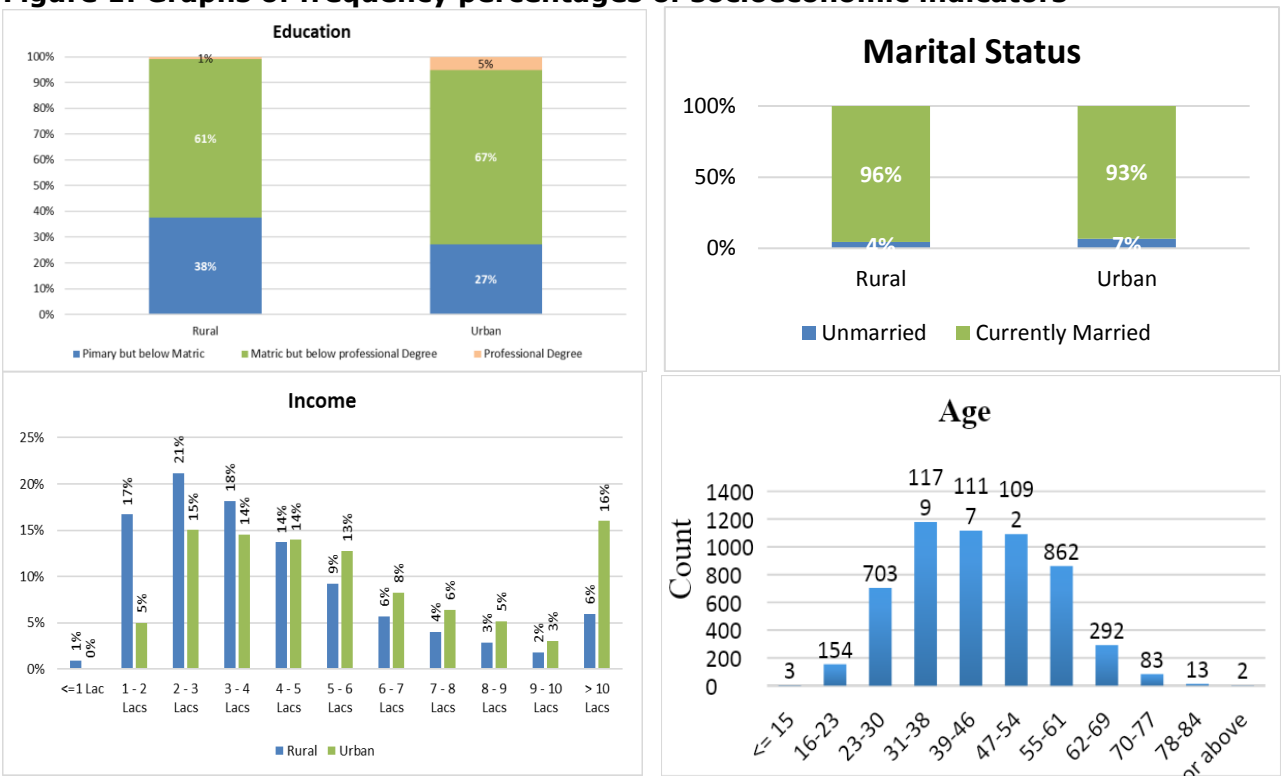
**Table 3: Descriptive statistics of categorical socioeconomic determinants of saving**

| Variables | N (%) | Variables | N (%) |
|---|---|---|---|
| Self-employee | 1253 (22.8%) | Paid employee | 3053 (55.5%) |
| Unmarried | 291 (5.3%) | Currently married | 5065 (92.1%) |
| Primary but below matric | 1384 (25.2%) | Professional degree | 108 (2.0%) |
| Matric but below degree | 2627 (47.8%) | Shop keeper | 586 (10.7%) |
| Mixed crop and animal producers | 693 (11.6%) | Secondary education teacher | 121 (2.2%) |
| Urban | 3155 (57.4%) | Rural | 2345 (42.6%) |

The results indicated that only 1384 (25.2%) were primary educated but below matric, 2627 (47.8%) respondents were matric but below degree level, 108 (2.0%) respondents had professional degree and remaining respondents had other education level (25%) excluded from this research. From the sampled population 586 (10.7%) were shop keepers, 693 (11.6%) respondents were mixed crop and animal producers, 121 (2.2%) holds job as a secondary education teacher and remaining respondents had other job nature (75.5%) excluded from this research. Most of the families have income range PKR 36001-1832400 (97.8%). Most of the household head's age range 31-38 (20.3%) and 39-46 (19.9%). The sampled household's family income varies from 36000 to 18000000. The distribution of income is shown in table. A family or household is defined as any group of people who live together

and share meals. The average family size in this study was 5.86 persons per household, which is less than the average family size of the Pakistan. The same scenario is portrayed in figure 1.

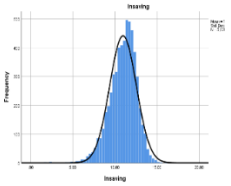
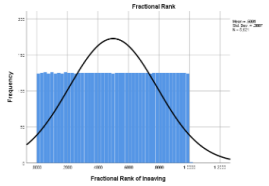
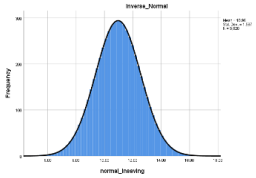
**Figure 1: Graphs of frequency percentages of socioeconomic indicators**




## 4. Econometric Data Analysis

To apply OLS estimation method, normality of the dependent variable must be attained. For this purpose, two step transformation on dependent variable is applied. The first step is to calculate the percentile rank of each score in order to transform the original variable toward statistical uniformity (i.e., satisfies the preponderance of diagnostics tests for uniformity). Three stages representations are used to improve its interpretability (Templeton, 2011).

**Table 4: Normality check of ln(saving) in original and transformed form**

| Version | Original | Step 1: Fractional Rank | Step 2: Inverse Normal |
|---|---|---|---|
| Histogram |  |  |  |
| N | 5621 | 5621 | 5621 |
| Skewness p-value | 0.683 | 0.000 | 0.000 |
| Kurtosis p-value | 1.399 | -1.200 | -0.031 |
| K-S Normality | 0.000 | 0.000 | 0.200 |
| K-S Uniformity | 0.000 | 1.000 | 0.000 |

From Table 4, variable saving is found to be positively skewed (p-value = 0.683) and kurtosis (p-value = 1.399), and according to the K-S test (p-value = .000) significant departure from normality is observed. Since the variable was not statistically normal, the K-S test for uniformity was observed and the variable found to be significant for uniformity (p-value = .000). Therefore, the variable was transformed toward uniformity resulting in the distribution shown in step-1. Subsequent testing indicated that the dependent variable showed statistical uniformity (p-value = 1.000). Now the variable is transformed towards normality, resulting in the distribution shown in the step-2. Subsequent testing indicated that the dependent variable was statistically normally distributed (p-value = 0.200)

**Table 5: OLS estimates of Socioeconomic Indicators**

| Variables | Coefficients | P-value |
|---|---|---|
| **Constant** | -11.646 | 0.000*** |
| **ln(income)** | 1.755 | 0.000*** |
| **Age** | -0.004 | 0.011** |
| **No of earners** | 0.027 | 0.199 |
| **Family size** | -0.015 | 0.107 |
| **Dependency ratio** | -0.181 | 0.034** |
| **Unmarried / never married** | 0.043 | 0.713 |
| **Currently married** | -0.288 | 0.002*** |
| **self employed** | -0.142 | 0.017** |
| **paid employee** | 0.013 | 0.806 |
| **Primary but below metric** | 0.290 | 0.000*** |
| **Metric but below professional degree** | 0.187 | 0.000*** |
| **Professional degree** | 0.013 | 0.905 |
| **Secondary education teachers** | 0.308 | 0.003** |
| **shop keeper** | -1.116 | 0.039** |
| **Mixed crop and animal producers** | 0.566 | 0.000*** |
| **Urban** | -0.423 | 0.000*** |

Significance Levels: P≤ 0.10*, P ≤ 0.05**, P≤ 0.01***

From Table 5, the results demonstrated significant relationship between ln(saving) and ln(income) as people's ln(income) increases, so does their saving. Although, negative and significant relationship of saving with age, dependency ratio, currently married, self-employed, shopkeeper and urban area is observed. The mixed crop and animal producers can save more than the shopkeepers. Results also revealed inverse relationship between savings and age. There is tendency to save more in rural areas as compared to urban areas. This tendency is further analyzed by a split analysis conducted for rural and urban areas separately.

**Table 6: OLS estimates of socioeconomic indicators for rural areas**

| Variables | Coefficients | P-value |
|---|---|---|
| **Constant** | -12.314 | 0.000*** |
| **log(income)** | 1.858 | 0.000*** |
| **Age** | -0.006 | 0.001*** |
| **No of earners** | 0.065 | 0.014** |
| **Family size** | -0.038 | 0.001*** |
| **Dependency ratio** | -0.302 | 0.006*** |
| **Unmarried / never married** | -0.107 | 0.479 |
| **Currently married** | -0.317 | 0.007*** |
| **self employed** | -0.102 | 0.175 |
| **paid employee** | 0.015 | 0.799 |
| **Primary but below metric** | 0.193 | 0.001*** |
| **Metric but below professional degree** | 0.119 | 0.027** |
| **Professional degree** | -0.166 | 0.435 |
| **Secondary education teachers** | 0.172 | 0.204 |
| **shop keeper** | -1.113 | 0.163 |
| **Mixed crop and animal producers** | 0.400 | 0.000*** |

Significance Levels: P≤ 0.10*, P ≤ 0.05**, P≤ 0.01***

From Table 6, the highly significant correlation between ln(saving) and ln(income) as people's ln(income) rises, so does their saving. There exists negative and significant relationship between age, number of earners, family size, dependency ratio, and currently married. The Primary but below metric educated persons can save more than the matric but below degree. Results also illustrated inverse relationship between savings and age.

From Table 7, it is observed that ln(saving) is has significant association with ln(income). There exists positive and significant association between paid employees, primary but below metric, metric but below degree, secondary education teachers and mixed crop and animal producers (Abid & Afridi, 2010).

**Table 7: OLS estimates of socioeconomic indicators for urban areas**

| Variables | Coefficients | P-value |
|---|---|---|
| **Constant** | -13.245 | 0.000*** |
| **log(income)** | 1.831 | 0.000*** |
| **Age** | 0.000 | 0.890 |
| **No of earners** | -0.001 | 0.988 |
| **Family size** | 0.007 | 0.638 |
| **Dependency ratio** | -0.011 | 0.936 |
| **Unmarried / never married** | 0.297 | 0.099* |
| **Currently married** | -0.274 | 0.066* |
| **self employed** | 0.120 | 0.238 |
| **paid employee** | 0.255 | 0.008*** |
| **Primary but below metric** | 0.316 | 0.000*** |
| **Metric but below professional degree** | 0.218 | 0.000*** |
| **Professional degree** | 0.147 | 0.270 |
| **Secondary education teachers** | 0.315 | 0.048** |
| **shop keeper** | -0.082 | 0.288 |
| **Mixed crop and animal producers** | 0.833 | 0.000*** |

Significance Levels: P≤ 0.10*, P ≤ 0.05**, P≤ 0.01***

## 5. Conclusions and Policy Recommendations

In this study, the saving behavior of household in urban and rural areas of Pakistan has been analyzed. For the empirical analysis, multiple linear regression model is applied to study the effect of income, family size, region, dependency ratio, age, gender, marital status, job nature, and education on household's savings. Two-step transformation are applied on response variable to transform the non-normal data into normal. It is concluded that saving is strongly affected by the socioeconomic and demography factors. The result shown that income have positive effect on saving behavior of households whereas education, region, age, dependency ratio and family size have negative effect on saving of the households in Pakistan. According to the estimate of total family size, the relationship between household size and saving is negative, if household size increases, saving will decrease. Furthermore, it is found that mixed crop and animal producers can save more in urban areas than in rural areas of Pakistan.

Savings are an important component of a growing economy. Government's support for population control is required in Pakistan to reduce rapidly growing household sizes even among educated households. There is a need to increase savings for investment by introducing saving schemes in banks and other finance institutions. Furthermore, government should reduce non development expenditure for productive plans that provide alternative employment opportunities. The increased level of national saving will uplift the growth rate of Pakistan.

## References

Abbott, B., Miao, M., Phan, N. V., & Sun, H. A. (2022). Demographics and Household Savings: Evidence from the Shidu families of China. *Available at SSRN 4013105*, 35. doi:10.2139/ssrn.4013105

Abid, S., & Afridi, G. S. (2010). Assessing the Household Saving Pattern of Urban and Rural Households in District Muzaffarabad. *Pakistan Journal of Life and Social Sciences, 8*(2), 137-141.

Ahmad, M., & Asghar, T. (2004). Estimation of Saving Behaviour in Pakistan Using Micro Data. *The Labor Journal of Economics, 9*(2), 20.

Ahmad, M. A., Hashmi, A., Shehzadi, K., & Nawaz, M. A. (2021). The Role of Language Style, Perceived Services and Medical Qualities on the Tourism Development in Malaysia: Mediating Role of Customer Satisfaction. *Review of Economics and Development Studies, 7*(1), 25-36. doi:10.47067/reads.v7i1.316

Ali, M. S., & Marwat, I. U. K. (2021). Financial Literacy and Saving Behavior of Private Sector Employees in Pakistan: Examining the Mediating Role of Self-efficacy. *Journal of Management Sciences, 8*(2), 39-54. doi:10.20547/jms.2014.2108204

Bashir, D. (2011). Saving Behavior among Different Income Groups in Pakistan: A Micro Study. *International Journal of Humanities and Social Science*.

Chamon, M., Liu, K., & Prasad, E. (2013). Income Uncertainty and Household Savings in China. *Journal of Development Economics, 105*, 164-177. doi:10.1016/j.jdeveco.2013.07.014

Chamon, M. D., & Prasad, E. S. (2010). Why are Saving Rates of Urban Households in China Rising? *American Economic Journal: Macroeconomics, 2*(1), 93-130. doi:10.1257/mac.2.1.93

Gaus, G. (2009). The Place of Religious Belief in Public Reason Liberalism. In *Multiculturalism and moral conflict* (pp. 19-37). USA: Routledge, Taylor & Francis.

Ghafoor, A., Hussain, M., Naseer, K., Ishaque, M., & Baloch, M. (2010). Factors affecting Income and Saving of Small Farming Households in Sargodha District of the Punjab, Pakistan. *Pakistan Journal of Agriculture: Agricultural Engineering Veterinary Sciences (Pakistan), 26*(2), 27-35.

İmrohoroğlu, A., & Zhao, K. (2018). The Chinese Saving Rate: Long-term Care Risks, Family Insurance, and Demographics. *Journal of Monetary Economics, 96*, 33-52. doi:10.1016/j.jmoneco.2018.03.001

Ismail, A., & Rashid, K. (2013). Determinants of Household Saving: Cointegrated Evidence from Pakistan (1975–2011). *Economic Modelling, 32*, 524-531. doi:10.1016/j.econmod.2013.02.004

Jadoon, A. K., Tanveer, A., Javed, M. F., & Sarwar, A. (2021). Minimum Wages and Poverty: A Cross-Country Analysis. *Asian Economic and Financial Review, 11*(8), 632-643. doi:10.18488/journal.aefr.2021.118.632.643

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.

Khan, T., Gill, A. R., & Haneef, S. (2013). Determinants of Private saving: A case of Pakistan. *Asian Journal of Economic Modelling, 1*(1), 1-7.

Lugauer, S., Mark, N. C., & Curtis, C. R. (2011). *Demographic Patterns and Household Saving in China.* Paper presented at the 2011 Meeting Papers.

Modigliani, F., & Cao, S. L. (2004). The Chinese Saving Puzzle and the Life-Cycle Hypothesis. *Journal of economic literature, 42*(1), 145-170. doi:10.1257/002205104773558074

Nadeem, M. Y., Shoukat, A., & Abdullah, M. (2021). Household Savings Behavior in Rural and Urban Areas in Punjab, Pakistan. *Elementary Education Online, 19*(4), 5718-5718. doi:10.17051/ilkonline.2020.04.764975

Nawaz, M. A., Chaudhry, I. S., Shehzad, M. A., & Sheikh, M. R. (2021). An Analysis of Age Dependency Burden and Saving Rates in Pakistan. *Review of Applied Management and Social Sciences, 4*(2), 531-546. doi:10.47067/ramss.v4i2.154

Pan, Y. (2016). Understanding the Rural and Urban Household Saving Rise in China. *Regional Science and Urban Economics, 56*, 46-59. doi:10.1016/j.regsciurbeco.2015.10.002

Siraj, Z., Zafar, M. A., & Ibraheem, R. (2021). Investigating the Factors Affecting Financial Literacy among University Students: A Case study of The Islamia University of Bahawalpur and Bahauddin Zakariya University of Multan. *iRASD Journal of Educational Research, 2*(1), 10-15.

Soharwardi, M. A., Khan, A. S., & Sherani, M. K. (2014). Determinants of Household Savings: A Case Study of Yazman-Pakistan. *International Journal of Scientific & Engineering Research, 5*(12), 1624-1630.

Song, Z., Coupé, T., & Reed, W. R. (2021). Estimating the Effect of the One-Child Policy on Chinese Household Savings-Evidence from an Oaxaca Decomposition. *China Economic Review, 66*, 101570. doi:10.1016/j.chieco.2020.101570

Templeton, G. F. (2011). A Two-Step Approach for Transforming Continuous Variables to Normal: Implications and Recommendations for IS Research. *Communications of the association for information systems, 28*(1), 4. doi:10.17705/1CAIS.02804

Worldometer. (2023). Pakistan Population. Retrieved from https://www.worldometers.info/world-population/pakistan-population/