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Stylised Facts of Household Savings: Findings from the HIES 1993-94

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I. INTRODUCTION

Saving, the fraction of national income that is not spent on current consumption, has long been widely regarded as a key factor in economic growth.[1] The saving rate along with the incremental capital-output ratio determine the growth rate of the economy in the Harrod-Domar Model framework. The critical role of saving in capital accumulation and economic development is also recognised in the "two-gap" and classical growth models. For capital accumulation to result in sustained growth, it must be supported by adequate domestic/national savings. This has been clearly demonstrated by the extra-ordinary performance of the East Asian economies.

While there have been brief periods of significant inflow of external financial resources to some developing countries in the past, foreign savings cannot be expected to provide a sustainable basis for financing domestic investment. Raising national saving rate is particularly essential to developing countries with a heavy debt service burden and limited capacity to obtain loans in foreign capital markets. The 1995 Mexican crisis showed, among other things, that low domestic savings can raise the probability of sudden capital outflows, and sharpen their negative consequences. In a financially integrated world, high national/domestic savings contribute to macro economic stability which is itself a powerful growth factor. Indeed, any macro economic adjustment programmes oriented to the resumption of long-run growth invariably emphasise the need to expand domestic savings.

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Authors' Note: The views expressed in the paper are those of its authors and do not necessarily represent those of the institutions in which they work.

[1]There are of course other determinants of economic growth. Technological progress, institutional development, human capital development, domestic policies and the external economic environment have also been emphasised in the development literature [see Gersovitz (1988)].

Household saving is usually the largest component of domestic/national savings in developing countries, especially in the lower-income predominantly agricultural developing countries. This contrasts with the much greater importance of corporate savings in developed countries. The ability, willingness, and opportunity of households to save over time can therefore significantly influence the rate and sustainability of capital accumulation and economic growth in developing countries.

Pakistan's real GDP grew at an average rate of 5.5 percent since 1980 and national saving rate averaged around 13.9 percent during the same period. Hence, Pakistan sustained a relatively high economic growth rate over the last 18 years but its savings rate has not only been low with developing countries' standard where it averaged 23 percent, it was even lower than the countries with per capita income lower than that of Pakistan.

The saving-investment gap in Pakistan is also rising over time. Almost 79 percent total investment was financed by national savings in the 1980s, this proportion has declined to 73 percent during the first eight years of the 1990s. The saving-investment gap is currently financed through foreign savings and as such Pakistan is accumulating foreign debt. The already high levels of external debt (48 percent to GDP) and heavy debt servicing burden (62 percent of export earnings) make continued reliance on foreign savings imprudent and not sustainable over the medium term. Thus, rising the saving rates in Pakistan should get utmost attention of the policy-makers.

National savings consist of public and private savings. Public savings, on average, accounts for 14.0 percent of national savings and mostly deals with government's budgetary position. As percentage of GNP, it has averaged 1.4 percent during the 1980s and around 1.9 percent during the first eight years of the 1990s. The abysmally low public savings which is the result of sustaining large fiscal deficit has been an important factor responsible for low national savings in Pakistan (See Table 1).

Private savings on the other hand, accounts for 86.0 percent of national savings. The major contributor to private savings is the household sector which account for almost 89.0 percent while the remaining 11.0 percent is accounted for by the corporate sector (See Table 1). The household savings as percentage of GNP averaged 10.6 percent during the first eight years of the 1990s as compared to an average saving rate of only 1.4 percent of GNP on the part of the corporate sector. Thus, households are responsible for three-fourth (75 percent) of the national savings in Pakistan. This is consistent with the fact that household saving is usually the largest component of private/domestic savings in developing countries, especially in the lower-income predominantly agricultural developing countries. Accordingly, most economic models treat the motivation for savings from the household's perspective.

Table 1

Trends in Savings in Pakistan

Year	National Savings	Public Savings	Private Savings	Household Savings	Corporate Savings	GNP at Market Price (Billion Rs)
	As % of GNP					
1980-81	14.0	3.9	10.1	9.6	0.5	300.9
1981-82	13.2	3.1	10.1	9.5	0.6	349.5
1982-83	15.3	1.1	14.2	13.5	0.7	403.8
1983-84	13.7	1.9	11.8	11.5	0.3	459.4
1984-85	12.0	0.4	11.6	11.2	0.4	510.5
1985-86	13.8	1.6	12.2	11.7	0.5	555.9
1986-87	16.0	0.5	15.5	14.5	1.0	608.9
1987-88	13.1	1.3	11.8	10.9	0.9	704.5
1988-89	13.6	0.2	13.4	12.6	0.8	797.8
1989-90	13.6	2.7	10.9	9.7	1.2	892.8
1990-91	13.9	0.7	13.2	11.8	1.4	1044.5
1991-92	16.9	4.2	12.7	11.3	1.4	1223.9
1992-93	13.5	1.5	12.0	10.6	1.4	1351.6
1993-94	15.6	2.5	13.1	11.5	1.6	1577.1
1994-95	14.2	1.8	12.4	10.9	1.5	1896.1
1995-96	11.6	1.5	10.1	8.9	1.2	2158.5
1996-97	11.2	1.9	9.3	8.2	1.1	2385.5
1997-98	14.6	1.0	13.6	12.0	1.6	2744.4

Source: State Bank of Pakistan, *Annual Report* (Various Issues).

Despite its dominance in total savings, not much work has been done to analyse the households' saving behaviour in Pakistan. Some attempts have been made only recently to analyse household saving behaviour using Household Income and Expenditure Survey (HIES). The cross-sectional analysis of the household saving behaviour has only recently been conducted by Akhtar (1986, 1987) and Burney and Khan (1992) using the information contained in the Household Income and Expenditure Survey (HIES) for the year 1979 and 1984-85, respectively. Akhtar (1986) provides estimates of the saving propensities of various income and socio-economic groups. On the other hand, the impact of the dependency ratio, urbanisation, and education on the household's savings is analysed in Akhtar (1987).

Burney and Khan (1992) analyse the household savings behaviour using HIES for the year 1984-85. They examine the impact of household income along with other socio-economic and demographic factors, such as the dependency ratio, education, earning status, employment status, occupation, and secondary earners on household savings. Three different non-linear saving functions attributed to Keynes, Klein and Landau are estimated separately for the urban and the rural households. The marginal propensity to save (MPS) calculated at the mean value of household income is found to

vary from 0.21 to 0.23 in the case of urban areas and from 0.30 to 0.37 in the case of rural areas depending upon the choice of functional form. Contrary to the general belief, it is found that the propensity to save of the rural household is much higher than their urban counterparts. The dependency ratio is found to exert a negative influence on household savings. Various categories of education are found to have a negative influence on household savings, indicating that more educated households have a higher consumption expenditure, and they are likely to save less. Finally, it is found that saving increases with the age but tends to decline when the age crosses a certain limit—a finding consistent with Life Cycle Hypothesis.

In a recent comprehensive study Khan and Nasir (1999) analyse household saving behaviour using the HIES 1993-94. They examine the impact of household income and other socio-economic and demographic factors on household savings for overall as well as for both the rural and urban household separately. The marginal propensity to save (MIS) is found to be higher in the case of urban household. The dependency ratio is found to have a strong negative influence on the household savings. Various categories of education are found to have a significant negative influence on household savings in Pakistan. They also analyse the household savings behaviour in the context of Life Cycle Hypothesis (LCH). The MPS ranges from 0.36 to 0.62 and increases with age but peaks twice, one at the age group of 36–45 years and the other at the age group of 55-60 years. It declines drastically for the age group of 61 plus. Thus, the saving behaviour is more or less in the line of LCH.

The purpose of this study is to present some interesting stylised facts about the household savings in Pakistan using the HIES 1993-94. For example, what are the average household savings rates for overall, urban and rural households? What are the average saving rates according to trade? Average saving rates for informal, private and government sectors; average saving rates according to various categories of education and education with and without training; farm versus non-farm sectors savings; married with children versus married with no children and so on. No attempt has been made to examine the impact of income and other socio-economic-demographic factors on household savings as these have been discussed at length in Khan and Nasir (1999).

II. STYLISED FACTS

Before presenting the stylised facts about the household savings a few words regarding the data and definitions of income and savings are in order. This paper is based on micro level data of the Household Income and Expenditure Survey (HIES) for the year 1993-94, compiled by the Federal Bureau of Statistics, Government of Pakistan. The Survey, based on a national sample, covers 14355 households and contains information on the households' income, expenditure, savings, age, sex, education, employment status, occupation, etc. of the household members. Household savings in this study are derived using the residual approach, i.e. taking the difference between the households' income and expenditure. Since, in the household Survey both

income and expenditure are measured with errors, the quality of current savings obtained by using the residual approach depends crucially on how well various items of expenditure and income are recorded. Keeping in view these deficiencies, an attempt is made to partially overcome this problem by defining household savings in three different ways, i.e.

S_1 = Household income minus household total expenditure;
S_2 = Household income minus household total expenditure adjusted for expenditure on education; and
S_3 = Household income minus household total expenditure adjusted for expenditure on durable items and education.

Household income is basically a global income that includes earned income as well as income from various sources such as transfer payments, rent, interest/profit, securities, land, livestock, etc.[2]

1. Overall Saving Patterns

The households' saving pattern for overall Pakistan as well as for the rural and the urban households obtained from the micro-data for S_3 definition are reported in Table 2. Out of the total sample of 14355,62 percent (8901) are rural households while the remaining 38 percent (5454) households are located in the urban areas. This is in line with the general perception about the distribution of rural and urban population of Pakistan. However, the size of the urban population in the sample has declined from 45 percent in 1984-85 HIES to 38 percent in 1993-94 HIES.

As was expected, the average income of the urban households is 27 percent higher than the overall income for Pakistan and about 53 percent higher than the income of the rural households. It is interesting to note that these numbers have not changed during the last one decade. According to the HIES 1984-85, the average income of the urban households was, respectively, 24 percent and 54 percent higher than that of overall Pakistan and the rural households [See Burney and Khan (1992)]. Rural income is only 65 percent of urban income and 83 percent of total income. Although the rural income is lower than the urban as well as total income, their savings are, nevertheless, higher than these two groups. In fact, the rural savings is 15.0 percent higher than urban savings and 5.2 percent higher than the total savings according to S_3, definition.[3]

[2]There is a general tendency among the households in developing countries including Pakistan to understate the income for the fear of being brought into the tax net. When we worked with earned income only the saving rates were negative in most of the cases. Furthermore, the income variable is gross income and not the disposable income because information regarding income taxes are not available in the survey.

[3]Throughout in the paper, we shall work with S_3 definition of savings. Results pertaining to other two definitions are available with the authors.

The above stated fact is consistent with the saving rates reported in Table 2. The average saving rate of 20 percent of rural households fares far better than 11.0 percent for the urban households and 16 percent for total households. It is well known that cash expenditures are lower in rural households because of own-consumption of agricultural products. This has been taken care of while defining total expenditure (both for rural and urban) which includes 'paid and consume' and 'produce and consume'. If we adjust for own-consumption the expenditure of rural household would drastically be reduced and will produce misleading results. This finding is not in line with the ones reported in Burney and Khan (1992) who used HIES 1984-85. The average saving rates of the urban households were not only higher than that of overall Pakistan but these were also higher than that of the rural households. *This reversal is mainly due to the way the income is defined in these two studies. Burney and Khan (1992) used only earned income while the present study includes earned as well as income from other sources, already discussed above.* The lower saving rate for the urban households could be due to the higher cost of living in the urban areas. The shares of expenditure on major non-food item are substantially higher for urban households than their rural counterpart [See Khan and Nasir (1999)]. This result is further strengthened if we look at the number of negative or zero savers in the urban and rural areas. According to the definition of savings used in this study, 40 percent households are either negative or zero savers which may reflect rational household responses to current, transitorily low incomes, or to the higher consumption needs of the poor [Gersovitz (1988)]. Despite using broader definition of income, the size of the negative or zero savers has gone up in both the rural and urban areas as compared with 1984-85 HIES reported in Burney and Khan (1992).

Table 2

Some Facts about Household Savings in Pakistan

	S_3 Definition				
Group	N	Mean Income (Rs)	Mean Savings (Rs)	S/Y (Percent)	Percent of Negative/Zero Savers
Urban	5454 (38%)	4807.25	541.19	11.0	40.85
Rural	8901 (62%)	3145.19	622.38	20.0	39.74
Total	14355	3776.67	591.54	16.0	40.16

Source: HIES, 1993-94.

Note: Figures in parenthesis are the percentage of households in the sample.

2. Household Savings according to Socio-economic Characteristics

Trade-wise

Household Savings rates according to various trade are reported in Table 3. Who saves more? It is found that households involved in agricultural sector accounting for 29 percent of the sample, have the highest saving rate of 22.2 percent followed by financial and real estate workers (20.8 percent). Because of the higher saving rate for households involved in agricultural activities that the average household saving rates of rural areas are higher than their urban counterparts. Household involved in trade sector save, on average, 14.8 percent of their income followed by households involved in social welfare and community services (13.3 percent), manufacturing (12.8 percent) and transport (9.7 percent). It is interesting to note that the households involved in agricultural and financial and real estate activities that their saving rate are higher than the average saving rate (16.0 percent) for the country. The household saving rates are lower for households involved in all other activities compared with the average for the country. Households involved in construction activity have the lowest saving rates, though their number in total sample is very low.

Table 3

Average Saving Rate according to Industry (%)

Items	Saving Rate
Agriculture (4156)	22.2
Mining and Quarrying (30)	9.4
Manufacturing (1198)	12.8
Electricity, Gas and Water (158)	8.1
Construction (105)	2.1
Trade (17898)	14.8
Transport (930)	9.7
Financial and Real Estate (180)	20.8
Social Welfare and Community Services (2170)	13.3
Undefined (3630)	13.2
Overall (14355)	16.0

Note: Figures in parenthesis are sample size.

Household savings according to the *formal and informal sectors* are reported in Table 4. Contrary to the general belief, household savings in Government sector (17.7 percent) is higher than private (14.5 percent) as well as informal sectors (16.0

Table 4

Average Saving Rate according to Informal, Government, and Private Sectors

Items	Overall	Rural	Urban
Informal Sector	16.0	20.2	9.6
	(9497)	(63531)	(2966)
Government Sector	17.7	22.9	16.3
	(692)	(228)	(464)
Private Formal Sector	14.5	18.2	12.1
	(4166)	(2024)	(2142)

Note: Figures in parenthesis are sample size.

percent). Forced saving through the provident fund appears to be the main reason for high saving rate in government sector. Household saving rate in informal sector is incline with the overall saving rate for the country. The rural-urban differential is also interesting. Household savings for those households who are in government but are located in rural areas, their saving rates are much higher (22.9 percent) than their urban counterparts (16.3 percent). This is also true in the case of informal sector as well as private formal sector. The lower saving rate for the urban households could be due to the higher cost of living in the urban areas. The shares of expenditure on major non-food items are substantially higher for urban households than their rural counterparts [see Khan and Nasir (1999)].

Contrary to the general belief that *educated people* save more, we found entirely the opposite in the case of Pakistan (See Table 5). Households with little (less than primary) or no education save the most—their saving rates vary from 16.2 to 17 percent. As level of education increases the saving rates decline. However, the saving rates are better for professional degree holders as compared with the plain degree (BA and MA) holders but far lower than the groups with little or no education. This finding is consistent with Burney and Khan (1992). More educated households have higher consumption expenditure because they have to maintain a certain level of living standard, spend more on children education, spend relatively more on entertainment, household effects, etc. This fact is reinforced by the information contained in Appendix Table 2. It can be seen from the table that expenditure on education, household effects, transport, and miscellaneous increases with the level of education. Thus, given the level of income savings tend to be lower for educated household. Our finding is, however, not in line with Avery and Kennickell (1991), Bernheim and Scholz (1993), and Attanasio (1993) who found higher saving rates for higher education groups.

Table 5

Socio-economic Characteristics and Household Saving Rates: Some Facts

(Percent)

Classification	S_3 Definition
F. Education Levels	
Illiterates upto K.G. (8868)	17.0
Primary to Middle (2862)	16.7
Matric to Intermediate (1791)	14.7
Degree (493)	5.3
Professional Degree (341)	10.3

Note: Figures in parenthesis are sample size.

Vocational training when imparted to educated households increases their savings rates. This act is illustrated in Table 6. The overall saving rate for household below matric is 14.5 percent. Their saving rates increase to 15.7 percent when they undergo through vocational training. Similarly, the below metric household with no vocational training have saving rate lower than the ones with vocational training. The reward, in terms of higher savings, for vocational training increases with the level of education. The reward of vocational training is more pronounced in the case of matric and above matric. Vocational training increases the income and household in the range of 6 to 18 percent depending upon the level of education. Everything remaining the same the higher income increases their saving rates.

Table 6

Average Saving Rate with Education and Training

		Saving Rate	
Item	Overall Saving Rate	With Vocational Training	Without Vocational Training
Below Matric	14.5	15.7 (188)	14.5 (11581)
Matric	17.0	17.3 (651)	15.6 (633)
Above Matric	19.7	22.6 (147)	19.3 (1155)
Overall Educated		18.2 (986)	15.5 (13369)

Note: Figures in parentheses are the sample size.

Another interesting aspects of household savings is its relation with *demographic factor*. It is found that saving rates are higher for *married couples with no children than with children* (See Table 7). Interestingly, as the number of children increases so does the saving rate. However, with four and more children,

Table 7

Average Saving Rate: Married With and Without Children (Overall, Rural and Urban)

Items	S_3 Definition		
	Overall	Rural	Urban
Married with No Children	16.3	23.8	14.7
Married with One Children	16.0	20.3	10.9
Married with Two Children	12.0	16.8	5.6
Married with Three Children	12.0	16.6	5.0
Married with Four Children	14.0	16.5	10.4
Married with Five and more Children	16.2	17.9	13.3

saving rates start increasing. In other words beyond three children the economic pressure on head of the household increases and either he undertakes second job or his wife enters into the job market to supplement income. Thus, their overall income in relation to married couples with three children increases by 21 percent and 66 percent for married couples with four and five children, respectively. Thus, everything remaining the same their average rates increase sharply. The rural urban differential in saving rates are quite prominent. As number of children increases upto three, the saving rates of the urban household decline drastically but start increasing with four and more children. As stated earlier, the relatively higher cost of living in urban areas is responsible for the low saving rate for the urban households.

Household savings in terms of *employment status* is also reported in Table 8. The head of the household who is self-employed has the highest saving rates, ranging from 21 to 23 percent followed by employer of less than 10 workers (15 to 18 percent). Interestingly, the saving rates of employer of more than 10 workers are almost one-half of those of employer of less than 10 workers. This is because of the fact that an establishment of more than 10 workers is governed by the country's labour laws and the employer has to pay all the benefits to workers under the law. This increases the costs of running the establishment, reduces the profit margin and hence, reduces the savings. The saving rates of the employees on the other hand are the lowest, ranging from 7.5 to 10.5 percent.

This study also examines the saving rates of *farm and non-farm households*. It may be noted that rural households constitute 62 percent of the total sample household. However, only 28 percent of rural households are engaged in farm activities and their average saving rate is 27 percent (See Table 9).

Table 8

Socio-economic Characteristics and Household Saving Rates: Some Facts

(Percent)

Classification	S_3 Definition
Employment Status	
Employer < 10 Workers (145)	18.0
Employer > 10 Workers (45)	8.7
Employees (6359)	10.5
Self-employed (5375)	23.0

Note: Figures in parenthesis are sample size.

Table 9

Average Saving Rate: Farm Versus Non-farm Sectors

Items	Saving Rate
Farm Sector (3998)	27.0
Non-Farm Sector (7993)	12.9
Undefined (2365)	15.2
Total (14355)	16.0

Note: Figures in parenthesis are sample size.

This indicates that substantial non-farm activities are taking place in rural areas. The average saving rate of non-farm sector is 12.9 percent which is substantially lower than the overall saving rate of 16.0 percent. Households engaged in undefined categories of activities save 15.2 percent. The lack of substantial correspondence between rural and farm households and between urban and non-farm households suggests the usefulness of estimating saving functions separately for these four categories of households.

III. CONCLUDING REMARKS

The purpose of this paper has been to present the stylised facts of household savings in Pakistan using the HIES 1993-94. Out of the total sample, 62 percent are rural while the remaining 38 percent are urban households. The average income of the urban households is 27 percent higher than the overall income for Pakistan and about 53 percent higher than the average income of the rural households. However, rural savings is 15 percent higher than the urban savings and 5 percent higher than the overall savings. The average saving rate of 20 percent of rural household are much higher than 11.0 percent of their urban counterparts and also higher than 16 percent for total households.

Households engaged in agricultural activities save the highest, 22.2 percent followed by financial and real estate workers. Households engaged in construction activities save the least (2.1 percent). Households in government sector save more than private sector and in informal sector. Contrary to the general belief, educated households, save less than uneducated. More educated households have higher consumption expenditure because they have to maintain a certain level of living standard, spend more on children education, spend relatively more on entertainment, household effects etc.

Vocational training when imparted to educated households, their average income as well as their average saving increase as compared with those educated households who have no vocational training. Saving rates of married couples with no children are higher than couples with children. As number of children increases, saving rates decline too. However, when number of children increases to four and above the saving rates increase. Thus, beyond three children the head of the household feel economic pressure and either starts moon lighting or his wife entire into the job market to supplement income. Hence, everything remaining the same their saving rates increases.

Self employed head of the household has the highest saving rates followed by employer of less than 10 workers. Saving rates of the household engaged in farm activities are much higher than those engaged in non-farm activities.

How could Pakistan raise its national saving rates? As stated earlier, households are responsible for 75 percent of national savings. However, there are several recent studies [Carroll and Weal (1994), Masson *et al.* (1995), and Schmidt-Hebbel *et al.* (1966)] which suggest that policy to boost savings level may not be very effective. They have suggested that the main policy focus should be on initiating a virtuous growth saving circle by fostering growth through fiscal consolidation and strong structural reforms, including privatisation and financial liberalisation. Thus, the most effective way to boost national savings is through increased public savings and a strong structural reform programme.

On the micro level the household savings can be increased by the development of long term saving instruments, such as mandatory privately managed pension scheme regulated by the Government with a broad coverage, life insurance; and mutual funds.

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Comments

The main contribution of the paper under discussion in my opinion is that it provides some basic evidence about household saving rates which can lead to testing of various behavioural hypotheses related to saving behaviour. The importance of such an investigation cannot be understated in the present time period when all academics and researchers in the economics profession are trying hard to explain the dismally low and stagnant national/private and household saving rate of Pakistan. It is in this spirit that I would like to suggest that the authors could try to find theoretical support for their findings in some directions that are currently being pursued in the literature.

Studying the individual household saving behaviour is being considered a better way of testing hypotheses about saving patterns than studies based on aggregate time series on personal saving. A recent paper by Attanasio (1998) uses a very interesting technique called the "Average Cohort" technique to construct a "psuedo-panel" from a time-series of cross sections, (which could be different HIES data sets in this case). Rather than following the behaviour of the same individuals over time, the technique tracks the average behaviour of individuals with similar life cycle experiences, controlling for education, region of residence etc. By averaging over individuals that share the same year of birth, it is possible to follow a cohort over time as it ages and leads to the estimation of a typical saving rate-age profile.

The systematic movements in these saving rate-age profiles across different cohorts of households can be used to answer questions like why did certain cohorts save less than others? The point that I am trying to make is that a lower level of saving for certain cohorts who are in a stage of their life-cycle where saving rates are typically high, leads to a strong decline in aggregate saving. I think if we carefully examine these saving rate-age profiles for Pakistan we might be able to design more focused saving instruments for mobilisation of household savings.

Next, I would like to comment on the differential savings pattern of rural and urban households that is reported in the paper. The authors could test whether the uncertainty of future income prospects is significant in explaining this differential. It has been established in the savings literature that expectations of variability of future income and expectations about the future level of income or income growth both of which are related to unemployment probabilities are important in explaining household saving patterns.

Finally, I would like to point out that household saving rates have also been found to vary in response to the process of financial deregulation. More specifically, financial liberalisation alters the proportion of liquidity contrained households in the

economy through the development of financial markets. The sensitivity or insensitivity of household saving rates to some financial sector reforms could again prove to be enlightening.

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