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Chita Tanchoco-Subido*

Do farm households have a capacity to save? If so, in what forms do they hold such savings? At what stage of development and at what income level can savings be generated? Will increasing returns on financial assets increase the overall level of savings?

These are the questions that perennially baffle the policymakers, the researchers, and the program administrators. The issue is beclouded by the lack of understanding of the concept of savings and the ^{lack, insufficiency} paucity, sometimes inconsistency, of empirical evidence on savings. The role of the return on financial assets in increasing the level of savings is also a gray area because of the different schools of thought on the influence of interest rate on the flow of savings. On one hand, it is claimed that the interest rate is the key instrument for mobilizing savings. The other side of the picture states that savings is interest inelastic, that it is a residual variable responding more to real stimuli such as income than to the financial rate of return.

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Real savings need to be distinguished from financial savings. The former is the excess of income over expenditures or the change in net worth for the household. Net worth consists of physical and financial assets net of liabilities. Financial savings is surplus in cash, bank deposits, insurance premium, etc. Very often, these terms are used interchangeably creating confusion in ascertaining the factors influencing the saving process.

Rural Saving Capacity

The estimates of saving in the Philippines have in the past been largely macro in nature. Hooley and Moreno, using the change in net worth for households, corporations and government, found a positive household saving rate which increased from 12 per cent in 1958 to 17 per cent in 1962 with households accounting for over two thirds of gross national saving.^{1/} A subsequent study of Superticioso estimated share of households for 1974-76 to have declined to between 45 and 51 per cent.^{2/}

If we look at the national income accounts, the ratio of personal savings to personal income has fluctuated in the range of 8 per cent to 12 per cent over the period 1961-1980 (Table 1). There is no way of ascertaining whether the rural savings has followed the

^{1/} Richard W. Hooley and Honorata A. Moreno, "A Study of Financial Flows in the Philippines", UP IEDR Discussion Paper No. 74-16 (Revised as of June, 1976). p.53

^{2/} Manuel A. Superticioso, "Highlights of the Flow of Funds in the Philippines, 1974-1976," Papers and Proceedings of the First National Convention on Statistics (PICC, 4-5 December 1978), 1979, pp. 570

pattern of aggregate savings through time. Cross section data on the economic accounts of rural households are periodically gathered in the Family Income and Expenditures Survey (FIES) of the National Census and Statistics Office (NCSO). Contrary to the findings on aggregate savings, they reveal negative savings or an excess of consumption expenditures over current income (Table 2). From 1961, total dissavings of the rural sector consistently climbed from P376.2 million to P2,911.8 million in 1971 and P5,473.5 million in 1975. The average propensity to dissave, or the proportion of dissavings to income, was 18 per cent for the period 1961-75. There appears to be low, if not negative, savings among rural households based on the FIES although the survey data are fraught with shortcomings including difficulty of recall, underestimation of income and valuation of income in kind.

A closer investigation of the rural savings behavior was conducted in 1979 by the Technical Board for Agricultural Credit (TBAC) and the University of the Philippines Business Research Foundation (UPBRF).^{3/} Estimated as change in net worth, positive savings was shown on the average for the nationwide sample of 581 rice farmhouseholds (Table 3). The average propensity to save was estimated at 9.1 per cent for all households, varying from a negative 476 per cent for the lowest income group earning below P500 a year to a positive 21 per cent in the case of the P10,000-P15,000 income class.

The dissavers, around 230 farmhouseholds, comprised 40 per cent of the total sample. The deficit was financed by a reduction in

^{3/} TBAC-UPBRF, "Financing Integrated Development in the Rural Community: Focus on the Masagana 99", 1979.

asset holdings, borrowing, or both (Table 4). Drawdowns on past savings mainly in the form of palay and food crop inventories and cash holdings were also resorted to in order to sustain consumption levels. A point of interest in Table 4 is the presence of a group of farmhouseholds who increase their asset pool through credit while consuming in excess of their incomes.

Another study by TBAC and UPBRF in 1981 based on the data generated from the farm record keeping project of the Bureau of Agricultural Economics revealed average rural savings ranging from ₱1008 to ₱1662 in the period 1976-1978 (see Table below). Rural savings was defined as changes in net worth and alternatively estimated with and without inventories.

AVERAGE RURAL SAVINGS AND SAVING PROPENSITIES

	<u>1976</u>	<u>1977</u>	<u>1978</u>
1. Average Rural Savings (including inventories)	₱1014	₱1662	₱1492
Average Propensity to Save	13.3%	20.1%	17.0%
2. Average Rural Savings (excluding inventories)	₱1008	₱1226	₱1086
Average Propensity to Save	13.2%	14.8%	12.3%

Source: TBAC-UPBRF, "Research on Rural Financial Markets in the Philippines" (preliminary draft) based on Bureau of Agricultural Economics Farm Record Keeping Project, 1981.

The dissaving group comprised about 24 per cent of the total households in 1976 and 25 per cent in 1977, but this climbed to 37 per cent in 1978 (Table 5).

Forms of Savings

A majority of farmers do save. If we disregard the dissaving group, 60 per cent of the 1979 TBAC-UPBRF sample are positive savers with APS of 10.4 per cent. What would be the asset composition of these savings? Table 6 decomposes total savings into changes in assets and liabilities. Savings increase with an increase in assets and decrease with an increase in liabilities or debt. Gross asset acquisition amounted to ₦809 per household but liabilities increased also by ₦298 leaving an actual savings of ₦511. A major portion of the assets accumulation, around 80 per cent, went to capital formation or expansion in the productive capacity of the farm households. Live-stock and poultry accounted for the largest percentage of the asset increase, 29 per cent; followed by machinery and implements, 20 per cent; and buildings and structures, 17 per cent.

Clearly, physical assets dominate the asset portfolio of the rural households. There was a general drawdown on financial assets, on the average and for most of the income groups (Table 7). Financial assets, such as cash, bank deposits, insurance premiums, etc., comprised only 3.6 per cent of the average household's assets. Of the total financial assets, rural households held approximately 40 per cent in cash and around 26 per cent in bank deposits, and 12 per cent in life insurance premiums (Table 8). In terms of the proportion of households

reporting positive holdings of financial assets, around 65 per cent had cash while 22 per cent reported having bank deposits. Although this was a significant portion of total households, on the whole, cash and bank deposits declined for the year and there was a 1.3 per cent average propensity to dissave in the form of financial assets.

Determinants of Savings Behavior

The farm household is faced with a network of interlocking decisions. Unlike in the urban or industrial sector where the household is neatly distinguished from the firm, the farm or the producing unit is integrated with the consuming household. The farmhouseholds participate in the labor force, consume, save, invest and make choices on technology, all at the same time.

The anatomy of the saving decision is quite complex considering the myriad of forces influencing it and its interaction with other farmhousehold decisions. The level and form of savings, to our belief, are the results of a two-step sequential decision process. Firstly, the household decides on his consumption level leaving a residual called savings. Then, if there is positive savings, a choice is made among alternative forms of assets, whether physical or financial, looking at relative yields, liquidity and risk profiles, maturity patterns, etc.

Great mounds of literature have been written on the consumption function since Keynes hypothesized that current consumption is primarily determined by current income. Other theories advanced include the permanent income hypothesis of Milton Friedman, the life cycle hypothesis

of Modigliani, Ando and Brumberg, the relative income hypothesis, etc. We will not deal with an exposition of the theoretical framework of these models which properly belong to a textbook, rather we will look at the empirical studies yielding insights into consumption behavior and corollarily, the level of savings.

In the 1979 TBAC-UPBRF study, income was found to be the major determinant of consumption. Using the conventional Keynesian model, the best regression estimate yielded a marginal propensity to consume of 0.87 suggesting a marginal savings propensity of 13 per cent. In the subsequent TBAC-UPBRF research on rural financial markets using the data series from the Bureau of Agricultural Economics (BAEcon) farm record keeping project, Aragon estimated a marginal propensity to save in the range of 0.24 to 0.30 which he said "seems fairly reasonable but a little overestimated perhaps". Increases in income should result to proportionately higher volume of savings and efforts designed to accelerate the level of savings should be geared towards raising incomes.

Other variables which were found by the TBAC-UPBRF study to exert significant influence on consumption were net liquidity, dependency ratio, and rate of return on investment. Net liquid assets^{4/} were positively and significantly correlated with consumption implying that liquidity increases consumption or decreases savings but the presence of debt obligations tempers the effects. The greater the number of

^{4/} Liquid assets less outstanding debts, but the latter including only current liabilities to the Land Bank for Certificate of Land Transfer holders.

mouths to feed, the higher the consumption levels. With respect to the effects of the rate of return on capital which represent the opportunity cost of current consumption in terms of income foregone from investments, the sign of the regression coefficient was negative. This means that householder will decrease consumption with higher rates of return, positively affecting savings but this effect tends to diminish with further increases in the rate of return. The income effect of higher rates of return will offset the substitution of future consumption for present consumption.

The above finding on the relationship between rate of return or profitability and consumption/savings does not mean that raising interest rates will increase savings. Other studies find a weak link between savings and interest rates. Williamson (1968), comparing saving behavior in Asian countries, found that higher interest rates are associated with lower real saving.^{5/} In regressing saving on interest rates, income and other variables, Rene Encarnacion (1979) saw that the interest rate coefficient was generally insignificant while the income variables was consistent and highly significant.^{6/} Another study by Mejia (1979), using a three-equation model consisting of a saving, interest rate and a capital-labor ratio function, yielded a negative and significant correlation between saving and the nominal rate of interest.^{7/}

^{5/} Jeffrey Williamson, "Income Growth and Savings," University of the Philippines, Quezon City, 1968.

^{6/} Rene Encarnacion, "Will High Interest Rate Lead to Increased Real Saving? A Comment on the Interest Rate Reform in South Korea," University of the Philippines, Quezon City, 1979.

^{7/} Winifreda V. Mejia, "Some Effects of Financial Policies in Industrial Promotion," Master's Thesis, University of the Philippines, Quezon City, 1979.

When the real rate of interest was plugged in, the coefficient was negative and insignificant. Meanwhile, the income variable coefficient was always positively and highly significant. Although these empirical evidences pertain to aggregate savings, the TBAC-UPBRF findings on rural saving behavior are consistent with these studies.

The 1981 TBAC-UPBRF study on rural savings behavior tested the permanent income hypothesis of Milton Friedman and found mixed results. Defining permanent income as the average of three years income and savings inclusive of changes in inventories, a larger proportion of transitory income, around two thirds, was saved, while only about 37 per cent of permanent income was saved in the year 1977. However, if changes in inventories were deducted from savings, the savings propensity, around 28 per cent, out of transitory income was not any different from permanent income.

When income was disaggregated into agricultural and non-agricultural income, the MPS out of agricultural income ranged from 0.301 to 0.423 which were significantly higher than the MPS out of non-agricultural income ranging between 0.109 and 0.129. The explanations offered were the practice of setting aside a certain portion of the current year's agricultural output for future use as seeds, feeds or home consumption plus the fact that most non-agricultural incomes were in the form of cash readily available for spending. Tests were also conducted on the explanatory power of other variables such as the dependency ratio, educational indices, interest rates and rates of return but the results indicated either a wrong sign or statistically insignificant coefficients.

Factors Influencing Form of Savings

The distribution of savings among alternative forms of assets, physical or financial, will depend on the relative rates of return on the different types of investment, the liquidity and risk preference of farmhouseholds, the time preferences of the households, and other factors. Restructuring savings from physical assets to financial forms is considered desirable because it improves the allocation of investible resources. Savings may be drawn from an inefficient farmer to a more efficient farmer who has better investment opportunities, or from the large yield agricultural sector to the more productive industry sector. However, financial savings is just one form of assets and may not produce the highest rate of return especially within the context of a developing country where the capital markets are fragmented, and the household saving and investment decisions are highly interdependent. A high saving rate may therefore be consistent with a low level of saving deposits since the two variables are subject to two entirely distinct sets of influences and decision processes.

Threshold Level of Income for Savings to Occur

An important issue that keeps coming up in development fora is the existence of a particular stage of development in a country or a threshold level of income for a household beyond which savings can be generated. We can see, from the preceding sections, the pitfalls of looking at simple averages - e.g. concluding from the FIES surveys that there is no savings potential in the rural areas. A significant

proportion of the rural households do save, around 30 per cent according to 1971 FIES and 60 per cent according to the 1979 TBAC-UPBRF study (Table 2). However, the savings propensity of Filipino rural households is still low, compared to developing countries similarly placed in the income ladder, and relative to the requirement for our growth targets.

Dissavings occur for farm families with incomes below ₱1,500 (TBAC-UPBRF, 1979). On the other hand, the FIES shows breakeven incomes of ₱617 in 1957, rising to ₱1718 and ₱2,710 for 1961 and 1965 respectively, and finally, ₱5499 in 1971. In the later TBAC-UPBRF study on rural financial markets, positive mean savings in 1976 occurred at the ₱2000-3000 income group. In 1977, the positive savers started at the ₱3000-4000 bracket and in 1978, at the ₱5000 to ₱7500 income class. The threshold level of income is on the uptrend reflecting inflation, the expansion of basic consumption needs due to demonstration effects of new goods and better quality of products, as well as other sociological and attitudinal factors.

Concluding Remarks

From the evidence gathered above, savings potential exists in the rural areas. The asset structure is heavily biased towards physical assets with financial assets constituting less than 3 per cent of total assets. This is typical of a developing country where there is a large self-financed household sector and where the decisions to consume, save, invest, and supply labor merge with one another. Income

was found to be the primary determinant of savings while interest rate or the financial rate of return appeared to be weakly connected with the saving decision. The income level at which savings can be generated was ₱617 in 1957, and ₱5000-7500 in 1978. The average household income in the country would have to be increased to this level in order that positive savings may occur.

Table 1

PERSONAL INCOME AND SAVINGS

	<u>Personal Income</u> (In ₦ Million at Current Prices)	<u>Personal Savings</u>	<u>Ava. Propensity</u> <u>to Save (%)</u>
1961	13,053	1,284	9.8
1962	14,480	1,091	7.5
1963	16,614	2,133	12.8
1964	17,988	2,266	12.6
1965	19,869	2,791	14.0
1966	21,445	2,787	13.0
1967	24,090	2,444	10.1
1968	26,393	2,088	7.9
1969	29,432	2,395	8.1
1970	33,986	2,916	8.6
1971	40,616	3,602	8.9
1972	45,727	4,549	9.9
1973	56,695	7,025	12.4
1974	78,505	9,619	12.3
1975	88,955	10,457	11.8
1976	104,264	13,547	13.0
1977	121,693	15,069	12.4
1978	140,929	14,944	10.6
1979	169,505	16,348	9.6
1980 ^{a/}	207,772	16,411	7.9
Compounded			
GR (%)	15.7	14.4	(1.1)

^{a/} Advance estimates

Source: NEDA National Income Accounts

Table 2

RURAL FAMILY INCOME, EXPENDITURES AND SAVINGS DATA
 BASED ON NCSO-FIES SURVEYS

<u>Year</u>	<u>Income</u>	<u>Expenditures</u>	<u>Total Savings (Dissavings)</u>	<u>Total (Dis- savings)per Household</u>	<u>Percentage of Households Dissaving to Total Households</u>	<u>Average Propensity to Save (%)</u>
1957	P2,601,799	P2,277,376	P 324,423	P 123.31		12.5
1961	3,512,793	3,889,032	(376,239)	(128.80)	76.0	(10.7)
1965	6,327,716	7,723,445	(1,395,729)	(387.06)	78.6	(22.1)
1971	12,493,416	15,405,249	(2,911,833)	(656.71)	69.8	(23.3)
1975	32,545,955	38,019,437	(5,473,482)	n.a.	n.a.	(16.8)

Source: NCSO Surveys.

Table 3

SAVINGS, AVERAGE PER HOUSEHOLD BY INCOME GROUP, 1977

Income Group	Percentage Distribution of Households	Average Savings Per Household	Average Savings Per Household (Excluding Consumer Durables)	Average Propensity To Save	Average Propensity To Save (Excluding Consumer Durables)
Below ₦500	8.8	(₦1229)	(₦1265)	(476%)	(490%)
₦ 501-1000	8.4	(306)	(334)	(39)	(43)
1001-1500	9.0	(131)	(155)	(10)	(12)
1501-2000	8.6	259	207	14	12
2001-2500	6.9	239	206	11	9
2501-3000	7.6	170	96	6	4
3001-3500	5.0	717	150	5	5
3501-4000	3.8	311	184	8	5
4001-4500	3.6	554	370	13	9
4501-5000	2.9	299	288	6	6
5001-10000	20.8	653	467	9	6
10000-15000	6.7	2492	2170	21	18
15001-20000	3.3	1156	1007	7	6
20001 and over	4.1	5211	4767	15	14
All Households	100.0	511	394	9.1	7

Source: National Census & Statistics Office Surveys.

Table 4
LEVEL OF AND MEANS OF FINANCING DISSAVINGS

Means of Financing Dissaving	Number of Households		Mean Value of Asset Acquisition (Reduction)	Mean Value of Borrowings Acquired (Repaid)	Total Dissavings
Asset Disposition	70	30%	(P1,290)	(P132)	P1,158
Borrowing	80	35%	481	P 1,525	P1,044
Both Asset Dis- position and Borrowing	80	35%	(P 946)	867	P1,814
Total	230	100%	(P 554)	P 792	P1,346

Source: TBAC-UPBRF, "Financing Integrated Development in the Rural Community: Focus on the Masagana 99," 1979.

Table 5

DISTRIBUTION OF RURAL SAVINGS, BY INCOME GROUP
1976-1978

Income Group	1976		1977		1978	
	No. of Households	%	No. of Households	%	No. of Households	%
Negative	30	24.2	31	25.2	45	36.9
1-1000	25	20.1	25	20.3	28	22.3
1001-2000	18	15.2	17	13.8	20	16.4
2001-3000	17	14.3	17	13.8	8	6.6
3001-4000	12	10.2	13	10.6	4	3.3
4000-5000	6	4.8	7	5.7	3	2.5
above 5000	<u>14</u>	<u>11.2</u>	<u>13</u>	<u>10.6</u>	<u>14</u>	<u>11.5</u>
	122	100.0	123	100.0	122	100.0

Source: TBAC-UPBRF, "Research on Rural Financial Markets in the Philippines" (preliminary draft) based on Bureau of Agricultural Economics Farm Record Keeping Project, 1981.

Table 6

FORMS OF SAVINGS, AVERAGE
FOR ALL HOUSEHOLDS

	<u>Increase (Decrease)</u>	<u>Per Cent Distribution</u>
1. Land Acquisition	P 95	11.7
2. Land Infrastructure	19	2.3
3. Machinery and Implements	159	19.6
4. Building and Structure	140	17.3
5. Livestock and Poultry	233	28.8
6. Inventory	119	14.7
7. Major Consumer Durable	117	14.5
8. Financial Assets	<u>(-73)</u>	<u>(9.0)</u>
A. Gross Asset Acquisition	P 809	100.0%
B. Increase (Decrease) in Liabilities	<u>298</u>	<u>37%</u>
C. Total Savings	P 511	63%

Source: TBAC-UPBRF, "Financing Integrated Development in the Rural Community: Focus on the Masagana 99," 1979.

Table 7

FINANCIAL ASSETS, BY INCOME GROUP

<u>Income Group</u>	<u>Gross Asset Increased(Decrease)</u>	<u>Financial Assets Increase(Decrease)</u>	<u>Ratio of Financial Assets to Total Assets</u>	<u>Average Propensity to Save (Dissave) Financial Assets</u>
Below ₱500	(₱442)	(₱263)	2.6	(102%)
₱ 500-1000	(61)	(119)	1.9	(15)
1001-1500	105	(99)	2.5	(7.6)
1501-2000	511	13	3.2	1.0
2001-2500	362	(22)	2.6	(1.0)
2501-3000	425	(145)	3.4	(5.3)
3001-3500	580	88	4.2	2.7
3501-4000	501	(93)	8.9	(2.5)
4001-4500	838	(14)	3.7	(0.3)
4501-5000	546	(61)	3.2	(1.3)
5001-10000	1008	14	3.7	(0.3)
10001-15000	2740	186	5.8	1.6
15001-20000	884	(1153)	3.4	(6.6)
20000 and over	5425	142	3.0	0.4
All Households	₱ 809	(₱ 73)	3.6	(1.3)

Source: TBAC-UPBRF, "Financing Integrated Development in the Rural Community:
Focus on the Masagana 99," 1979.

Table 8

STRUCTURE OF FINANCIAL ASSETS AND PERCENTAGE OF
HOUSEHOLDS HOLDING FINANCIAL ASSETS, AVERAGES OF ALL HOUSEHOLDS

Structure of Financial Assets				Percentage of Households Holding Financial Assets				
Beginning 1977		End 1977		Beginning 1977		End 1977		
Amount	% Distr.	Amount	% Distr.	Percentage	Ave. Households	Percentage	Ave. Households	
1. Cash	P 471	46.9	P 339	27.8	67	P 664	64	P 593
2. Bank Deposits	254	25.3	242	27.0	22	1,053	21	1,174
3. Barrio Savings Fund	38	3.8	47	5.2	39	121	41	143
4. Barrio Guarantee Fund	52	5.2	65	7.2	45	143	48	160
5. Life Insurance	108	10.7	121	13.5	25	471	26	504
6. Loans and Receivable	76	7.6	77	8.6	8	992	8	978
7. Other Securities	6	0.6	5	0.7	1	1,618	1	1,800
	P 1,005	100.0	P 897	100.0				

Source: TBAC-UPBRF, "Financing Integrated Development in the Rural Community: Focus on the Masagana 99," 1979.

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