Household Saving Behavior in District Peshawar, Khyber Pakhtunkhwa

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Abstract
The main purpose of this study is to examine household saving behavior in the district of Peshawar Khyber Pakhtunkhwa. Data for this study was conducted through a survey questionnaire and questionnaires were distributed among 400 households of district Peshawar town III. The data was analyzed through the ordinary least square method using SPSS 26. Weighted least square (WLS) was used for estimation. The study explored that there is a strong link between household savings and planned variables. The results show that the total income of households has a direct and significant relationship with the savings of the households, so the result goes with the Keynesian theory of income and saving. Furthermore, a number of adult equivalence and debt have positive and significantly related to household saving in district Peshawar, whereas the dependency ratio has a negative but significant relationship with household saving in the study area which means that when a number of dependents in a family increases the rate of saving of that family decreases. The study suggests that the government of Khyber Pakhtunkhwa should increase employment opportunities for those who depend on their family.

Keywords*: Saving Behavior, Dependency Ratio, Income, Household.*

Introduction

Saving plays an important role in the economic growth of a country because investment can be generated through saving. According to the neoclassical model, the rate of savings does not have a permanent effect on economic growth. However, when the rate of savings increases, it will produce positive effects in the short and long run this effect will disappear. Saving is a very essential element that is accountable for fighting any situation accumulated by households or commercial organizations. Total Savings depends on many variables in any economy. For planning the economy, the planners have to create an idea about the saving capacity of people and how savings can be significantly improved. To represent saving applications, we have to know

about the saving motives of households. This study explores the factors which affect household savings and finds out the reasons for dissaving.

Further, an increase in savings will increase production in the long run. Therefore, saving at the level of production has a permanent effect, but it does not have a permanent effect on the growth rate of production (Tarlok, 2010). The economy of Pakistan has experienced fast growth, and since independence the economy is growing rapidly, to continue this drive, investment and productivity needed to increase. To support investment, savings came from households or external sources. In this case, Pakistani historical trends present two important points. First, the people of Pakistan are not good savers. This means that the country's domestic savings rate is lower than one of the fastest-growing countries and countries with the same per capita income. Household savings in Pakistan was almost 12 percent on average 40 years ago or three times lower than in East Asia at the same time. Second, despite the strong economic performance, foreign direct investment (FDI) is lower than in the rest of the world. FDI revenues on the total amount of domestic investment in East Asia are twice that of Pakistan. East Asia has maintained a high growth rate over the past few decades with a different amount of foreign exchange on its domestic investment than that of Pakistan. Although FDI's share in total investment has more than doubled since 1990 in Pakistan, it is still less than 7 percent of total capital construction at the moment. This redirects the low confidence of external investors in Pakistan (Vincelette, 2006). Solow (1956) stated that savings affect the progress of the country's economy, as an increase in savings leads to the growth of capital and hence economic expansion.

The life cycle hypothesis established by Ando & Modigliani (1963) stated that people try to retain the same level of consumption during their lifetimes. This theory advocates that income is influenced by the amount of savings and people save less in student & retirement age and save more in working age. According to the Keynesian consumption function when income increases consumption and saving also increase. According to Keynes (1940), "saving is that income which is not spent on consumption".

The World Bank (1997) suggests that in the last thirty years, the world has testified to a great difference in saving rates. World saving rates have been decreasing since the early 1970s and from the mid of 1970s, the gap in saving rates between developed and developing countries has broadened. The rates of saving in East Asia have increased twofold, inactive in Latin America, and falling in Sub-Saharan Africa. These savings gaps are closely reflected in related development performances. In regions around the world, savings increase when income increases Luis (1997).

Pakistan is a developing country, suffering from many problems in existing years. Around 40% population of Pakistan lives below the poverty line. The increasing poverty is the result of poor governance and slow economic development. According to the Ministry of Finance, the nominal GDP per capita is $1,357 in 2019. The Gross Savings Rate of Pakistan was 5.230 % in June 2019 (Government of Pakistan, 2019). The portrait of Pakistan's economy is clear from the statistics of the Economic Survey of Pakistan. In the 1970s the rate of growth was 4.8% and total investment was 17.1% of GDP. Meanwhile, national, foreign and domestic savings were correspondingly 11.2, 5.8 and 7.4 percent of gross domestic product (GDP). Pakistan's economy faced a very high

progress level i.e. 6.5% in the 1980's due to 18.7% extra investment of GDP, national foreign and domestic savings are 14.8, 3.9 and 7.7 respectively. In 2008-09 economy of Pakistan showed a very low growth rate i.e. 0.4% of GDP. According to the Government of Pakistan (2019), Pakistan's gross saving rate was very high in June 2004 i.e. 17.4% and was very low in June 2019 i.e. 5.2%.

According to Cheema *et al.,* (2018) Punjab has the highest Marginal Propensity to save i.e. 0.29 Sindh, Khyber Pakhtunkhwa and Baluchistan have 0.10, 0.23 and 0.24 respectively. Furthermore, Cheema *et al.,* (2018) highlighted that all the provinces except Sindh have fewer savings of female heads than male heads. The association is positive in Sindh, but it is not statistically significant. Among all the provinces, women heads have the most negative savings in Punjab. The reason may be that women in Punjab are the most luxurious than in any other province. Education has an inverse relationship with savings in all provinces. It has a negative association in Punjab. Again, as already described, people in Punjab are more complex about the future of their children than in other provinces. The number of savers in all provinces is positively related. As far as poverty is concerned, it has a negative correlation with savings in all the provinces. It has the lowest negative correlation with savings in Baluchistan and the lowest negative in Sindh (Cheema *et al.,* 2018).

Saving is very essential for a household because saving done by households plays a vital role to help the economy. Families save money to deal with unexpected emergencies and upcoming events (Carter, 2012). Saving can be done by financing the state and economy. By investing in the economy people are capable of backing the economy but taking a risk. Before putting saving into an investment, one must contact an expert on financial investment. The economy can be supported by investment but people should encourage their saving first because the economy can wait (Dunleavey, 2008).

The factors which influenced saving behaviour at the household or at the micro level are occupation, size of family, marital status, education level, educational expenditure, male-to-female ratio, dependency ratio, size of land, liabilities, livestock number, partner contribution, household income, age etc. There are some other factors that affect saving behaviour at the national or macro level are the rate of employment, per capita income, inflation rate, taxes, the real rate of interest, exports etc.

Literature Review

Keeping in view that saving is a very essential element in economic growth, several studies have been conducted for finding saving behaviour. Some studies have used macro or national-level data and some came with micro or household-level data obtained from the survey.

These studies include Isaac Wachira Mwangi (2020), Addis et al. (2019), Rao and Reddy (2018), Abdela Yasin Saliya (2018), Sholpan Gaisina and Lyazzat Kaidarova (2017) Syed et al (2017), Kanthaiya Gobiga (2017), Pivithuru Kumarasinghe (2017), Saqib et al (2016), Khan et al. (2016), Soharwardi *et al* (2014), Nayak (2013), Penninah Mukami Njung'e (2013), Tenzin Chhoedup (2013), Samue et al (2012), Asmatullah et al (2011), Rehman et al (2010), Abid and Afridi (2010), Kibet et al. (2009), Ahmad and Asghar (2004) and Burney and khan (1992) go for

primary data to estimate household saving behaviour and used cross-sectional study and collected primary data through questionnaire and analyze the data through SPSS to finds that education of household head, sex and marital status are negatively affecting savings of household. The total income of the family, size of the family and profession have a positive association with household savings.

Research studies (Khan *et al.* 2019; Mansoor and Khatak, 2014; Faredi and Arif, 2012; Chudhary *et al.* 2010; Ahmad *et al.* 2006; Nasir and Khalid, 2004; Qureshi, 1981) used time series data for evaluating household saving behaviour and established that interest rate, the price index of consumer, remittances, exports and consumption of state have a good impact on macro-level savings of Pakistan whereas public loans have a negative influence in the long term, foreign direct investment has a negative but significant impact on national as well as private savings, tax burden and unemployment has inverse whereas the level of employment and total income has a direct relationship with people savings. Financial liberalization index and real credit amount have negative effect whereas per-capita income, and GDP from agriculture has a direct effect on domestic savings in the long run.

Households belonging to lower, middle- and higher-income groups may have different saving trends. In the past, this behaviour of saving for different income groups could not be properly addressed in the literature. This issue needs to be discussed at the household level. So that money held in different income groups (Low, Medium and High) can be analyzed. However, it is necessary to read the household saving behaviour in Peshawar and propose certain policies at the domestic level.

In this research, we used primary data that is collected for pre-test questions from respondents. The set of variables that affect the saving behaviour of humans like adult equivalence, debt, dependency ratio and total income of household head is taken to make my results more accurate.

Research objectives

Following are the proposed research objectives.

- To study the saving behaviour of households belonging to different income groups in District Peshawar Town III.
- To analyze the effect of aggregate household income, number of adult equivalents, debt and dependency ratio on the saving behaviour of households in District Peshawar Town III.
- To analyze the saving pattern of the population of District Peshawar Town III.

Hypotheses of the Study

H1: There is no statistically significant association between saving and income.
H2: There is no statistically significant association between saving and adult equivalence.
H3: There is no statistically significant relationship between saving and debt.
H4: There is no statistically significant relationship between saving and dependency ratio.

Theoretical Framework

We can show saving behaviour at the national and household level. Ando and Modigliani (1963) developed the theory "Life-Cycle Hypothesis (LCH)" which is the main theory that clarifies the behaviour of household savings. The Life-Cycle Hypothesis (LCH) is an economic theory that deals with people's spending and saving behaviour over a lifetime. The concept was developed by Franco Modigliani and his student Richard Bramberg. The life cycle hypothesis accepts that individuals consume income of their anticipated life grounded on a constant percentage. The theory is supported by an example that people save for old age while they are earning their income. The theory leads to the predictions about the economy that state savings are based on the growth rate of state income, not its level; "the life-cycle hypothesis is an important part of the thinking of economists". When the population increases, older people are less than young people, fewer people are dissaving and more are saving, so the total saving will be more than the total dissaving, and net saving will be positive (Nayak, 2013).

Saving plays a vital role in facing any condition that happened to individuals or families. Saving can be helpful in events as well as in emergencies. There is a need to carefully understand the behaviour and pattern of household savings in Peshawar.

Research Methodology

Population

The study is based on primary data from the field survey and data will be collected through a questionnaire. To analyze household saving behaviour the area of district Peshawar town III will be selected for the study. Peshawar is situated in central Khyber Pakhtunkhwa northern Pakistan, near the Khyber Pass. Peshawar city is the sixth largest city in Pakistan. It is having an area of 1,257 km² and according to Provisional Census Results (2017) Khyber Pakhtunkhwa, the total population of Peshawar is 42,69. According to the Government of Pakistan (2014), Peshawar city has four towns they are town one, town two, town three and town four. The total numbers of union councils are 93 they are subdivided into four towns. Town three has been selected from four towns. There are total 21 union councils in town three. The list of Union Councils of Town III Peshawar is attached as Appendix A. Proposed research selects only 5 union councils, which are UC 31,32,36,37 and 43.

The household saving behaviour is the dependent variable whereas dependency ratio, debt, Number of adult equivalence and aggregate household income are independent variables[1].

Sample size

A sample of 400 households has been selected by using Yamane's formula:

$$n = N/ (1+Ne2)$$

Where
n = Sample size
N = Population size i.e. 206753
e = Precision value, set as 95%

[1] The questionnaire will be provided upon the reader request.

Table 1*: Lists of selected councils from Peshawar Town 3*

Union Council Name	Population	Proportional allocation
UC 32 Dheri Baghbanan	22283	43
UC 34 Nothia Jadeed	41626	81
UC 36 University Town	41224	80
UC 37 Shaheen Town	27545	53
UC 43 Hayatabad-1	74075	143
Total UC 5	206753	400

To determine the strata sample size, we use the following formula.

nh = (Nh / N) * n

Where nh is the sample size for stratum h, Nh is the population size for stratum h, N is the total population size, and n is the total sample size.

Econometric Model
Multiple regression (WLS) has been engaged to explore the relationship between dependent and independent variables. The latest version of SPSS 26 software has been used to analyze the data. The model which we used in our proposed research is taken from Soharwardi et al., (2014).

$$TSHH = \beta_0 + \beta_1 AHHI + \beta_2 NAE + \beta_3 D + \beta_4 DR + \varepsilon$$

Whereas *TSHH* shows the total savings of the household, *AHHI* represents aggregate household income, *NAE* is the number of adult equivalents, *D* is debt, *DR* is dependency ratio while ε shows error term, β_0 is intercept and $\beta_1, \beta_2, \beta_3, \beta_4$ are parameters of the explanatory variables.

The model may have some econometric problems like Multicollinearity, Autocorrelation and Heteroskedasticity that can be removed during estimation. According to Gujarati (1995) if the coefficient of correlation between two variables exceeds froms 0.80, so there is a problem of multicollinearity. Multicollinearity is a very serious issue concerning the Ordinary least square Method. We can detect it by removing one variable from the model while autocorrelation is not a severe problem in cross-sectional studies (Greene, 1992). According to Heij et al., (2004), Heteroskedasticity can be detected by white Heteroskedasticity-Consistent Standard Errors & Covariance tests from E-Views.

The most widely used traditional estimating model is the ordinary least square (OLS) also known as the linear regression model. This method is widely used to find out the association among variables by inserting a regression line. Weighted Least Square is an extension of Ordinary Least Square (OLS) regression. We used Weighted Least Square (WLS) when the variance of the error term is not constant. We find that the variance of the error term in our data was not constant

which means there was a problem of heteroskedasticity, so, therefore, we used Weighted Least Square instead of Ordinary Least Square.

Results analysis

Regression analysis is a set of statistical techniques used for the estimation of associations among a dependent variable and one or more than one independent variables. In this study WLS (weighted least square) regression analysis is used to find out the household saving behaviour established on their aggregate household income, number of adult equivalence, dependency ratio and debt.

Table 2: *Model summary*

Model	R	R Square	Adjusted R Square	Std. error	Durbin-Watson
1	0.394[a]	0.155	0.146	1.21256	1.857

a. Predictors: (Constant), Debt, Aggregate household income, Dependency ratio, Number of adult equivalence
b. Dependent Variable: Total savings of the household
c. Weighted Least Squares Regression – Weighted by weight
Source: household saving behaviour survey (2020)

It is clear from Table 2 that in this model R square is 0.394 this means that the model is a good fit because 39% of variations in the dependent variable are explained by variations in the independent variables and the adjusted R square is 0.146. The value of Durbin-Watson is 1.857 which is almost equal to 2, so there is no autocorrelation.

Table 3: *ANOVA*

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	106.406	4	26.601	18.093	0.000[c]
	Residual	580.765	395	1.470		
	Total	687.171	399			

a. Dependent Variable: Total savings of household
b. Weighted Least Squares Regression – Weighted by weight
c. Predictors: (Constant), Debt, Aggregate household income, Dependency ratio, Number of adult equivalence
Source: household saving behavior survey (2020)

In Table 3, the F critical at a 5% level of significance is 18.093 since the *F*-statistics calculated is greater than the F critical (value = 2.372), this shows that the overall regression model is significant. The probability value 0.000 indicates that the regression is significant in predicting household saving behaviour.

Table 4: *Coefficients estimations*

Model		Unstandardized Coeffts		Standardized Coeffts		
		Beta	Std. Error	Beta	t	Sig.
1	(Constant)	0.803	0.162		4.953	0.000
	Number of adult equivalence	0.081	0.023	0.279	3.478	0.001
	Dependency ratio	-0.116	0.021	-0.433	-5.404	0.000
	Aggregate household income	0.223	0.033	0.315	6.666	0.000
	Debt	0.182	0.079	0.109	2.312	0.021

a. Dependent Variable: Total savings of the household
b. Weighted Least Squares Regression – Weighted by weight
Source: household saving behavior survey (2020)

We conducted a regression analysis to determine the relationship between a dependent variable which is the total savings of the household and the independent variables includes, the number of adult equivalence, dependency ratio, aggregate household income and debt.

Total savings of household = $\boldsymbol{\beta_0}$ + $\boldsymbol{\beta_1}$ Aggregate household income+ $\boldsymbol{\beta_2}$Numbers of adult equivalence+ $\boldsymbol{\beta_3}$ Debt+ $\boldsymbol{\beta_4}$ Dependency ratio+ **e**

$$TSHH = \beta_0 + \beta_1 AHHI + \beta_2 NAE + \beta_3 D + \beta_4 DR + \varepsilon$$

TSHH = 0.803 + 0.223 AHHI + 0.081 NAE + 0.182 D + -0.116 DR + e

- A one-unit increase in aggregate household income causes a 0.223 unit increase in total savings of household.
- A one-unit increase in the number of adult equivalence causes a 0.081 unit increase in total savings of household.
- A one-unit increase in debt causes a 0.182 unit increase in total savings of households.
- A one-unit increase in dependency ratio causes a 0.116 unit decrease in total savings of households.

Discussion and conclusion

In this study, we have investigated the saving behaviour of households in district Peshawar town III. To study the effect of aggregate household income, numbers of adult equivalence, debt and dependency ratio on household savings we have built an econometric model. The results show that the overall model is a good fit at 5 percent level of significance and conclude that saving is affected by the above planned variables. Furthermore, it is clear from the results that aggregate household income, number of adult equivalence and debt have been positively affected by household saving. Whereas, the dependency ratio has an inverse impact on household savings in the district of Peshawar. From the results we determined that household saving is significantly affected by the aggregate income of the household this means that a huge and quick rise in income tends to increase the amount of savings because the more they earn, the more they save. The evaluation of the number of adult equivalence represents the size of the households that can

earn, so the number of adult equivalence has a positive and significant relationship with household saving. This means that if the number of adults in a family increases the amount of savings also increases and vice versa. The dependency ratio is the number of family members not earning and depending on earners in a family has a significant but negative relation with household savings. This implies that when the number of dependent members in a family increase, the amount of savings of that family decreases. We also concluded that debt has a significant and positive association with savings. When people borrow money, they have to pay back it, so for paying back they start saving money. Thus, we reject our entire null hypothesis and accept the alternative hypothesis and concluded that there is a statistically significant association between saving and all the proposed variables; they are income, adult equivalence, and debt and dependency ratio.

Recommendations

Based on the empirical results, the study recommends some policy implications. Keeping in view the important role of savings, it is suggested that the government should take some necessary steps for raising the income level, which in turn positively affects the savings of individuals. Further, the policymakers must raise the earning capacity of individuals by providing vocational training, and facilitating small and medium businesses, so that individuals and households can earn more, to increase their savings. Further, the government should increase employment opportunities for those who depend on their family to increase their savings.

Furthermore, the limitations of the current study include the small sample or population, which can be overcome in future studies by including the rest of the towns of Peshawar.

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Appendix A

List of Town III Peshawar

Union Council Name	Population as per 2017	Union Council Name	Population as per 2017
UC 29 Deh Bahadar	43308	UC 41 Palosi	173670
UC 31 Nothia qadeem	27457	UC 42 Malkandher	45084
UC 32 Dheri Baghbanan	22283	UC 43 Hayatabad-1	74075
UC 33 Landi Arbab	59371	UC 44 Hayatabad-2	40569
UC 34 Nothia Jadeed	41626	UC 49 Bazid Khel	31139
UC 35 Pawaka	33795	UC 59 Sarband	31592
UC 36 University Town	41224	UC 60 Pushtakhara payan	39289
UC 37 Shaheen Town	27545	UC 80 Regi	26491
UC 38 Tehkal Payan-I	33518	UC 81 Sufaid Dehri	51423
UC 39 Tehkal Payan-II	35559	UC 91 Achini Bala	46509
UC 40 Tehkal Bala	33887		

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