

SAVINGS OF THE HOUSEHOLD SECTOR IN INDIA IN FINANCIAL ASSETS, 1970-71 — 1984-85

**Dissertation submitted in partial fulfilment of the requirements
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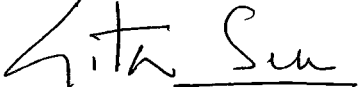
I hereby affirm that the research for this dissertation titled "Savings of the Household Sector in India in Financial Assets, 1970/71-1984/85" being submitted to the Jawaharlal Nehru University for the award of the Degree of Master of Philosophy was carried out entirely by me at the Centre for Development Studies, Trivandrum.

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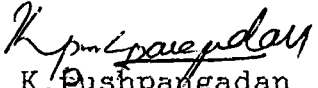

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Introduction

The problem of generation of saving and its conversion into capital, is fundamental to the theory of economic growth. The volume and composition of saving (both according to source of origin and final destination) are important in the macro-analysis of the development process. In fact, Arthur Lewis considers the saving and development process as almost synonymous. According to him¹ "The central problem in the theory of economic growth is to understand the process by which a community is converted from being a 5 percent to a 12 percent saver with all its changes in attitudes, in institutions and in techniques which accompany this conversion".

In a closed economy, saving constitutes the net change in the physical stock of assets. In an open economy, however, total saving would also include net financial claims on the foreign sector. Financial claims assume importance as they serve as the medium for transfer of loanable resources from one country to another. In the same way, within an economy, financial claims facilitate transfer of saving from the surplus to the deficit sector.

In the macro-analysis of saving and capital formation, the national economy is usually divided into three broad sectors viz. (i) government, (ii) private corporate sector and (iii) households. Households constitute the surplus sector and the other two, the deficit ones. Through the medium of financial instruments, part of the savings of the household sector, are

transferred for capital formation in the government and private corporate sector. The transfer takes place either directly or indirectly through financial intermediaries like commercial banks etc. The need for financial intermediaries arises because the asset preferences of the ultimate lenders do not always match with the liability preferences of the ultimate borrowers. The matching is done by the financial intermediaries who create their own instruments suiting the asset liability preference of different sections of the economy.

In India, the saving of the household sector constitutes almost three-fourths of the total saving of the economy as is evident from Table 1.1.² Hence the aggregate saving behaviour is largely influenced by the saving behaviour of the household sector.

Table 1.1: Household Sector's Saving in India (in Rs Crores)

Year	Gross saving of the Households	Total Gross Domestic Saving	Gross Domestic product	Col.2 as percentage of Col.3	Col.2 as percentage of Col.4	Col.3 as percentage of Col.4
1	2	3	4	5	6	7
1970-71	4872	6783	40263	71.83	12.10	16.85
1971-72	5466	7498	43356	72.90	12.61	17.29
1972-73	5649	7769	47865	72.71	11.80	16.23
1973-74	8522	11392	58940	74.81	14.46	19.33
1974-75	8537	12653	69595	67.47	12.27	18.18
1975-76	10452	14847	74084	70.40	14.11	20.04
1976-77	12698	18030	80198	70.43	15.83	22.48
1977-78	14433	19981	89815	72.23	16.07	22.25
1978-79	17747	24139	97860	73.52	18.14	24.67
1979-80	17378	24697	107658	70.36	16.14	22.94
1980-81	22119	29375	127926	75.30	17.29	22.96
1981-82	23489	33458	147497	70.20	15.93	22.68
1982-83	26472	37369	163576	70.81	16.18	22.85
1983-84	33087	43082	194061	76.80	17.05	22.20
1984-85	38716	49090	214385	78.87	18.06	22.90

Source: CSO: National Accounts Statistics (NAS); Various Issues

The significant observation that emerges from Table 1.1 is the rise in the saving rate from nearly 17 percent in 1970-71 to 22-23 per cent in 1976-77 and then to nearly 25 percent in 1978-79. This significant rise in the saving rate in the Indian economy within a short span of time has attracted the attention of researchers³.

Apart from the rise in saving rate in the economy, the structural changes in the composition of household sector's saving also merit attention. As noted earlier, the saving of the household sector has two parts viz. (i) direct investment in physical assets and (ii) saving in the form of financial assets (i.e. financial claims on the Government and private corporate sector). The share of the financial assets in the total savings of the household sector, has steadily risen over the years as is evident from the Table 1.2

As is evident from the table, the share of financial assets in total savings of the household sector, has fluctuated from year to year but the trend has been a rising one. The reasons for this rising share of financial assets in household sector's savings, have been summed up by Mujumdar et al(1980)⁴ "This is indicative of the increasing financial sophistication of the economy, reflecting perhaps what one might call "financial deepening" brought about by the institutional infrastructure".

The importance of the financial assets lies in the fact that they make it possible for potential investors to undertake

discrete investments requiring large sums of funds. If investments were limited by self-finance, mostly marginal investments using traditional/inferior techniques would have resulted. If the medium of financial assets is absent, only the

Table 1.2: Savings of the Household Sector in Financial Assets (in Rs Crores)

Year	Gross Saving in Financial assets	Financial Liabilities	Net Saving in financial assets	Households total saving	Col.4 as percentage of col.5
1	2	3	4 Col.2-Col.3	5	6
1970-71	2029	658	1371	4872	28.14
1971-72	2260	705	1555	5466	28.45
1972-73	2888	760	2128	5649	37.67
1973-74	4448	836	3612	8522	42.38
1974-75	3190	816	2374	8537	27.81
1975-76	5014	1096	3918	10452	37.49
1976-77	6304	1532	4852	12698	38.21
1977-78	7316	1463	5853	14433	40.55
1978-79	9216	2558	6658	17747	37.52
1979-80	9263	3182	6081	17378	34.99
1980-81	12052	3660	8392	22119	37.94
1981-82	13157	3776	9381	23409	39.94
1982-83	15448	3108	12340	26472	46.62
1983-84	18531	4204	14247	33087	43.06
1984-85	22705	4387	18398	38716	47.52

Source: Same as in Table 1.1

Government would be in a position to undertake large investments where indivisibilities exist. Saving in the form of financial assets also derives its importance in a developing country like ours, from the fact that these savings can be mobilised for investment in priority areas, in conformity with the planning strategies. Hence, a larger saving in the form of financial assets of the household sector, implies a higher possibility of achieving the desired pattern of physical investment at macro-

level.

Growth-Rates in the Saving-Income Variables

The trend growth rates for selected macro variables for the period 1970-71 to 1984-85 (both in nominal and real terms) are indicated in Table 1.3. The growth-rates were calculated by fitting a semi-log function (exponential trend equation). The real growth-rates were obtained after deflating the nominal variables by the National Domestic Product (NDP) price deflators.

Table 1.3: Trend Growth Rates of Selected Macro Variables (1970-71 to 1984-85)

Macro Variable	Growth Rate in Nominal Term	Growth Rate in Real Term*
Gross Saving of the Household Sector in Financial Assets	18.63	9.48
Net Saving of the Household Sector in Financial Assets	19.15	9.84
Total saving of the Household Sector	15.89	7.87
Gross Domestic Saving	15.58	6.73
Gross Domestic Product	12.62	4.28

Source: Same as in Table 1.1

The above table reflects in terms of differential growth-rates what was already indicated in the earlier tables in terms of shares. Gross Domestic Saving has grown faster than the Gross Domestic Product and Household Sector's Saving has in turn grown faster than the Total Saving. Within the Household Sector, the growth-rate of financial savings (both gross and net) has been

more impressive.

Given this background, we propose to explore the two important aspects of the 'financial savings of the household sector in India.' The first aspect is part of 'National Accounts Statistics' where we would be concerned with the generation of 'financial savings' data in the economy. The second aspect is part of macroeconomics where we would investigate the inter-relationship of 'financial saving' and other important macro-economic variables. Thus we intend to cover both the statistical and economic aspects of the 'financial savings in India' with 1970/71 to 1984/85 as the reference period.

In the statistical part, we would attempt to (1) critically examine the data-base and existing methodology of 'financial saving' estimates in India and (2) build an alternative series of estimates of 'financial savings' in India for the reference period on the basis of a new methodology. In the macro-economic part, we would follow the standard literature on 'determinants of saving' and conduct an empirical exercise to find out the important determinants of financial savings in India, both at disaggregated and aggregate level. In this exercise, instead of using official estimates of financial saving, we would use the estimates of financial savings made by us. The justification for our thesis is provided by the paucity/inadequacy of research studies in this regard. ~~The~~ ~~we~~ ~~are~~ ~~attempting~~ ~~to~~ ~~carry~~ ~~out~~ ~~the~~ ~~study~~ ~~in~~ ~~the~~ ~~next~~ ~~few~~ ~~months~~.

The Chapterization Scheme is as follows: Chapter 1 presents a 'review of existing literature' on 'estimates of financial saving in India' and 'determinants of saving in India'. In Chapter 2, we critically evaluate the official methodology of estimation of financial saving in India and suggest a new methodology, which we feel, is superior to the official methodology. Chapter 3 presents the alternative series of estimates of financial savings in India for the period 1970/71 to 1984/85 on the basis of ^{the} new methodology. In Chapter 4, we do a trend analysis of financial savings in India and conduct econometric tests to indentify the main determinants of financial savings in India.

Notes and References

1. Arthur Lewis (1963) quoted in Mujumdar et al (1980) p.3
2. In all tables in this Chapter, we have not used the most recent data for the years 1980-81 onwards, available in the CSO(1988):NAS(1980/81-1985/86) as these data are not comparable with the data for 1970's whereas the relevant data given in the earlier issues of CSO and quoted in our tables form a continuous time-series for the entire period (1970/71-1984/85). For details of the issues involved, please see Roy Choudhury U.D.(1988). According to her(op.cit,p.1539)"In the final analysis though the CSO has doubtless taken great pains to utilize all available fresh data and produce a set of estimates with great care, it might still be necessary to examine the New Series carefully before one makes use of the data to draw conclusions regarding the behaviour of the economy since 1980-81".
3. Mujumdar N.A. et al(1980)
4. -----p.7

Chapter 1

Review of Literature

Estimation of Financial Saving in India

In the introductory chapter, we noted the importance of 'household savings' in India and also the importance of 'financial savings' in the total savings of the household sector. Unfortunately, in the literature on the Indian economy, we do not come across any analytical work that investigates the data-base and methodology of the estimates of financial savings. As a side effect of this, no empirical studies have been conducted so far to provide an alternate series of estimates. Though some economists (See Raj Committee Report on Savings¹) have questioned the high saving rates witnessed in the Indian economy during the 70's and the 80's on the ground that these high rates are partly statistical in nature, no attempt has been made to substantiate these arguments. According to these arguments, the high or low saving rates do not have much economic significance in our context as the magnitude of these rates is partly the result of specificity of the data-base and the methodology which has little/nothing to do with the real economic forces in operation in the country. A.K.Ghosh, a member of the 'Working Group on Saving'¹, in his dissenting note commented² ".....improvements in the estimates could, in my personal opinion, further bring down the rate of saving and investment in the economy as a percentage of national income". Thus there are references to the issue in question but no attempt has been made to go into details of it. This is the primary reason why our thesis is focussing

mainly on this aspect. However, on 'Determinants of Savings in India', there are a number of studies differing in their scope and framework and these are taken up for a brief discussion in the next section of this Chapter

Determinants of Savings

The empirical literature have generally focussed on three explanatory variables viz. (i) income, (ii) inflation and (iii) interest-rate with income taking precedence over all other variables.

Income as the principal determinant of Saving

One point worth-noting at the beginning is that an income-earning entity makes only one decision either regarding consumption or regarding saving; the other component is only a residual. Hence theories that explain consumption also explain saving.

There are two broad streams of theoretical approaches, the first one being the standard Keynesian saving (consumption) function and the latter consisting of alternative hypotheses advanced by Friedman and Modigliani. The standard Keynesian theory specifies saving as a linear function of current income with a constant marginal propensity to save (MPS), i.e. $S = a + bY$; S = gross domestic saving and Y = gross national product.

It is assumed that the intercept term (a) is negative and $0 < b < 1$ such that average propensity to save (APS) rises as income rises³. The empirical literature have also experimented with the Keynesian specification in semi-log and double-log form.

Of the Post-Keynesian saving functions, the most popular is that of Friedman's 'Permanent Income' hypothesis; that in its simplest form specifies current saving as a function of permanent income and transitory income i.e.

$$S = a + b_1 Y_p + b_2 Y_t$$

where Y_p = permanent component of income and

Y_t = transitory component of income

Permanent income is the expected income over a long run period. In empirical studies, an average of past income is taken as a proxy for permanent income. Transitory income is the difference between the actual income and permanent income in any period.

The common assumption is that, MPS is much higher in case of Y_t compared to Y_p though Friedman would prefer to have a still stronger assumption i.e. $MPS = 1$ in case of Y_t (the entire amount of transition income being saved). Empirical studies for developing countries provide evidence in favour of the weak version of the 'Permanent Income Hypothesis'⁴. In the weak version, the MPS out of Y_t is significantly higher than the MPS of Y_p but not equal to unity. In India, studies by Krishnamurty and Saibaba(1982) and Krishnamurty, Krishnaswamy and Sharma(1986) support the 'Permanent Income Hypothesis'. However Sen (1975) observes that the variability in the inflation rate introduces variability in the perception of constant(i.e. permanent) income level and one is not sure about the direction of the change. The standard Keynesian concept of 'current income' has also fared

well for the developing countries including India though the regression equations in many cases have yielded positive intercept contrary to keynesian expectation of a statistically significant negative intercept. The implication is that MPS is not always greater than APS(Average Propensity to Save) as postulated by Keynes.

There is also the 'Life Cycle of Income' hypothesis developed by F. Modigliani, A. Arno and R. Brumberg. According to these authors, the individual is hypothesised to aim at zero saving during the whole life investing and disinvesting at different phases of life. Thus according to this model, in a society of stationary population and income, there would be no aggregate net personal saving since the dis-saving of the retired would exactly match the savings of the employed. However, in a dynamic economy, the aggregate net personal saving would be positive and would be determined by the population growth and the growth in per capita income. In the Indian case, this hypothesis has not been tested due to lack of adequate data on income and saving for different age-groups of the population.

Inflation and saving -- There is no strong theoretical basis for anticipating the role of inflation in the saving process. On the one hand, it has been argued that inflation promotes saving through redistribution of income in favour of groups with higher propensity to save. On the other hand, it has been held that in developing countries like India where consumption levels are low, people would protect their existing levels of real consumption at any cost. The overall effect of the

two opposing factors would depend upon the rate of inflation, existing levels of consumption and distribution of income amongst various social classes in the economy etc. Hence judgements about the role of inflation have depended almost wholly on the empirical evidences in developed as well as in developing countries.

A major cross country study by Thirwall(1974) found that the saving ratio is positively related when the inflation is mild but negatively related when the inflation is too high. He, however, concludes that these relationships are not statistically significant.

Interest Rate and Saving -- Interest rate plays a major role in the Keynesian specification, its significance being more in composition of saving rather than in the aggregate volume of saving. Many writers have tried to test the significance of interest rate variable in the Indian case in the light of Keynesian theory. However there are problems with such exercises. The role of interest rate in the Keynesian sense has to be understood in the context of two asset model (money and bond) with free market operations guaranteeing variability in the interest rate and a consequent smooth substitution between the two assets. In India, the bond with a variable rate of interest, is not the major instrument of saving. The closest approximations to bond that we have in India, are Government Securities (representing marketable debt of the Government) which are held mainly by the financial intermediaries i.e. the banks and debentures held mostly by financial institutions other than

banks. Even the portfolios of these financial intermediaries are not sensitive to interest rate changes as they are determined by the statutory requirements imposed by the Government. In such a situation, if some one proceeds with the Keynesian notion of interest rate, then the conclusions might be entirely misplaced, no matter whether the variable to be explained is total saving of the economy or the portfolio of the financial institutions. A second and equally important point is that in the Keynesian theory, interest rate plays a major part because the people who save and the people who invest, are different. The implication is that individuals (in a broad sense, households) save while firms (public and private corporate) invest. The question of households investing directly in physical capital is peripheral to the Keynesian framework, yet till recently, in India, the major portion of household savings were in the form of physical assets and not in financial assets. Hence the role of interest rate in explaining the savings of the household sector in India, is likely to be a limited one.

Financial Infrastructure:

It is common knowledge that growth of financial infrastructure (financial institutions, assets and market) promote savings in the economy⁵. This is due to the indivisibilities of physical assets. Unlike Govt. and private corporate sector, the households need to accumulate saving in the form of financial assets for a considerable period of time till such savings are adequate to buy the desired physical assets. A well-developed system of financial intermediation facilitates this process and

thus encourages saving. There are two motives for holding financial assets viz (i) the long-term motive of holding financial asset as a regular source of income and (ii) the short-term motive of holding financial asset for ultimate conversion into physical assets. Growth of financial infrastructure promotes both the motives of saving in financial assets.

People especially in the urban areas (where the possibilities of direct investment in physical capital are limited due to exorbitant price of real estate, urban land ceiling act etc.) prefer to invest in financial assets which are highly liquid, risk-free, easily storable and more divisible. Hence availability of a wide range of financial assets suiting the preference pattern of different classes of people, can induce larger saving out of a given level of real income. In developing countries like India, the financial infrastructure is synonymous with commercial banking infrastructure as the other forms of financial intermediaries such as mortgage banks, mutual funds etc. (so prominent in the developed economies like the U.S.A.) are almost absent. Hence the number of bank branches is a good proxy for growth of financial infrastructure in the economy.

Other Determinants of Household Saving in India

The RBI report on Savings (Chairman K.N. Raj (1982)) attaches much significance to the growth of producer households in the farm and non-farm sector (proprietorship and partnership firms) in explaining high levels of saving registered by the household sector in India in the 1970s. Granovsky (1986) also

alludes to the role of unorganised enterprises in raising the household sector's savings in India during the 70s. According to him(op.cit p.62) "... the main reason for the increase in the ratio of household saving was the intensification of accumulation by small capitalists and the upper stratum of petty commodity production, particularly in rural areas". However, in the available literature, no econometric tests have been done to capture quantitatively the role of the above phenomenon.

Other factors mentioned in the literature on India, are the spectacular rise in foreign inward remittances during the late 1970s⁶ and operations of the Food Corporation of India(FCI)⁷. While rise in 'foreign inward remittances' stimulates all components of household saving, the operation of the FCI leads to a change in the composition of household sector's saving, in favour of financial assets. This is due to the fact that the operation of the FCI results in transfer of stocks of the food grains(a form of saving in physical assets) from farm households to the Government sector in lieu of financial payments. However as the authors themselves mention, the above mentioned factors are, transient, in nature and hence can not explain the saving behaviour of the household sector in India over a long period.

Empirical Evidence on the Indian Experience

Most of the studies are based on time-series and a few on cross-section analysis. We would limit ourselves to time-series results as high savings rate in India during the reference

period, is the subject of our enquiry. However, the opinions on the empirical results derived by others, would not be conclusive as the regression results are affected by the variables used, their number, the specification of the equation and finally the time horizon considered. However, as we have stated earlier, specifications of the equations (and hence the results) are affected by the a priori assumptions made about the role of different explanatory variables. Accordingly, we can make qualitative judgements on the earlier econometric studies made in this regard.

(1) Income and Saving

All evidences so far point to income as the most important determinant of savings in India (for details see Krishnamurthy et.al.(1987)). One point worth mentioning here is that all these exercises have regressed total domestic saving on national income. Ideally, the regression variables should have been household income (or private income which includes besides household income also income of private corporate sector) and household savings (or private saving which includes besides household saving, also savings of private corporate sector). The relationship (both at theoretical and empirical level) between savings and income in the public sector is not same as it is in the private sector, more specifically in the household sector. For the Govt. Sector, savings are partly autonomous of income because the Government can resort to deficit financing that makes additional monetary resources available to the Govt.. The higher monetary resources makes it possible for the Govt. to have more

command over the existing real resources in the economy thus redistributing the real private savings in favour of the Govt.. In the case of private corporate sector, savings (retained earnings of the firms) is a function of income as well as pay-out ratio (i.e. ratio of dividends to net profit where net profit = retained profit + dividend). The limits of pay-out ratio are often regulated by the Govt.. Hence, the relationship between saving and income differs from sector to sector within an economy. In spite of inclusion of public sector savings and income, the earlier regression exercises obtained the theoretically expected relationship between savings and income because public sector savings constitute on an average only a fifth of the total saving. At a dis-aggregated level, Mujumdar et al (1980) find income as the most important determinant of demand and time deposits of banks. An earlier study by Lakdawala and Mody (1975) had also come to the same conclusion.

2. Distribution of Income between Agriculture and Non-Agriculture

Raj (1962) and Chakravarty (1973) had hypothesized about the saving propensity being lower in the agricultural sector. Accordingly, it was argued that a distribution of income in favour of agriculture would reduce the overall saving propensity. Evidence for this argument has been derived from NCAER survey data (1962, 1965, 1972 and 1980). Bhalla (1978) on the basis of NCAER (1972) rural survey data goes a step further and concludes that within the rural sector itself, propensity to save out of agricultural income is less than that out of non-agricultural income. However recent studies by Krishnamurthy and Saibaba

(1982) point to a narrowing of the differential of saving propensity between the agriculture and non-agriculture sector. This is attributed to the impact of Green Revolution. To this, we add one more variable i.e. spread of banking to rural areas. Earlier in the absence of banking infrastructure, the potential rural savers either invested in physical capital or did not save when opportunities for investment in physical capital were limited. The spread of commercial banking to rural areas resulted in absorption of a large part of the surplus in rural areas. Studies on the role of distribution of national income between agricultural and non-agriculture sector have generally used either absolute variables (i.e. level of agricultural income and non-agricultural income as two separate variables in the equation) or a ratio variable (share of agriculture in NDP).

(? Interest Rate)

The theoretical literature on the role of interest rate on aggregate saving in developing countries has been quite rich but empirical evidence for these arguments has been inconclusive so far. McKinnon (1973) in his development model gives paramount importance to interest rate. According to him, in developing countries, official interest rates in the organised market do not reflect the true scarcity of capital due to prevalence of financial repression (a situation wherein the banks and other financial intermediaries do not operate freely due to various price and non-price controls imposed on them e.g. ceiling on interest rate, statutory requirements in portfolio choice etc.) McKinnon argues that interest rates artificially fixed downwards

discourage savings in a developing economy which has otherwise the potential to grow with its own resources. Low interest rates discourage saving in the form of bank deposit, the most commonly available financial asset to the households in developing countries. At the same time, the households do not have much scope for investment in physical assets as bank credit is channelized to selected large manufacturing and exporting firms.

Indivisibilities of investment are such that households can not undertake optimum investment with their own resources. A hike in the interest rate would encourage flow of saving in the form of bank deposits. A corresponding hike in the bank lending rate would ensure that bank credit is allocated to most productive investments (according to Mckinnon, such opportunities exist on a large scale in the rural areas of less developed countries) and not to favoured large manufacturing and exporting firms.

Empirical results obtained in case of India have mostly refuted Mckinnon's argument. Mazumdar et.al (1980) in their disaggregated analysis find the effect of interest rate on various components of financial saving (bank demand deposits and bank time deposits) to be statistically insignificant. Bhattacharya (1985) uses real rate of interest in his disaggregated analysis and obtain results similar to those of Majumdar et.al. op.cit.

We, however, are, of the opinion, that these empirical results do not invalidate Mckinnon's hypothesis. They can, at

best, be regarded as inconclusive as Mckinnons talks about a hypothetical case where the savings (especially financial savings) would rise in response to a sharp hike in interest rate. Such a sharp hike in the deposit rate has not been observed in the organized segment of the capital market in India. In fact, the variability in the interest rate is very low. The variability is enhanced when real interest rate is used in place of nominal interest rate. That is why, the real interest rate performs better than nominal rate in the regression exercise though its effect is also found to be statistically insignificant in most cases. Using real rate of interest, however leads to the problem of separability of effect of inflation and interest rate since we are interested in both of them.

Another possible reason for statistical insignificance of interest rate variable could be that this variable has both income and substitution effects working in reverse directions. Consider the case of an individual who wants to save a fixed sum over a given time horizon. An increase in interest rate enables him to set aside a smaller sum every year and still reach the goal of saving the pre-determined sum. Thus income effect is negatively affecting the volume of saving while the substitution effect would always imply substitution of saving (future consumption) for (present) consumption with every rise in interest rate. If the income effect is significant, the net effect of interest rate on saving might be negligible.

According to some writers, interest rate is relevant for composition of saving and not its volume. According to Mikesell &

Zinser (1973) (p.17)" Further, it seems likely that interest rates are more significant in determining the channels into which savings will flow in the developed and developing countries than in altering saving propensities". This point has not been probed in detail in the Indian literature and hence forms part of our enquiry in Chapter 3.

(4) Inflation: Before coming to the theorised role of inflation, we confront the problem of how to measure inflation. The choice is limited to (i) NDP deflator, (ii) WPI and (iii) CPI. The difficulty with CPI is that in India, we have three different series corresponding to agriculture labourers, industrial workers and urban non-manual workers. The CPI for agricultural labourers cannot be used as they are presumed to be zero savers. If we use the other two CPI series, we are leaving out the rural savers apart from the problem of assigning proper weights to these two series. Mckinnon, op.cit., provides another reason why CPI is not the appropriate variable in the functional relationship between inflation and saving. As he puts it³, " Typically this (per-capita) productivity growth causes the prices of services to rise vis-a-vis commodities, since the former are generally more labour intensive and less subject to (measurable) technical innovations. Therefore the consumer price index (CPI) which has a service component, will rise faster than the wholesale price index (WPI) since the latter consists exclusively of commodities". What Mckinnon means is that during inflation, the alternative open to the people is to hold stocks of commodities, the rate of return on which is approximated by the WPI. The people cannot hold stocks and services constitute a part of the CPI;

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hence the CPI does not measure the rate of return on alternative(of physical investment) available to the people.

In India, the empirical results regarding the impact of inflation on saving have been divergent. Pandit (1985) finds no effect of inflation on saving. While Krishnamurty and Saibaba(1982) and Krishnamurty et al.(1986) find the relationship to be positive, Majumdar et al(1980) consider the relationship to be a non-linear one i.e. the relationship is positive for moderate rates of inflation but changes sign when inflation is too high. We believe, that the inconclusive evidence is partly the result of regressing total savings on a measure of inflation. The drawback of using total saving figures is that sensitivity of saving to inflation is not the same for all the three sectors (public, private corporate and household sector). A decline in household saving during periods of inflation might partly be compensated by rise in the saving of the other two sectors. It is widely held that inflation is like a tax which generates surplus for the Government through the process of monetary expansion.

Within the household sector, inflation might have opposite effect on physical saving and financial saving. In short, the results of the earlier regression exercises have been inconclusive because the nature of the saving process has been assumed to be the same irrespective of the sector and the type of instrument considered. This unduly strong assumption was essentially a simplification measure. A few studies have also examined the effect of inflation on various components of financial saving. Mujumdar et al(1980) on the basis of data for

the period 1950-51 to 1978-79, find that prices have a positive and statistically significant effect on currency and demand deposits while they have a negative but weak effect on time deposits. The implication is that inflation leads to higher demand for currency and demand deposits for transaction purposes. The negative effect on time deposits is due to the decline in the real rate of return on such deposits during a period of rising prices but almost constant interest rate.

(5) Banking Infrastructure - The impact of bank branch expansion is reflected in significant growth of bank deposits in recent years. Majumdar et al(1980), Krishnamurty and Saibaba(1982) and Pandit(1985) find the coefficient of banking infrastructure (measured either in terms of bank branches or a time trend) to be statistically significant. The significance of bank branch expansion lies in the fact that earlier, people had little choice in investment. Investment in physical asset was not always possible because of indivisibilities of physical assets; such investments in physical assets could only be discrete. Investments in financial assets was limited due to riskiness and illiquidity of most assets. Development of banking infrastructure offered to the people the opportunity to invest in a highly liquid, riskfree and divisible asset.

Thus the empirical literature on 'determinants of savings in India' has been quite abundant. However, as is evident from the foregoing discussion, most of these studies have addressed themselves to aggregate saving. Hence our thesis would focus primarily on disaggregated-level analysis. Moreover, (as mentioned in the introduction) instead of using official

estimates of financial saving, we would use the estimates of financial saving made by us for both aggregate and dis-aggregated analysis. Hence we first take up the problem of building an alternate series of estimates of financial saving. This is done in Chapter 2 and Chapter 3.

NOTES AND REFERENCES

1. The 'Working Group on Savings' was appointed by the Government of India in 1981 under the Chairmanship of K.N. Raj. The Committee's Report entitled "Capital Formation and Saving in India: 1950-51 to 1979-80" was published in 1982.
2. Report of the "Working Group on Savings" (op.cit) p.135.
3. The APS rises with a rise in Y inspite of the assumption of constancy of MPS because of the other assumption of $a(\text{intercept}) < 0$.
4. For details, please see, Mikesell R.F. and Zinsor J.E.(1973).
5. Goldsmith R.W.(1983). describes in detail, the process of financial deepening in the Indian economy and its role in promotion of saving.
6. Mujumdar N.A. et al(1980).
7. Raj K.N.(1979) quoted in Mujumdar N.A. et al(1980).
8. McKinnon R.I.(1973) p.96.

Chapter 2

Estimation of Household Sector's Gross Saving in Financial Assets: Sources and Nature of Data, Methodology of Compilation and their Significance

The saving of the household sector¹ consists of two parts viz. (i) saving in the form of physical assets; estimates thereof are based on the commodity flow method and are given by the CSO and (ii) saving in the form of financial assets; estimates thereof are based on financial flow approach and given by the RBI (Till 1982, the CSO also used to construct an independent series of estimates of saving in the form of financial assets though the sources of data and methodology were almost the same as that of the RBI series. This practice was discontinued following the recommendations of the Raj Committee Report on Savings². Since 1982, the CSO is the source of data on a few selected financial assets such as the insurance and provident/pension fund whereas the RBI is the source of data in respect of all other financial assets.

While the estimates of saving in the form of physical assets have received considerable attention from official and private researchers³, those of saving in the form of financial assets have received virtually no attention except for a few cursory remarks here and there. Analytically, household sector's saving in the form of financial assets (assets in the balance sheet of the household sector and liability in the balance sheets of the Government and private corporate sectors) is very important in the context of development process of the economy as we noted

earlier in Chapter I. Part of the reason could be that estimates of saving in the form of financial assets are considered much more reliable compared to those of physical assets as the estimates in the case of the former are based mostly on direct current data while in the case of the latter, they are based in many cases on extrapolations and interpolations of bench-mark estimates derived from periodical census/sample surveys (e.g. decennial census of population in India, quinquennial census of livestock in the economy, decennial All-India debt & investment survey etc.) and use of various indicators.

However two things need to be stressed here (1) The data on saving in the form of financial assets though more reliable than most other national accounts aggregates are not free from the possibility of underestimation/overestimation originating from the nature of data and/or the methodology of compilation. In fact, the Raj Committee Report (opcit.p.83) has this to say on the issue "It was generally agreed that the data base for the estimation of financial saving was comparatively firm.... However the series of steps in estimation, particularly those concerning the derivation of the "residual" attributable to the household sector by deducting the estimates for the public sector and the private corporate sector from the totals, involve the use of a number of ratios and proportions emerging from diverse sources and these may introduce estimational biases at various stages unless extra care is taken to ensure the accuracy of those ratios and to update them regularly.....from the point of view of achieving as much of accuracy as possible in the estimation of household saving in the form of financial assets, it is necessary

that the estimational procedures are tightened". However, it might be the case that the overall position when all financial assets are taken together, is not much affected by errors in estimation in respect of individual assets as over-estimation in respect of one financial asset might be partly compensated by under-estimation of some other financial asset. This proposition therefore needs to be empirically tested. In other words, the total saving of the household sector in financial assets might not exhibit any clear upward or downward bias. Thus the aggregate picture might conceal conceptual or estimational error at the disaggregated level. The picture at disaggregated level is very important on two counts (1) some of the financial assets reflect transfer of surplus funds of the households to the Government Sector while others represent flow of funds from the household sector to the private corporate sector; (2) Some of the financial assets represent direct flow of funds from the household sector to the ultimate user be it the Government or private corporate sector while others reflect indirect flow of funds through the intermediation of banks and other financial institutions. The disaggregated picture is also important from the viewpoint of portfolio theory where the surplus sectors are said to be trying to optimise their portfolio of assets depending upon their attitude to risk, return and liquidity.

(ii) Even if the estimates are reliable, it is necessary to have an examination of the nature of data and methodology to understand their significance. Final figures do not tell the whole truth. It becomes imperative to have a proper understanding of the primary sources and nature of data so that the end-results

could be used and interpreted in the proper context. The virtual absence of any such discussion in the published literature makes it a worth-while exercise to go into some of the intricacies involved in the generation of figures of savings in the form of financial assets.

The details involved in the compilation of data are given in the CSO publication: National Account Statistics: Sources and Methods(1980) Chapter XIX. Hence, we would skip over details to avoid repetition. However, the remaining part of this chapter would be always with reference to the above publication as it is in the nature of a commentary on the system of estimates of saving in the form of financial assets. It is sufficient to mention here that the saving estimates are made independently for each type of financial asset. These assets are (i) currency, (ii) deposits with commercial banks, co-operative banks, co-operative credit societies other than banks and co-operative non-credit societies, (iii) deposits with non-banking companies, (iv) claims on Government, (v) units of UTI, (vi) shares and debentures of joint-stock companies, (vii) shares of co-operatives, (viii) provident/pension fund, (ix) insurance and (x) net trade credit. The household sector's saving in the form of these financial assets are estimated mostly on a residual basis after excluding the share of all other sectors in the annual change in the stock position of a financial asset. The following paragraphs analyse the significance of estimation procedure in respect of all these financial assets and also attempt to suggest refinement in the existing system wherever such possibilities exist.

(i) Currency-Household sector's share is estimated as a residual after deducting the cash balances held by other sectors from the total currency with public (i.e. currency outside the banking system). It is not possible for an individual researcher to improve the estimate in respect of currency on a time series basis. But the researchers, policy makers and others should know some of the following qualifications of the above estimate.

(a) Though the source of raw and final data is RBI, the saving figures of household sector in respect of currency reported in the RBI publication (Report on currency and Finance) and the CSO publication (National Accounts Statistics) differ, the RBI figure being generally though not always on the lower side. The discrepancy arises only because the figures relating to the 'total currency with public' which are used as the basic input in the RBI publication relate to the last Friday of March every year whereas the corresponding figures used in the CSO publication relate to end of March (i.e. 31st March). The CSO uses more recent data while RBI uses provisional data for a very simple reason that RBI's Annual Report precedes that of the CSO in its timing of publication. The magnitude of difference is brought down in the final figures released by the two institutions but not fully eliminated as is evident from Table 2.1.

Ordinarily, one would not believe that a difference of few days could make for discrepancy in the household sector's savings figure in the form of currency. But it happens because (i) for Government departments and enterprises, the annual accounts close on 31st March. Much of their annual payments are made in the

month of March and that too in the last few days of the month. Since household sector is at the receiving end of most of these Government payments, a sharp decline in cash balances of the

Table 2.1: Estimates of Household Sector's Saving in the form of Currency (in Rs Crores)

Year	CSD	RBI	Absolute Difference	Percentage Difference
1970-71	345	344	1	0.29
1971-72	381	404	-23	-6.04
1972-73	616	637	-21	-3.41
1973-74	812	769	43	5.30
1974-75	17	18	-1	-5.88
1975-76	321	313	8	2.49
1976-77	1130	1140	-10	-0.88
1977-78	705	703	2	0.28
1978-79	1482	1430	52	3.51
1979-80	1338	1332	6	0.45
1980-81	1628	1509	119	7.31
1981-82	955	946	9	0.94
1982-83	2017	2052	-35	-1.74
1983-84	2784	2754	30	1.08
1984-85	2932	2919	13	0.44

Government Sector is matched by a corresponding sharp rise in the cash balance of the households and (ii) in the cash payment system, the transfer of funds is instantaneous unlike other near money assets e.g. chequeable deposits. In case of the latter (with a few exceptions), the transfer of financial resources is not instantaneous which gives rise to and facilitates double-counting of deposits (in banker's language, window dressing) as we shall see later.

(b) There is an error component in the savings estimate as the cash balances with the private corporate sector are estimated from their balance sheets combined in the sample studies of the RBI. Unlike Government departments, the accounting period of the

private corporate sector is spread over the year with only 30 per cent of them closing their accounts in the month of March. Table 2.2 indicates the month-wise pattern of closing of accounts in the private corporate sector.

Table 2.2: Distribution of Non-Government Non-Financial Public Ltd. Companies according to the Month of Closing of the Accounts(in number of companies)

Year\Month	June	September	December	March	Other Months	Total
1971-72	620 (14.61)	292 (6.88)	1484 (34.98)	1323 (31.18)	524 (12.35)	4243 (100.0)
1976-77	841 (18.39)	358 (7.83)	1429 (31.26)	1366 (29.88)	570 (12.64)	4572 (100.0)
1981-82	775 (20.87)	322 (8.67)	1079 (29.59)	1049 (28.24)	469 (12.63)	3714 (100.0)

Source: Reserve Bank of India: Census of Public Limited Companies in India, 1980, 1983 and 1986 issues.

Note: Figures within bracket represent percentage share in the total

Even statutory corporations also have different accounting year e.g. UTI (July-June), LIC, GIC (April-March). Thus the household sector's saving is obtained as a residual where the gross term as well as some other excluded terms relate to end of March while the rest of the excluded terms relate to different dates/month especially June, September and December. The Jha Committee Report (1985) on 'Change in Financial Year' mentions the need for having uniform accounting year so that the national accounts statistics become more accurate and meaningful but there is no specific reference to the saving estimates.

(c) This comment is not on the estimation part but on the

analytical definition of money as distinct from the legal definition of currency and money. In February, 1981, the Government of India introduced Special Bearer Bond Scheme which continued till the end of the next financial year (1981-82). Currencies hoarded for purpose of tax evasion were converted into special bearer bond as the scheme was outside the purview of the tax system. By virtue of being a bearer bond (issued by the Government of India), it freely circulated as a medium of exchange. This was reflected in the discontinuity of the time-series data on savings of the household sector in currency in 1980-81 and 1981-82. The series however becomes continuous when currency and special bearer bonds are clubbed together during the two years of issue of bonds. The following table (Table 2.3) illustrates the point. However, in all the official publications,

Table 2.3: Saving of Household Sector in Currency and Special Bearer Bond

(Rs. crores)

Year	Currency	Special Bearer Bond	Currency + Special Bearer Bond
1	2	3	4
1979-80	1338	-	1338
1980-81	1628	88	1716
1981-82	955	964	1919
1982-83	2017	-	2017
1983-84	2784	-	2784
1984-85	2932	-	2932

Source: CSO: "National Accounts Statistics": Various Issues for Col.2 and the RBI "Report on Currency and Finance: 1983-84" for Col.3.

special bearer bond is shown under the category of 'claims on Government' as the Government would not officially admit that it has put into circulation near money assets. In fact, it is

believed that a large part of the business transactions were settled through the medium of special bearer bond. In our opinion, the special bearer bond should be shown under the head 'currency' and not under the head 'claims on Government'. The reasons are as follows (i) special bearer bond served and would continue to serve till its expiry in 1991 as a freely transferrable medium of exchange, an attribute absent in all other instruments under the head 'Claims on Government'. (2) Within currency, one rupee notes and coins are also claims on the central Government (the notes of all other denominations being claims on the RBI). But in official statistics, they are not shown under 'Claims on the Government'.

(ii) Deposits with Commercial and Co-operative Banks, other Co-operative Credit Societies and Co-operative Non-credit Societies

This is too broad a category because it consists legally and analytically of four distinct institutions.

- (a) Commercial banks subject to Banking Regulations (BR) Act, 1949 and Reserve Bank of India (RBI) Act, 1934.
- (b) Co-operative Banks subject to BR Act and Co-operation Act but outside the purview of RBI Act (State Co-operative Banks are however subject to RBI Act).
- (c) Co-operative Credit Societies outside the BR Act, they can accept deposits only from the members and not from the public, their lending operations are also limited to members.
- (d) Co-operative Non-Credit Societies are strictly speaking non-financial enterprises involved in the real business of production, processing and marketing.

The RBI/CSO compile deposit figures separately for each of these distinct categories but do not publish them. At unofficial level, also no attempt has so far been made to construct a time-

series of household sector's saving in the form of deposit, separately for each of these institutional groups. Hence, this is taken up as an exercise and the results are indicated in the next section of the chapter.

Non-availability of disaggregated data in respect of these institutional groups is not the only issue, though obviously the major one. The other issues are discussed in the following paras.

(a) Deposits with the Commercial Banks

A common belief is that figure relating to the deposits with the commercial banks must be unique as the source is unique (RBI). While the second part of the statement is true, the first part is not. The RBI collects data on deposits with commercial banks (henceforth bank deposits in short unless otherwise specified) through a number of independent returns received from the commercial banks, each type of return serving a specific purpose of the RBI and the Government of India. The definition, scope and coverage of 'deposits' would accordingly vary. We limit our enquiry to three most important returns and that too in the limited context of what they mean to any estimate of household sector's saving in the form of bank deposits. The three sources of bank deposit figures are

(i) Weekly/Fortnightly return filed by the commercial bank branches under Section 42(2) of the RBI Act. In this fortnightly (long back when bank branches were few, it was filed every week) return, the banks indicate their deposit position as on every alternative Friday of the year. If the last Friday of a month is not an alternate Friday, then scheduled banks submit a special

return under Sec.42 indicating the position as on the last Friday of a month. Hence, even if the return is filed fortnightly, we would have continuous data on deposits as on the last Friday of every month from Sec.42 return. The term 'deposit' means deposit received in the course of banking business and hence excludes miscellaneous, categories such as 'staff security deposit', 'margin deposit' and 'staff provident fund deposit'. This is a statutory return on the basis of which banks 'Cash Reserve Requirements (CRR) are determined. Sec.42 return is also the only return filed by the banks which is revised subsequently upon receipt of complete reconciled data.

(ii) Basic Statistical Return (BSR) -- This is a quarterly non-statutory return. The BSR furnishes all the details regarding banking operations (especially deposits & credit) which are not otherwise available. Under this return, the RBI can call for any sort of information from the commercial banks. This is however a once for all returns (i.e. no distinction between provisional and final figure). The purpose is to collect all information relevant for monitoring the banks' operation so that the national objectives are realised. The concept of deposit is the same as in Sec.42 returns but does not contain data on census basis though the coverage is almost close to census (98% on an average).

(iii) Monthly Balance Sheet Statements submitted under Section 27 of the BR Act. This is also a statutory return on the basis of which banks Statutory Liquidity Requirements (SLR) are determined. These statements are very exhaustive for the months ended June and December, for all other months, it is an abridged

version of the balance sheet statement of an incorporated enterprise. The difference is due to the fact that June-end and December-end mark the half-yearly accounts closure of the banks and hence, the Section 27 return has to be more exhaustive for these two months. This is also a once for all statement. Its importance in our context, lies in the fact that earlier CSO used to use the Section 27 return data on total bank deposits as the basic input as it related to March-end (BSR also gives March-end figures but as we mentioned earlier, not on a census basis while Section 42 return gives March-end figure only once in 7 years i.e. when 31st March also happens to be the last Friday of March). The RBI, however, uses the Section 42 return on bank deposits. Let us examine in what way, estimates of household sector's saving (for that matter, even total savings) in the form of bank-deposit would be affected by the use of either Section 42 or Section 27 return.

In Section 27 return, the definition of deposit is broader; it includes besides 'deposits', 'staff security deposit', 'staff provident fund deposit' and 'margin deposit'. Of course in CSO estimates, staff provident fund deposits were netted out. Changes in 'staff security deposit' figures over the years would be negligible and hence can be ignored. The margin deposit originates in a number of ways such as (i) in the process of discounting of cheques which would be explained later on and (ii) deposit kept in the form of margin amount against loans/advances. This margin deposit can be in the form of current or fixed (fixed in case of advances against letters of credit issued to exporters/importers). In the first case of discounting

of cheques, the margin deposit is always kept in the current account.

Hence, use of Section 27 return results in an inflated figure of bank deposits. The inflation in a balance sheet statement also occurs due to the widespread practice of multiple counting of deposits (i.e. window dressing of deposits). Though the bankers are presumed to window-dress their deposit figures in June-end and December-end statements, the role of this practice in the balance sheet statements of other months cannot be ruled out especially in the month of March when a lot of transfer of funds takes place from Government sector to other sectors and also within institutions/individuals in a sector. The nature of window-dressing can be illustrated with a simple example. Let us assume that there are two parties X & Y and two banks (or two branches of the same bank) A and B. On 30th March, party X presents a cheque of Rs.15,000 drawn on Party Y and Bank B to Bank A. If the cheque is expected not to bounce back (the bankers assume that certain types of cheques e.g. a Government cheque or a cheque of a reputed company, firm, institution, individual would normally not bounce back), then the branch manager would discount the cheque say to the extent of Rs.10,000 (which we would assume to be the limit of discretionary power of a branch manager) and credit the same to Party X's current account with the balance (Rs.5000) being kept in the margin deposit account. Thus as on 30th March, Party X's account in Bank A has been credited while Party Y's account in Bank B has not been debited. The same Rs.15,000 is being shown as deposits in two separate banks and would continue to be shown for some days till the cheque gets

cleared. However, the banks would normally not resort to this practice while filing the Section 42 return since it is a statutory return, any over-reporting of deposits by the banks would lead to an increase in their Cash Reserve requirements. Moreover the Section 42 return is revised subsequently after all reconcilliation of accounts has taken place.

The only argument that can be put forward against Section 42 return is that it relates to last Friday of March and not to end March. However, unlike in the case of currency, a few days difference is not expected to cause a major variation in the estimates of household sector's holding of bank deposits.

The next step in the estimation procedure involves the use of biennial RBI survey of 'Ownership of Bank Deposits'. Three things are remarkable about this step.

(i) the RBI survey eliminates the need to estimate household sector's saving in the form of bank deposits on a residual basis. Thereby it provides a basis for cross-checking i.e. one could estimate household sector's saving in the form of bank deposits on a residual basis and compare it with the direct estimate. This exercise is, however difficult for an individual researcher but institutions like RBI & CSO could do it periodically so that we have two conceptually independent estimates of household sector's saving in the form of bank deposits which incidentally happens to be the most important financial asset in the Indian context.

(ii) Since the survey of 'Ownership of Bank Deposits' is

conducted once in two years and the results of the survey are available after a considerable time-lag, the RBI/CSO uses the ratios of last survey to estimate household sector's share in all subsequent years till the next survey results become available. However, the figures revised on the basis of latest survey, are not always published. Hence, the figures relating to bank-deposits, do not strictly form a consistent time-series.

(iii) The surveys in recent years exclude Regional Rural Banks (RRBs). A separate survey on the ownership pattern of RRB deposit was conducted in 1983. The estimates of savings figure need to be adjusted accordingly.

(b) Deposits with Co-operative Bank and other Co-operative Credit Societies

The RBI/CSO estimates are based on the REI/NABARD publication 'Statistical Statements relating to Co-operative Movement in India Part I (Credit Societies)'. The figures in these publications are balance sheet figures for the co-operative year ended 30th June. These estimates need to be revised because

(i) as in the case of commercial banks, in the balance sheet of co-operative banks, the term 'deposit' would include miscellaneous categories such as margin deposit. Moreover in the balance sheets for the month ended June and December, deposits would also include an additional element i.e. interest accrued on deposits but not paid. Window-dressing of balance sheet statement would further inflate the deposit figure though the practice is not officially recognised. Hence, we suggest the use of March-end

figure if they are available or else adjust the June-end data on the basis of proportion between June-end and March-end figures obtained in the case of commercial banks. This exercise is, however, not necessary in the case of other co-operative credit societies not coming under the BR Act as the data in respect of these societies would not be affected in any significant way due to the accounting practice followed in the annual balance sheet as they do not do banking business.

(ii) However, the estimates of household sector's deposits with the co-operative societies both credit and non-credit (but excluding co-operative banks) are apparently made in an arbitrary way. This is because there are many distinct types of co-operative credit and non-credit societies. Only a few of them report their deposit figures according to the source of origin (individuals, other co-operative societies and the Government). The majority of these societies report either total deposit figures or total 'borrowing from others' (which include individuals). In such cases, the RBI/CSO follow a standard practice i.e. if the details of deposits according to the source, are not indicated, the entire deposit is presumed to have originated from the household sector; if deposit figures are not all reported, then a major part of the amount under the head 'borrowing from others', is shown as household sector's saving after some adjustment. We would rebuild the saving estimates after taking into account the membership pattern of each form of co-operative society. If 'total membership' wholly or almost wholly consisted of individuals, then we would treat the 'entire deposits' as household sector's saving. If not, suitable

adjustment would be made on the basis of the membership pattern of the society. The details of membership of different types of co-operative societies are given in the aforesaid NABARD publication.

Then, the only objection that could be raised against these estimates is that they relate to last day of June and not last day of March. However, there is no solution to this as most co-operatives are not required under law to report their business as at end of March either to their respective Registrars of Co-operatives or to the RBI/NABARD.

(c) Deposits with Co-operative Non-Credit Societies

The basic source of data is the RBI/NABARD publication 'Statistical Statements relating to the Co-operative Movement in India - Part II'. In this publication, some forms of non-credit societies report 'deposit' figures separately while others report only 'borrowing from others' which may include deposits. The official estimates treat the 'entire deposits' (if deposit figures are reported separately) as household sector's saving. If only (borrowing from others' figures are reported, then after some adjustment, a major part of it is also shown as household sector's saving in the form of deposits. This procedure grossly over-estimates the actual figures of household sector's saving in the form of deposits with co-operative non-credit societies. There are two reasons for this.

(i) unlike credit societies, the deposit figures of non-credit

societies include 'trade deposit' which may account for the major portion of their deposit figure e.g. a private corporate firm or a Government department/company might place an order with a marketing (an important form of non-credit society), society for supply of goods for which it might place a certain amount of deposit with the concerned society as advance. This is called 'trade credit' which is shown separately under the appropriate head in case of Government/private companies. But the reporting system for the co-operative non-credit societies is such that they show it under the head 'deposits' which includes also fixed deposits from members of the society. We believe that in case of most of the important forms of non-credit societies such as agricultural marketing societies, primary weaver's societies etc, the deposits are mainly in the nature of trade credit. Moreover, this trade credit is advanced in most cases by the Government and private corporate sector. Hence they should not be shown as household sector's saving.

(ii) The official estimates assume that household deposits constitute the major portion of the category 'borrowing from others' reported by non-credit societies, which is not true. In almost all the cases, the major sources of 'borrowing from others' are the promotional bodies such as Rubber Board, Spices Board, Dairy Development Board etc. Deposit from members, if any, would constitute only a small fraction of the category 'borrowing from others'.

We propose to take into account only those forms of societies which report 'deposits' separately. This seems to be

the only alternative for better estimates in the absence of more details, as a negative error component would more or less be compensated by a positive error component. The inclusion of 'trade deposits' in the estimate is expected to be compensated by the 'exclusion of deposit' clubbed under the head 'borrowing from others'.

(iii) Deposits with Non-Banking Companies:

These deposits as reported in the official statistics, appear to constitute a homogenous category of financial assets. Actually, they include three analytically different type of assets viz. (a) deposits with non-Government financial and non-financial joint stock companies accounting for the bulk of the total deposits, (b) fixed deposits with Government companies and (c) security deposits with state electricity boards.

The first and second category are different because (i) in case of the former, it represents a flow of funds to the private corporate sector while in the case of the latter, it is a case of transfer of funds to the Government sector. (ii) This also implies that while, the former is a risky asset, the latter is almost a gilt-edged security. The third category, though, it also represents a flow of funds to the Government sector, is conceptually different from the first two categories as security deposits are not voluntary savings of the household sector; they arise because of the nature of the service transaction. Hence, these deposits should be shown either as part of trade credit or under a separate category 'security deposits'. This category should include all other deposits which are in the nature of

'security deposit' especially security deposits with the telephone department, housing boards, improvement trusts etc.

Since, official statistics do not show the deposits with non-banking companies according to these separate categories, we would estimate these deposits in respect of the first two categories. The procedure for these estimates is outlined subsequently. We would leave out the third category as the annual change in the volume of 'security deposits with state electricity boards' would be marginal.

Another important reason for an independent estimate of deposits with non-banking companies is that the figures of deposits with non-Government non-financial companies are presumed to be under-estimates; the extent of under-estimation varies from year to year and its magnitude is not known. However, the similar figures in respect of Government* companies and non-Government financial companies are believed to be highly reliable. This is so because, the estimates in respect of all these companies are based on the annual survey of 'deposits with non-banking companies' conducted by the Department of Financial Companies (DFC), RBI. The deposit taking activities of non-banking financial companies (NBFCs) are regulated by the RBI while the deposit taking activities of non-banking non-financial companies (NBNFCs) are regulated by the Department of Company affairs, Government of India under the Companies (Acceptance of Deposit) Rules 1975; the work of administering the said Rules being entrusted to the Registrar of Companies in respective States. The Department of Financial Companies (DFC), RBI conducts its annual

survey on the basis of statutory returns submitted to it by all non-banking financial companies (NBFCs) irrespective of whether they hold public deposits or not and copies of the original returns filed by the non-banking non-financial companies (NBNFCs) to the Registrar of Companies in their respective States in case they hold public deposits. Thus while the coverage of the survey may be presumed to be complete in respect of NBFCs, that in respect of NBNFCs, is believed to be incomplete as filing annual returns to the RBI is not statutory (i.e. mandatory) for the NBNFCs. Hence there is always the possibility of some NBNFCs having submitted returns to the Registrar of Companies but failed to furnish copies there-of to the RBI. The RBI does not cross check with the Registrar of Companies for finding out cases of non-reporting. Moreover, there is also the possibility of a NBNFC having defaulted in the submission of the original return to the Registrar of Companies for various reasons and it is not always feasible on the part of Registrar of Companies to find out such cases given the large number of non-banking non-financial joint stock companies functioning in India. The total number of non-banking financial companies (NBFCs) was much less in comparison to NBNFCs and hence it was possible on the part of the RBI to closely monitor their deposit taking activities.

The coverage is presumed to be complete in respect of Government companies as they started accepting deposits only in 1981, the Government companies accepting deposits were few in number and they did not default in submitting returns.

In view of the facts stated above, we propose to rebuild

the estimates of public deposits with non-banking non-financial companies (NBNFCs) on the basis of sample studies of non-Government non-financial medium and large public and private ltd. companies conducted annually by the Company Finance Division of the RBI. The public deposit figures reported in these studies would be blown up on the basis of share of paid up capital of sample companies in the total to arrive at the population estimate. Even otherwise, the coverage of the sample is almost 80% on an average over the years. This would reflect an improvement on the deposit figure obtained from the surveys of the DFC, RBI⁴. The deposit figures reported in company finance studies of the RBI are also more reliable as they are audited figures taken from the balance sheet of the companies. The same cannot be said about the survey figures of DFC, RBI though occasionally the Registrars of Companies inspect the accounts of the NBNFC for verifying the statements furnished to them. However, this exercise would run into a problem which we have mentioned earlier in the context of estimates of savings in the form of currency. The companies in the private corporate sector do not have a uniform accounting year. Hence, our estimates would not reveal the position as on 31st March as it is in the case of DFC survey. However our exercise could be defended if we are interested in year to year variation of growth rates in public deposit figures. They would be independent of the accounting period problem as long as we presume that the companies in the sample have a stable accounting period i.e. cases of companies changing their accounting year are rare.

(iv) Small Saving and other Claims on the Government

These include small savings (deposits mobilised and Government of India certificates sold through the medium of the post office), special bearer bonds, capital investment bond, compulsory deposit scheme and marketable securities of Government and local authorities. There is very little scope for improving these estimates. However, they require disaggregation as the financial instruments put under this 'broad category' differ from one another in many respects; the only reason for clubbing these together is perhaps that all of them represent a direct claim on the Government.

(v) Units of UTI

The RBI/CSO figures are based on the annual reports of the UTI which give details regarding sale of units under different schemes, the bulk of the sale being accounted for by the Unit Scheme Proper 1964 (Unit in short henceforth unless otherwise stated). We would make an alternate estimate of household sector's saving in the form of units on the following ground: the official figures are based on the face value of units which is always Rs.10 per unit; though the unit being a variable income security has a sale and a repurchase value different from the face value. The practice of using face value is followed probably because during the initial years, the actual sale price (paid by the household sector) was close to the face value. However, over the years, the gap between face value and the actual sale price has widened thus justifying the need for revised estimates on the basis of actual sale and repurchase prices.

(vi) Shares of Co-operatives:

We would attempt an independent estimate of household sector's saving in the form of co-operative shares as we believe that the official series do not include shares of new types of co-operative societies which have come into existence in recent years. The details regarding the estimates are explained in the next Chapter.

(vii) Shares and Debentures of Joint-Stock Companies

The RBI figures are also inclusive of shares and debentures of the co-operative sector held by the household which should actually be shown under a separate category because there is a fundamental difference between shares of co-operatives and shares of joint-stock companies (excluding private ltd. joint stock companies) i.e. while the shares of public Ltd. joint stock companies (which account for nearly 80% of the private corporate sector in terms of paid-up capital and other important aggregates) are marketable, the shares of co-operatives are not. However, the CSO (National Accounts Statistics) gives household sector's saving in the form of co-operative shares separately.

On the estimates of saving in the form of shares and debentures of joint-stock companies, we can make a few qualitative judgements because it is difficult for an individual researcher to arrive at these estimates independently mainly because of the fact that most of these are marketable securities.

Hence household sector's share could be obtained only as a residual after excluding the shares of all other sectors. However the methodology of estimates and presentations of these estimates merit a few remarks.

(i) we believe that the figures in respect of shares (not debentures) are under-estimates as they do not include the premium on shares paid by the household sector in respect of new issues. This is important because a significant part of household sector's saving is in the form of new issues (of shares and debentures) and a significant portion of these new issues of shares (by existing companies) are at a premium, the premium amount varying according to the reputation and profitability of the companies. The share premium is a transfer of funds which is represented on the liability side of the concerned company, hence it should also be represented on the asset side of the household and other sectors investing in these premium shares. However, we believe, it is not done as the RBI/CSO take into account only the data on paid up capital exclusive of bonus shares of non-Government joint stock companies.⁵ In the balance sheet, the share premium amount is shown separately under the head 'reserves and surplus'. At the same time, it is different from other items under 'reserves and surplus' which could be shown as the corporate sector's saving viz. retained profit, depreciation reserve etc.. Hence, there is a need to take into account data on paid-up capital of companies inclusive of share premium reserve.

(ii) It is necessary to have estimates separately for shares and debentures. Shares and debentures represent two distinct forms of

corporate securities, the former being a ownership security and the latter, a debt security; while the former is in the nature of a risk capital (carrying attributes of high rates of return and high degrees of risk as well), the latter is an asset secured against a charge on the fixed assets of the concerned company and yielding a fixed rate of interest.

In Indian context, time-series data separately for investment in shares and debentures may also partly capture the phenomena of loan conversion (conversion of term loans into equity capital) option exercised widely by the term-lending institutions and convertibility option exercised by the households and other sectors in respect of convertible debentures.

(viii) Insurance, Provident/Pension Fund and Net Trade Credit.

The estimates in respect of these instruments do not have much scope for refinement. Moreover investments in insurance and provident/pension fund are in the nature of contractual saving. The investor is obliged to make regular payments once the contract is accepted and signed. Hence these forms of saving are not of much analytical importance. Similarly net trade credit represents household sector's advances paid to the other sectors (mainly private corporate sector) for procurement of goods and services at a future date. It is not 'saving' in the strict sense of term but just a balancing item in the book-keeping sense.

We conclude this chapter with an observation on saving in the form of deposit with indigenous bankers. Sometimes, a

question is asked as to why household sector's deposits with indigenous bankers are not represented in the National Accounts Statistics. The answer is that with few exceptions, the indigenous bankers are all unincorporated. Hence, they also form part of the household sector and individual deposits with the indigenous bankers represent a flow of funds within the broad category of the 'household sector' and hence would be netted out in the consolidated balance sheet of 'aggregate households'.

The term 'balance sheet of the household sector' is just a conceptual one as households do not maintain any accounts. The Government sector, private corporate sector and financial intermediaries maintain accounts relating to their income and expenditure, sources and uses of funds. Hence, if we have a national balance sheet, we could construct household sector's balance sheet on a residual basis. However in India, the CSO does not prepare the National Balance Sheet though it is available for some of the developed countries⁶. We come back to our earlier point of deposits with indigenous bankers. An item, to qualify as a financial asset of the household sector, must figure on the liability side of some other sector. To the extent, these deposits are lent out to other sectors, they would constitute household sector's saving in the form of financial asset. In India, a part of deposits with indigenous bankers/money lenders⁷, are advanced to incorporated enterprises engaged in specific areas of business such as film, entertainment, construction, real estate etc.. These sectors of the economy do not normally qualify for any credit from commercial/co-operative banks and other financial institutions. Hence, they rely heavily upon deposits directly from the individuals/firms or indirectly through

indigenous bankers. However, no statistics are available regarding the magnitude of such advances. Hence, they are not represented in the National Accounts System or Flow of Funds Statistics.

Notes and References

1. The term 'household sector' is defined in a very broad sense, it includes besides individuals, all unincorporated forms of enterprises such as sole proprietorship, partnership etc. and non-profit institutions such as educational and cultural institutions, religious and charitable trusts etc. We may put it differently; the 'households' comprise of all such entities which do not maintain balance sheet or income expenditure accounts.
2. Report of the Working Group (Chairman Dr.K.N. Raj) on Savings - Capital Formation and Saving in India: 1950-51 to 1979-80,' published by the Reserve Bank of India (the Committee was appointed by the Department of Statistics Ministry of Planning).
3. Rudra.A (1972): "Savings, Investment and Consumption" C.R. Rao (Ed) Data Base of Indian Economy Vol.I
4. The Raj Committee Report (op.cit) had emphasised this point. According to the Committee Report (p.84) "Studies in the RBI have shown that in respect of the non-financial companies, the total public deposits even for the sample companies turned out to be higher than the total deposits for all companies revealed in the above study (DFC Survey of deposits with non-banking companies)."
5. Please See CSO National Accounts Statistics: Sources and Methods, Chapter XIX p.89 19.19
6. An attempt was made in this respect at individual level. Please see T.R. Venkatachalam and Y.S.R. Sharma - 'Structure and Trends in the National Balance Sheet of India' in the Journal of Income and Wealth Vol.I No.2 April 1977.
7. The distinction between an indigenous banker and a money lender is drawn on the legal basis that an indigenous banker can accept deposits from the public while the moeny lender is not empowered to do so. He can lend out only his own resources.

Chapter 3

Alternate Estimates of Gross Saving of the 'Household Sector' in Selected Financial Assets

At the outset, we would like to mention that the concept of 'standard error' in the statistical sense, can not be applied in case of national accounts statistics as they are not based on independent samples of the same population so that the sampling variance would yield some notion of 'standard error' in the estimate. In case of macro aggregates like 'financial saving of the household sector', we can have only alternative estimate based on alternative sources of data and/or methodology. The superiority of any estimate would depend basically on qualitative judgements about the nature of data and methodology used. Hence, the difference between our figures and the official figures would not be a measure of 'statistical error' in the estimates. An estimate of error in the 'statistical sense' is obtained by applying the same methodology to different sets of independent data whereas in our case, the estimates are based on application of different methodology to the same or inter-dependent sets of data. The alternative estimates are made in respect of the following assets.

(i) Deposits with Scheduled Commercial Banks:

We are leaving out non-scheduled commercial banks as their deposits account for less than 1 per cent of total deposits with all commercial banks. The final figures of deposits as on the

last Friday of March every year (based on Section 42 return) in respect of all scheduled commercial banks' business in India, are taken from the RBI (annual) publication "Statistical Tables relating to Banks in India". To obtain the household sector's share in these deposits, we apply the proportions available from the RBI's survey of "ownership of banks deposits" as at end of March 1971, 1972, 1976, 1978, 1982 and 1984. These surveys, though conducted once in two years, were not conducted in the year 1974 and 1980. These surveys classify deposits according to five major sources of ownership along with sub-categories of these sources. The major sources are (i) Government, (ii) Non-financial Corporate Sector, (iii) Financial Corporate Sector including banks themselves, (iv) other institutions mostly unincorporated enterprises, trusts etc. (v) individuals and Hindu undivided families including non-residents. The calculation involved two adjustments in the data viz. (i) The 'ownership of bank deposit', surveys include inter-bank deposits, while the section 42 return relates to deposits net of inter-bank deposits as inter-bank deposits are not taken into account for determination of banking system's cash reserve (CR) requirements. Hence we added figures of 'inter-bank deposit' as on Last Friday of March to the Section 42 deposit figures.

(ii) The household sector's share was taken as the sum of the shares of other institutions (excluding co-operative non-credit societies) and individuals (excluding non-residents).

It might be worthwhile to note here that in the official estimates, the household sector's share as obtained from the

ownership surveys, is applied to total deposits net of inter-bank deposits. This is statistically incorrect as the ownership surveys are not independent of inter-bank deposits. The implication of this can be illustrated with the following example. Suppose, the 'ownership survey' reveals that household sector deposits' share is 70 per cent while that of inter-bank deposits is 5 per cent. If we exclude inter-bank deposits from the total, then the household sector's share would be no longer 70 per cent but somewhat higher than that. The official methodology would apply the same proportion (70 per cent in this hypothetical case) to total deposit figures net of inter-bank deposits while we propose to apply the same proportion to total deposits inclusive of inter-bank deposits so that there is a correspondence between our 'estimation procedure' and the 'ownership surveys'.

For the intervening years, the average of the proportions obtained from the preceding and succeeding surveys was applied to the total deposit of that year to obtain household sector's share e.g. for the year 1977, the average of household sector's shares as available in the 1976 and 1978 surveys was applied to total deposit of the year 1977. This is justifiable on the ground that in India, any significant switching of assets takes place only over a very long period of time.

Demand and Time Deposits

The ownership surveys also give ownership according to type of account viz. (i) current, (ii) saving and (iii)

fixed/term. However, there is an element of arbitrariness in apportioning savings account deposit into demand and time liability. Savings deposit combines the features of both demand and time deposits and it is left to an individual researcher how he perceives the distinction between the demand and time liability portion in a savings account. The issue has a historical background in the Indian context which is as follows.

Prior to 1978, the commercial banks were under instruction to report that portion of savings deposit which was withdrawable without prior notice as demand deposits. The norms regarding withdrawal of 'savings deposit' amount without prior notice, varied from bank to bank and sometimes also from branch to branch within a bank. In some cases, though theoretically there were restrictions on withdrawal of deposits under saving account, in practice, they were never followed. Till 1962, the commercial banks preferred to show a higher proportion of their savings deposit under time liability proportion as the Cash Reserve Ratios (CRR) were specified separately for demand and time liabilities, the ratio being lower in case of the latter. However in 1962, a uniform CRR was prescribed for both demand and time liabilities. As a result, the banks started showing progressively a higher fraction of their savings deposits under the head 'demand liabilities' the proportion being in the range of 55-90 per cent during the 70's.

In 1978, the RBI prescribed a new formula for apportionment of savings deposit. According to the new formula, the amount of savings deposits that earns interest (i.e. the

monthly minimum balance between 11th and last day of a month) is to be treated as time deposits and the rest 'demand deposits'. The new formula was recommended after a survey by the RBI revealed that about 85% of the saving deposit remain as the minimum balance in the account while only 15% is withdrawn for transaction purposes. The regulation requires that scheduled banks calculate this proportion twice every year as at the close of business on 30th June and 31st December so that the proportion so calculated is used until the date of next calculation. Thus the ratio used for apportionment of savings deposit into demand and time liabilities is not fixed once for all but a variable as indicated in Table 3.1..

Table 3.1: Deposits of Commercial Banks according to Types and the share of Demand liability Portion in Total Saving Deposits (Rs Crores)

As on the last Friday of March	Total Deposits	Share of Demand Deposits in total Deposits (in per cent)	Demand Deposits (Col.2 x Col.3)/100	Current Deposits	Demand liability part of saving deposit (Col.4-Col.5)	Saving Deposit	Share of Demand liability in total Saving Deposit (in percent) ((Col.6 / Col.7)100)
1	2	3	4	5	6	7	8
1981	38,886	28.5	7972	6900	1072	9845	11.85
1982	44,831	19.2	8608	7683	925	10427	8.87
1983	52,284	19.7	10143	8886	1257	11948	9.58
1984	62,274	18.7	11645	10680	965	14056	6.87
1985	74,895	19.6	14523	13310	1213	16988	7.14

Source: RBI: Report on Currency and Finance 1986-1987 p.153-154.

Thus the share of 'demand liability portion' in 'total saving deposits' has fluctuated without any clear pattern.

The problem also arises how to apportion the savings deposits in the pre-1978 years. There would be always two opinions: one group would like to stress that demand liability represents that part of savings deposit which is payable on demand through cheque or withdrawal slip as it would serve as a medium of exchange. The other group would hold the view that the part of savings deposit that is actually withdrawn on demand should be treated as 'demand deposits'. Due to these reasons, we are not attempting to obtain break-up of household sector's savings in the form of 'commercial bank deposits' into its demand and time liability portions.

Primary/Secondary Bank Deposits

Any estimate of saving in the form of (Commercial/Co-operative) bank deposits would be higher than the actual because of secondary deposits (also called created deposits) arising out of the credit operations of a bank i.e. the practice of crediting the un-utilised portion of loans/advances to the current account of the borrowing party. For money supply analysis, the distinction between primary and secondary deposits in a bank, is not significant as all current account deposits are treated as demand deposits and hence a part of money supply irrespective of their source of origin. That probably explains why no estimate has ever been made of the magnitude of secondary deposits in the

banking system. But for estimate of saving, we need to exclude secondary deposits from aggregate deposits with the banking system as their presence leads to multiple counting of deposits. We unfortunately do not know anything about the possible magnitude of the secondary deposits except for the fact that they constitute a part of the total current deposits on one hand and total loans/advances on the other hand.

Any estimate of it has to be done either on a census basis (i.e. covering all bank branches) or on a stratified sample basis. A simple sample study would yield misleading results as bank branches differ in their main business activity. Some bank branches are primarily deposit accepting branches; they do very little loan operations while some other branches are mainly involved in the loan operation. In case of the former, the proportion of secondary deposit in the total would be negligible while in the latter, it would be a significant part of total current deposits in the branch. Thus the proportion varies widely depending upon the location of a branch (residential or commercial). At a regional level also, the difference would be substantial. In this sense, the banking system in some of the states like Orissa, Kerala, Bihar could be considered as deposit mobilising agencies while in Maharashtra, Gujarat, they could be treated primarily as lending agencies (This incidentally gives rise to the issue of inter-state flow of financial resources through the banking system).

However, it is not difficult to collect data on 'secondary deposits' on a census basis as credit accounts are far less in

number compared to deposit accounts. Hence, the RBI can collect data at periodic intervals from the commercial bank branches. The presence of 'secondary deposits' in the data implies that our estimates like the official estimates, would be on the higher side of the actual savings in the form of deposits.

Limitations of some of the ownership surveys:

The ownership surveys for the year 1978 was based on a sample basis covering only selected offices of scheduled commercial banks. The weakness of a sample survey in case of banking statistics, has already been pointed out in a different context in an earlier para. Hence, in any estimate series, the relevant figures for the year 1978 might be considered as weak links in the chain.

Our estimates of household sector's saving in the form of commercial bank deposits are indicated later on Table 3.2 along with deposits with 'co-operative banks/credit societies' and deposits with 'co-operative non-credit societies'. This is done to facilitate comparison with the official estimates which club all these different categories of deposits under the single head 'bank deposits'. Comparison of our and official estimates at the dis-aggregated level is not possible as the RBI/CSO do not publish estimates of household sector savings in the form of deposits separately for Commercial banks, Co-operative banks/credit societies and Co-operative non-credit societies.

Deposits with Co-operative Credit Societies /Banks

We intended to include deposits with co-operative banks (co-operative credit societies coming under the purview of Banking Regulation (BR) Act, 1949) under the 'deposits with scheduled commercial banks' as the nature of business and hence the nature of deposit is the same in both the cases. However, we found that any such attempt would make the estimate series discontinuous over time. The reason is as follows. We need the applicability of some rules say RBI Act, 1934 as a guiding principle for regrouping 'deposits with the State Co-operative Banks (SCBs)' under the broad head 'bank deposits'. But in the 70's, the RBI Act was not universally applicable to all the SCBs. In some states, the SCBs were subject to the regulations of the RBI Act while in other states, they were not. Even as late as in 1984, the SCB's of Assam, Himachal Pradesh, Jammu & Kashmir, Manipur, Meghalaya, Nagaland, Tripura and all the Union Territories were outside the purview of the RBI act, 1934. The inclusion of an SCB under the purview of the RBI act depends primarily upon the aggregate value of paid-up capital and reserves of the concerned SCB. The reporting system would also differ according to the applicability of any rule. Hence for sake of consistency within the reference period, we decided to consider 'deposits with all co-operative societies/banks' under a different head.

The basic source of the data is the RBI/NABARD publication 'Statistical statements relating to Co-operative Movement in India Part I'. The deposit figures reported in this publication

are always on the higher side for reasons already mentioned in Section 42 of Chapter 2 (see p. 39 para 4). Hence, they were deflated by using the annual ratios between the last Friday of March Section 42 figures and June-end balance sheet figures obtained in the case of Indian scheduled commercial banks. The logic behind this is that in the case of both commercial and co-operative banks, entries in the deposit column would be almost the same. In case of credit societies not considered as banks, the situation is slightly different. Unlike commercial/co-operative banks, they do not window-dress their deposits figures in the balance sheet as their deposit & credit operations are restricted to members (i.e. shareholders) of the society only. The amount under 'margin deposit' would be also negligible in their case. Hence, we would take the data in respect of credit societies as they are, while we would deflate the data in respect of co-operative banks.

The results are indicated later on in table 3.2. The latest publication of the above mentioned NABARD volume relates to the co-operative year July 1981-June 1982. Hence estimates for the remaining three years, were based on the provisional data given in the NABARD Handbook on 'Important Data on Credit and Non-Credit Societies'.

Deposits with Co-operative Non-Credit Societies

The basic source of data is the RBI/NABARD publication 'Statistical Statements relating to the Co-operative Movement in India-Part-II'. Following the arguments set out earlier in 11.

Chapter 2 (p. 41-43), we propose to take into account only those forms of societies which report 'deposits'

Table 3.2: Household Sector's Saving in Deposits with Commercial/ Co-operative Banks and Co-operative Credit/Non-Credit Societies

(Rs. crores)

Year	Official Estimates	Our Estimates	Commercial banks deposits	Co-operative bank/ societies deposits	Co-operative non-credit societies deposit	Absolute Difference	Percentage
Col.1	Col.2	Col.3 (Col.4+ Col.5+ Col.6)	Col.4	Col.5	Col.6	Col.7 (Col.2- Col.3)	Col.8 (Col.7/ Col.2)* 100)
1970-71	774	793	702	04	7	-19	-2.44
1971-72	1047	1092	1026	75	11	-45	-4.27
1972-73	1263	1392	1229	152	11	-109	-8.46
1973-74	1650	1237	1101	121	15	421	25.39
1974-75	1340	1421	1295	107	19	-81	-6.04
1975-76	2105	2012	1824	168	20	93	4.43
1976-77	3160	2072	2526	230	100	200	9.11
1977-78	3409	3010	3496	226	00	-321	-9.20
1978-79	4400	4594	4051	454	09	-106	-2.37
1979-80	4360	4753	4240	402	103	-393	-9.01
1980-81	5550	6220	5633	476	111	-670	-12.00
1981-82	5194	6090	5326	674	90	-904	-17.40
1982-83	6661	5707	4755	049	133	954	14.33
1983-84	7977	7529	6260	1165	104	440	5.61
1984-85	9003	9720	9106	429	105	163	1.65

Source: CSO: National Accounts Statistics, Various Issues (for Col.2)

Note: Unlike in Chapter I, we are quoting here the latest official figures given in the CSO(1980):'New Series on National Accounts Statistics' as the financial saving series is not affected by any change in methodology in the New Series. Rather it facilitates comparison as the figures reported therein are final ones.

separately. Accordingly we considered the following forms of societies which reported deposit figures separately (i) central marketing societies, (ii) primary marketing societies, (iii) sugar factory Societies, (iv) cotton processing Societies, (v) consumer's co-operatives run by wholesale/district federations,

(vi) primary consumer's co-operatives, (vii) primary weaver's societies, (viii) other primary industrial societies, (ix) spinning mills, (x) co-operative industrial estates, (xi) electricity co-operatives and (xii) multi-unit societies.

Since data for the years 1982-83, 1983-84, and 1984-85 are not available, the estimates for these years are based on a time-trend. The results of the exercise are indicated in the Table 3.2..

From the Table, we find that official estimates are higher in six out of fifteen years; in rest of the years, the revised estimates are higher. The percentage difference between the two series ranges from -17.4 in 1981-82 to 25.39 in 1973-74. A question may arise, why the official estimates are unusually high in the three years viz 1973-74, 1976-77 and 1982-83. We have one plausible explanation for the year 1982-83. The official estimate for the year 1982-83 was probably derived by applying the 'ratio of household deposits to total deposits' as revealed in the 1982 survey. In the 1982 survey, the ratio was at its height (81.23 per cent). It came down to 75.92 per cent in the 1984 survey. We have applied the 'average of the 1982 and 1984 survey ratios' to total deposits of 1982-83. Hence our figures are lower than the official figures. We are, however, unable to find any explanation for the high positive differences in the other two years viz 1973-74 and 1976-77.

Shares of Co-operatives

The data on paid-up capital of various forms of co-operative credit and non-credit societies are available in the

RBI/NABARD publications "Statistical statements relating to Co-operative Movement in India Part I & Part II'. The latest publication in the series relates to the co-operative year (July-June) 1981-82. Hence, our estimates are for the period 1970/71-1981/82. No attempt was made to project the figures for the next three years on the basis of time trend as the series is irregular.

We considered only those forms of societies where the household sector('individual and others' in the publication)'s share in the ownership of capital of the societies and annual changes therein, were significant. These forms of societies are (i) primary agricultural credit societies (PACs), (ii) farmers' service societies (FSS) and large sized multi-purpose societies (LAMPS), (iii) primary co-operative banks (PCBs) and other primary non-agricultural credit societies (PNAC's), (iv) central land development banks (CLDBs) and (v) primary land development banks (PLDBs) [These five are credit societies], (vi) central agricultural marketing societies, (vii) primary agricultural marketing societies, (viii) sugar factory societies, (ix) milk supply union and societies, (x) all fisheries societies, (xi) irrigation societies, (xii) wholesale/district consumers co-operatives, (xiii) primary consumers' co-operative, (xiv) wholesale/district department stores, (xv) primary housing societies, (xvi) primary weaver's societies, (xvii) other primary industrial societies, (xviii) spinning mills, (xix) co-operative industrial estate, (xx) electricity co-operatives, (xxi) multi-unit societies, (xxii) other agricultural processing societies and (xxiii) labour societies.

In cases where category-wise ownership of share-capital was not available, the entire share capital was shown under 'household sector' if membership of the societies consisted almost entirely of individuals. The yearly changes in the stock position of the individual holdings of the share-capital of co-operatives constituted the household sector's saving in the form of co-operative shares. The following table indicates the official estimates as reported in the CSO publication 'National Accounts Statistics) and our estimates.

Table 3.3: Household Sector's Saving in the form of Co-operative Shares (in Rs. Crores)

Year	Official estimates	Our estimates	Absolute Difference	Percentage Difference
Col.1	Col.2	Col.3	Col.4 (Col.2 - Col.3)	Col.5 ((Col.4 / Col.2) * 100)
1970-71	65	58	7	11.2
1971-72	52	45	7	12.8
1972-73	56	52	4	7.2
1973-74	39	37	2	4.3
1974-75	88	87	1	1.7
1975-76	68	64	4	6.2
1976-77	89	102	-13	-14.5
1977-78	91	96	-5	-5.2
1978-79	92	97	-5	-5.7
1979-80	84	97	-13	-15.7
1980-81	207	218	-11	-5.4
1981-82	97	166	-69	-70.8

Source: Same as in Table 3.2 (for Col.2).

It is seen from the table that the difference series falls into two distinct parts. Till 1975-76, the official estimates, are on the higher side but after that, they are always on the lower side.

The difference arises, we believe, due to the non-inclusion of new forms of societies which came into existence in recent years e.g. FSS & LAMPs, whole/district department stores and multi-unit societies.

Units of UTI- In the early 70's there used to be only two unit schemes viz. unit scheme 1964 and unit scheme 1971. In the 80's many more new schemes were introduced though the unit scheme 1964 accounts for the bulk of sale proceeds under all schemes.

Following the arguments outlined in the previous chapter, we re-estimate the saving figures on the basis of actual sale/re-purchase price and not the face value. The results are indicated below.

Table 3.4: Household Sector's Saving in the form of Units of UTI (Rs Crores)

Year	Official estimates	Our estimates	Absolute Difference	Percentage Difference
Col.1	Col.2	Col.3	Col.4 (Col.2- Col.3)	Col.5 (Col.4/Col. 2)*100)
1970-71	14	15	-1	-7.14
1971-72	12	13	-1	-8.33
1972-73	19	20	-1	-5.26
1973-74	24	26	-2	-8.33
1974-75	-3	-3	0	0
1975-76	16	17	-1	-6.25
1976-77	20	22	-2	-10.00
1977-78	46	54	-8	-17.39
1978-79	71	86	-15	-21.13
1979-80	39	45	-6	-15.38
1980-81	31	36	-5	-16.13
1981-82	114	124	-10	-8.77
1982-83	122	139	-17	-13.93
1983-84	222	274	-51	-22.87
1984-85	567	703	-136	-23.99

Source: Same as in Table 3.2 (for Col.2).

As was indicated earlier (p. 47 para 2), the official estimates of household sector's saving in the form of units, are always on the lower side as they are based on the face value of units while our estimates are based on actual sale/repurchase price of units.

Deposits with Non-Banking Companies:

Our estimates for non-government non-financial companies are based on the 'Company Finance Studies' conducted by the Statistics Department (DESACS) of RBI and for government and non-govt. financial companies, on the 'Survey of deposits with Non-Banking Companies' conducted by the Department of Financial Companies (DFC), RBI while the official estimates for all companies are based on DFC survey, RBI. Since the company finance studies are based on a sample, the public deposit figures available therein were blown up on the basis of share of sample companies in the total paid-up capital of all companies. We would like to add one remark here: conceptually, it would have been better to blow up the sample figure on the basis of net worth (paid-up capital plus reserves) and not paid-up capital as the ceiling norms (prescribed by the Government of India/RBI) for acceptance of public deposits are defined with respect to the net-worth of individual companies. However, the total net worth of all companies are not available anywhere. Hence, paid-up capital was taken as a proxy for net worth.

Table 3.5 Household Sector's Saving in the Form of
Deposits with Non-Banking Companies (Rs. crores)

Year	Official estimates (includes security deposits with State Electricity Boards)	Our estimates(excludes security deposits with State Electricity Boards)					
		Govt. Cos.	Non-Govt. financial companies	Non-Govt. non-finan cial co.s	Total	Absolute Difference	Percentage Difference
Col.1	Col.2	Col.3	Col.4	Col.5	Col.6 (Col.3+ Col.4+ Col.5)	Col.7 (Col.2- Col.6)	Col.8 (Col.7/ Col.2)
1970-71	14	-20.7	23.5	68.4	63	-49	-350.00
1971-72	64	5.5	11.5	-11.6	5	59	92.19
1972-73	53	5.9	-7.5	64.4	63	-18	-13.77
1973-74	144	-1.7	38.2	87.7	116	28	19.44
1974-75	24	7.4	54.2	77.7	139	-115	-479.17
1975-76	52	5	28.1	144.9	179	-78	-84.78
1976-77	280	4.1	16.7	73.1	94	114	51.81
1977-78	293	17	23.7	137.4	178	115	39.25
1978-79	232	14.9	-42.6	116.3	89	143	61.64
1979-80	125	28.1	129.6	87.4	237	-112	-89.60
1980-81	378	59.3	58.2	363.4	481	-103	-27.25
1981-82	915	122.2	83.3	365.4	571	344	37.60
1982-83	917	-18.2	33.4	648.1	663	254	27.70
1983-84	973	388.7	163.7	246.9	719	251	25.80
1984-85	982	283.6	215.3	682.3	1182	-128	-12.22

Source: Same as in Table 3.2 (for Col.2).

Thus we find that out of fifteen years, the official figures are on the higher side in case of eight years while our estimates are higher in the rest of the years. However, we may venture to say that since 1981, the official figures have tended to be higher with the exception of the last year of the reference period i.e. 1984-85. The percentage difference between the two series ranges from -479.17 in 1974-75 to 92.19 in 1971-72.

A General Remark:

The methodology followed in the compilation of official statistics might be very satisfactory in the initial years of its

adoption as the methodology is defined after taking into consideration availability and limitation of data as on a particular reference time. But using the same methodology without any refinements would not give very good results over a long period of time. It is necessary to review the existing methodology at least once in ten years so that there is a close correspondence between the methodology and the current data-base of the economy.

Another point is that sometimes, some data are not taken into account as their effect on the estimate is presumed to be negligible. Such assumptions are made on the basis of historical sequence of data. But a historical sequence (unless it is defined over a pretty long period of time) is no substitute for a logical sequence. Consider the case of inter-bank deposits whose role is neglected in the official estimates of saving in the form of bank deposits as they account for a small fraction of total bank deposits. In an accounting sense, the net inter-bank deposit should be zero for the banking system as a whole. But in the Indian context, it becomes a positive figure due to (i) irreconciliation of inter-bank credit and debit entries and (ii) the practice of co-operative banks keeping a certain proportion of their resources in the form of deposits with commercial banks. Historically, the inter-bank deposits have accounted for a small fraction of total bank deposits. But one is not sure about their share in the future. In a particular year, inter-bank deposits may rise significantly due to a huge back-log of settlement of inter-bank accounts and/or a rise in the commercial bank deposits held by the co-operative banks(This is decided by the RBI and

the concerned Registrars of Co-operatives).

There might be other cases also where assumptions based purely on historical sequence of data may not reveal the true picture in some years. This is important as estimates of various macro-aggregates are not an end in themselves. They serve as the basic input for research and policy purposes.

The following Table indicates the direction and extent of change in total financial savings of the household sector when the estimates in respect of individual components are revised (by us).

Table 3.6: Household Saving in Financial Assets (Aggregate)
(Rs. crores)

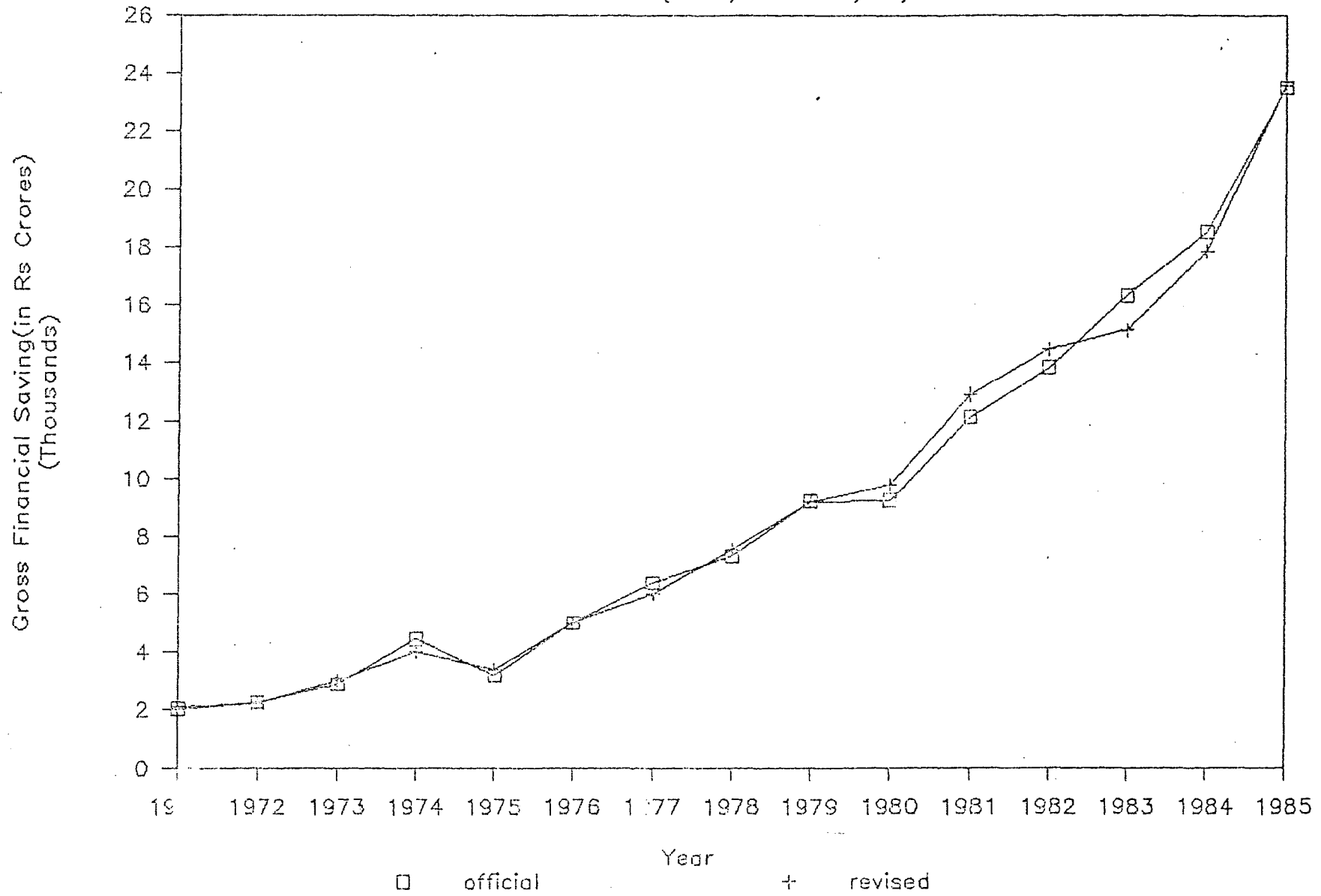
Year	Total Gross financial saving of the Household Sector official estimates	Total Gross financial saving of the Household sector Revised Estimates	Percentage Difference
1970-71	2029	2091	-3.05
1971-72	2260	2240	0.90
1972-73	2088	3004	-4.00
1973-74	4448	3999	10.89
1974-75	3190	3385	-6.11
1975-76	5014	4976	0.36
1976-77	6304	5977	6.06
1977-78	7316	7535	-2.99
1978-79	9216	9199	0.18
1979-80	9263	9707	-5.66
1980-81	12120	12989	-6.51
1981-82	13829	14467	-4.61
1982-83	16324	15133	7.30
1983-84	18519	17871	3.50
1984-85	23498	23591	-0.40

Source: Same as in Table 3.2 (for Col. 2)

It is seen from the Table that official estimates are on the higher side in 7 out of 15 years while the revised estimates are higher in rest of the years. The percentage difference between

Gross Financial Saving of the Household

Sector in India (1970/71-1984/85)



the two series ranges from -6.51 in 1980-81 to 10.09 in 1973-74.

The following Table illustrates the saving rates of the economy during the reference period and how they are affected when estimates of financial savings are revised.

Table 3.7: Saving Rate in the Indian Economy(1970/71-1984/85)

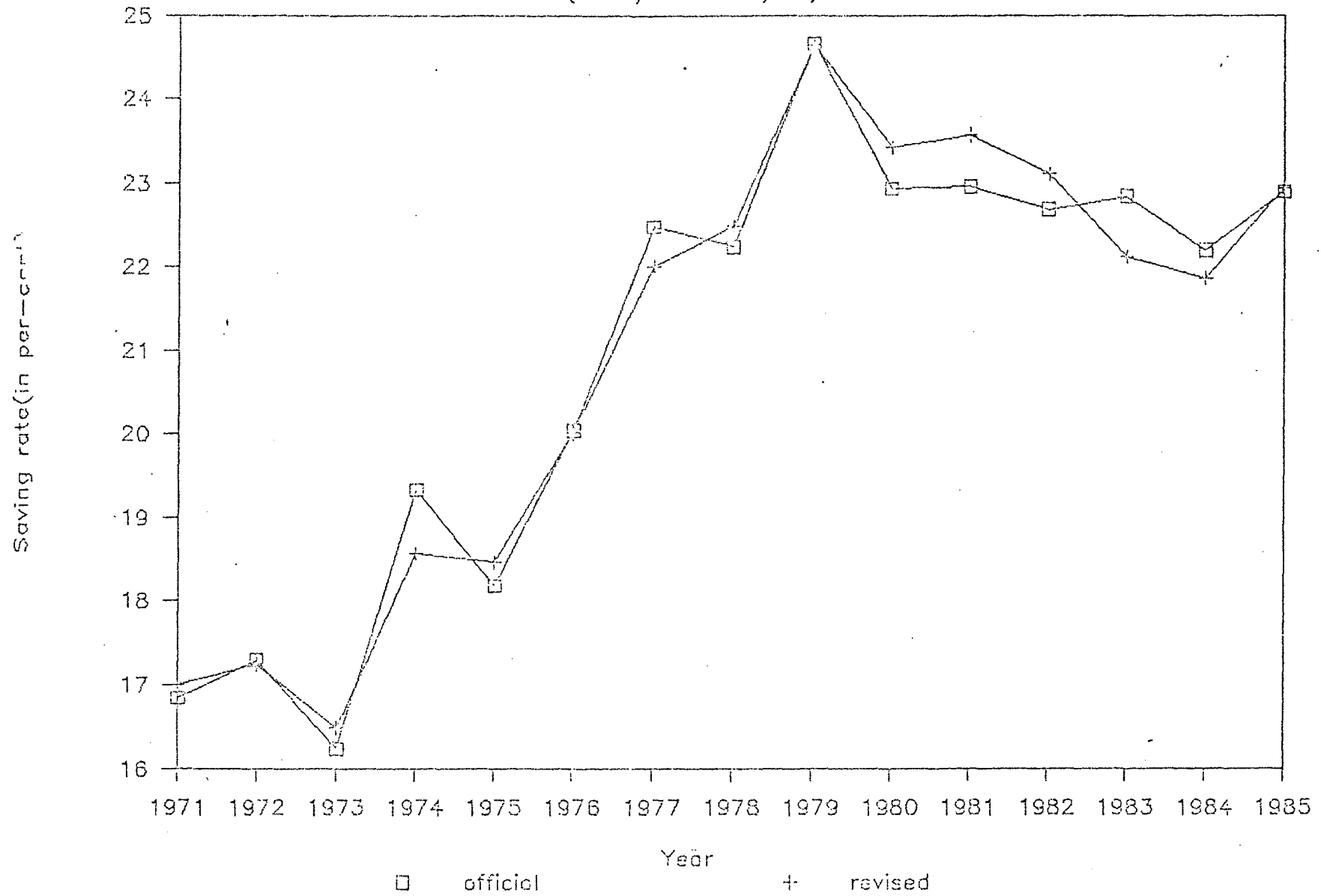
Year	Total Gross saving of the household sector official estimates	Total Gross saving of the Household sector revised estimates	Gross saving of the economy official estimates	Gross saving of the economy revised estimates	Gross domestic product	saving rate official	saving rate revised	official saving rate minus revised saving rate
Col.1	Col.2	Col.3	Col.4	Col.5	Col.6	Col.7 (Col.4/ Col.6) *100)	Col.8 (Col.5/ Col.6) *100)	Col.9 (Col.7- Col.8)
1970-71	4872	4934	6783	6845	40263	16.85	17.00	-0.15
1971-72	5466	5446	7498	7470	43356	17.29	17.25	0.05
1972-73	5649	5765	7769	7855	47865	16.23	16.47	-0.24
1973-74	8522	8873	11392	10943	58940	19.33	18.57	0.76
1974-75	8537	8732	12653	12848	69595	18.18	18.46	-0.28
1975-76	18452	18434	14847	14829	74884	20.04	20.02	0.02
1976-77	12698	12311	18030	17643	80198	22.40	22.00	0.40
1977-78	14433	14652	19981	20280	89815	22.25	22.49	-0.24
1978-79	17747	17730	24139	24122	97868	24.67	24.65	0.02
1979-80	17378	17902	24697	25221	107658	22.94	23.43	-0.49
1980-81	22119	22988	29375	30164	127926	22.96	23.58	-0.62
1981-82	23409	24127	33458	34096	147497	22.68	23.12	-0.43
1982-83	26472	25281	37369	36178	163576	22.85	22.12	0.73
1983-84	33887	32439	43882	42434	194861	22.20	21.87	0.33
1984-85	38716	38889	49090	49183	214385	22.98	22.94	-0.04

Source: Same as in table 3.2.

In columns 3 and 5 of the above Table, the revised estimates have been derived by adding to the official estimates, the difference between official estimates and our estimates in respect of 'financial saving of the household sector'. The consequent change

Saving Rate in the Indian Economy

(1970/71-1984/85)



in the saving rate has ranged from -0.62 per cent in 1980-81 to 0.76 per cent in 1973-74. In five out of fifteen years, the difference between official and the revised saving rates has been close to or higher than 0.5 per cent which must be considered as significant in view of the fact that the denominator in the ratio is Gross Domestic Product.

Some Conclusions

(A) Gross Financial Saving of the Household Sector

A casual look at the official estimate series and the revised estimate series does not reveal a clear pattern in the series of differences between the two estimates with signs alternating during the reference period. But a closer look at the estimates indicate that the revised estimates form a smoother series compared to the official estimates (See Table 3.6 & Graph.1). That is why, we have alternate signs in the difference series. When official estimates show a sharp rise, the revised estimates show a moderate rise so that in those years, we have positive signs. Similarly when official estimates indicate a sharp fall, the fall is less pronounced in our estimates, in these years, we get negative signs. For example, in 1973-74, the revised estimates are substantially lower (by 10.09 per cent) than official estimates. The official estimates indicate a rise from Rs 2888 crores in 1972-73 to Rs 4448 crores in 1973-74 (by 54.02 per cent) whereas the corresponding percentage rise in the case of revised estimates is 33.12 per cent. In 1974-75, the official estimates show a decline of 28.3 per cent while the revised estimates show a decline of 15.4 per cent only. The revised estimates are substantially higher in 1979-80 when the

official estimates indicate almost zero growth in financial saving. The official estimates are also significantly lower in the subsequent years: 1980-81 and 1981-82 whereas the corresponding revised figures give the impression of a smoother rising trend.

Now the question is, a priori, would we expect the financial saving series to be smoother or not. The financial saving series could be expected to be irregular if (i) the financial asset market is well-integrated with the physical asset market and the consumption market and (ii) information flows very fast in the market so that the savers are very sensitive to changes in any parameter (rate of return, liquidity etc.). If the above two conditions are satisfied, we can expect substantial and rapid switching of assets (from financial to physical and vice versa) and from saving to consumption and vice versa. Such switchings would make the financial saving series irregular. But in India, the asset markets are not well-integrated and the flow of information in the market is very slow compared to the developed countries. Hence there would not be any significant switching of assets within a short period. The slow response of the savers to changes in various parameters and difficulties and high costs involved in asset substitution would ensure that the saving series is smoother. The revised estimates could be considered as superior in the light of this a priori reasoning. In fact, Mani Mukherjee states that¹ "This flow (household saving) results from activities of numerous relatively small economic agents and need not have spasmodic fluctuations."

In the Indian case, any significant shift in the saving-consumption basket or the financial-physical saving ratio can

take place only due to policy-induced factors(e.g. nationalisation of commercial banks and subsequent policy of branch expansion, operations of the Food Corporation of India) or external factors(e.g.inflow of foreign inward remittances).Any significant shift in the saving series is due to these factors which is reflected both in official and our estimates.

(B) Saving Rate in the Economy

As in the case of gross financial saving series, the revised estimates have the effect of smoothening the fluctuations in the official series(See Table 3.7 & Graph.2). This follows naturally from the effect of gross financial saving series. Since financial savings account for nearly 40 per cent of total saving, any estimate series that smoothen the financial saving series would also smoothen the total saving series. Both the series confirm a sharply rising trend till 1978-79. However one significant observation that emerges from our estimates is that there was a sharp decline in the saving rate in the economy since 1980-81 though it recovered in the last year of the reference period(i.e.1984-85). Some economists have talked about stagnation and a probable decline in the saving rate in the economy in the 80's but have not been able to substantiate their statements as they had only the official estimate series to fall back upon. Our estimates, for the first time, provide evidence in support of these conjectures. Thus our estimates throw open a number of issues regarding the estimation of saving in the Indian economy which needs to be discussed and debated for a better understanding of the statistical and economic significance of the saving rates.

Notes and References

1. M. Mukherjee(1988) p.2549

Chapter 4

Financial Saving Behaviour of the Household Sector in India (1970/71 - 1984/85)

Trend Analysis

The purpose of this section is to bring out the differences in the growth rates of individual financial assets and total financial savings during the reference period (1970-71 to 1981-85). We used the semi-log function for estimating the growth rate. In this form ($\log Y = a + bt$), the growth-rate is given by $e^b - 1$. If b is small, the term ' $(e^b - 1)$ ' can be approximated by b ; hence b can be taken as the compound growth rate over the period. There is no hard and fast rule regarding how small, the value of b should be but generally if b is ≤ 0.1 , then b is presumed to measure the trend growth rate. We were also interested to know whether there is acceleration or deceleration in the growth-rate. For this, we fitted the following semi-log quadratic function:

$$\log Y = a + bt + ct^2$$

$c < 0$ indicates deceleration while $c > 0$ indicates acceleration. Since the correlation between ' t ' and ' t^2 ' is very high, we assigned zero value to the middle year so that ' t ' takes the values -7, -6,0,6, 7 and ' t^2 ' takes the values 49, 36,0,36, 49. This ensures that correlation coefficient between ' t ' and ' t^2 ' is zero. Table 4.1 presents the growth-rates of individual assets as well as total financial saving while Table 4.2 indicates the acceleration/deceleration rates. In case of individual assets, the equations throughout this chapter, are based on our estimates while in case of the

residual category (all other financial assets), they are based on official estimates. The total gross financial saving series is the sum of the two above mentioned components.

Table 4.1: Trend Growth Rates of Selected Financial Assets
(Based on semi-log function) (in per cent)

Assets	Growth-rate
1	2
Bank Deposits	18.89
Non-banking Company Deposits	30.34
Shares of Co-operatives	11.74
Units of the UTI	26.36
All other Financial Assets	18.06
Total Gross Financial Saving	18.53

Table 4.2: Financial Assets: Acceleration/Deceleration
in Growth Rates

Assets	Equation
Bank Deposits	Log Y = 8.13 + 0.17 t - 0.0052 t ² (145.97\$) (20.65\$) (-2.411\$)
Non-banking Company	Log Y = 5.07 + 0.265 t + 0.0011 t ² (16.36\$) (5.717\$) (.100)
Shares of Co-operatives	Log Y = 4.52 + 0.112 t - 0.0004 t ² (37.98\$) (4.264\$) (.077)
Units of the UTI	Log Y = 3.50 + 0.237 t + 0.020 t ² (20.040\$) (9.042\$) (2.96\$)
All Other Financial Assets	Log Y = 6.840 + 0.175 t - 5.484 t ² (59.751\$) (5.289\$) (-0.271)
Total Financial Savings	Log Y = 8.91 + 0.17 t - 0.0022 t ² (325.45\$) (41.53\$) (-2.05^)

Note: The 't' statistics are given within bracket; '\$' indicates significance at 5 per cent level while '^' indicates significance at 10 per cent level.

Thus the fastest growth has been recorded by the non-

banking company deposits followed by the units of the UTI. Contrary to popular impression, the growth rate of bank deposits, has not been spectacular.

The Table 4.2 reveals some interesting aspects of the growth-rate viz. (i) There is deceleration in the growth-rate of bank deposits and 'total financial savings'. In case of bank deposits, the deceleration co-efficient is significant at 5 per cent level while in case of total financial saving, it is significant at 10 per cent level. (ii) There is acceleration in the growth-rate of units of the UTI. The implications of the results could be important. The statistically significant deceleration co-efficient in respect of bank deposits might mean that the growth in bank deposits was mainly due to rapid expansion of bank branches during the reference period. The 'bank branch expansion' and the 'possibility of mopping up more savings of the households through branch expansion', both seem to have reached a saturation point; this point is taken up for more clarification in the next section of this Chapter. The statistical significance (at 10 per cent level) of deceleration co-efficient of total financial saving could be due to the deceleration in the growth rate of bank deposits which happens to be the most important instrument of financial saving.

The statistical insignificance of the co-efficient of t^2 in case of non-banking company deposits, could be attributed to the wide fluctuations in the data. The acceleration co-efficient might become statistically significant when the series becomes more regular.

Regression Exercise

The purpose of this section is to find out the important determinants of financial savings in India. The 'determinants of saving' are important in the context of a development strategy. If a high level of planned investment is not matched by a high level of saving, the inflation may occur due to excessive demand. Although a high rate of saving has not promoted high rate of economic growth in the Indian Economy, it has ensured moderate inflation over a long period of time compared to many other developing countries. The earlier exercises in the Indian case (referred to in Chapter 1), had specified either the total domestic saving or the total saving of the household sector as the variable to be explained. Our exercise focusses on the financial saving of the household sector partly because, the behaviour of financial saving of the household sector, might be different from the behaviour of other components of domestic saving; partly also because the descriptive literature is much concerned with the growth of financial infrastructure in India and its role in promotion of saving. In fact, using, the total saving of the household sector (a large part of which, is in the form of physical assets) as the dependent variable, in an econometric exercise might be inappropriate. This is due to the nature of estimates regarding physical savings of the household sector in India. As Lakdawala and Mody put it¹ "Based on some periodical ad-hoc surveys and on the assumption that ratio of such saving to national income remains constant for the interim years, annual saving series is generated. Now to again estimate a linear relation between saving and income would, obviously, be

inappropriate".

The reference period is 1970-71 to 1984-85 using the saving estimates as revised by us. 1970-71 was chosen as the base year of the study as (i) it is the base year for most official series on macro economic variables in the country and (ii) some financial assets especially bank-deposit became prominent in the household sector's portfolio after nationalisation of major commercial banks in July 1969.

We began with rather a long list of explanatory variables listed below:

- (i) total income/total personal income/total personal disposable income
- (ii) Share of agriculture in Net-Domestic Product (NDP)/ share of primary sector in NDP
- (iii) Wholesale Price Index (WPI)/NDP Price deflator
- (iv) Price of gold as a proxy for rate of return on physical assets.
- (v) One year/five year/weighted average bank deposit rate as the representative interest rate on financial assets
- (vi) the number of commercial bank branches as a proxy for institutionalization of the saving process in the country
- (vii) bank credit to household sector/ASI data on number/value of output of proprietorship and partnership firms as a proxy for unincorporated forms of enterprises in the economy.
- (viii) Foreign inward remittances (i.e. private transfer receipts in the current account of balance of payments statistics and
- (ix) public procurement of food grains.

Since we had a long list of explanatory variables, we tried with alternative combinations of four variables each (Since

we have 15 observations in each case, this would imply that we always had 10 degrees of freedom which is the minimum acceptable degrees of freedom). This exercise indicated that co-efficients of only three variables viz. (i) personal income, (ii) NDP price deflator and (iii) number of commercial bank branches, were statistically significant.

Before reporting the final equations, let us allude to the possible reasons for the statistical insignificance of some of the above-mentioned variables. The sectoral 'distribution of income' parameter (measured by the share of agriculture/primary sector in the NDP) was not important in explaining the financial saving of the household sector mainly due to the convergence of the saving propensity of the rural and urban population in recent years. Similar results were obtained by Krishnamurthy and Saibasa (1982) and others (See Chapter I). This goes against the hypothesis of Raj (1962) and Chakravarty (1973) that saving propensity is substantially lower in the agricultural sector. Their proposition was supported by empirical studies covering mainly the pre-1970 period. But almost recent studies covering the period 1970 onwards, refute the proposition. The implication is that the differential of saving propensities of the agricultural and non-agricultural sector, has narrowed down considerably in the 1970's resulting in statistical insignificance of this parameter in explaining household sector's financial saving behaviour.

Both WPI and NDP price deflator are proxies for inflation, a major determinant of financial saving. While the co-efficient

of NDP deflator was statistically significant in most of the equations, the co-efficient of WPI was not significant in many of the equations. This points to the superiority of NDP price deflator as a proxy for inflation. In fact since national income is one of the important variables in our equations, a proper proxy for inflation is the one that is defined over the whole of national income. The WPI covers only a sub-set of commodities entering national income.

Price of gold should turn out to be one of the most important variables as the price of gold and financial savings are inversely related and gold happens to be one of the most important physical assets held by the household sector in India. It is well known that the stocks of gold with the household sector are rising every year but since these additions to stocks probably take place mainly through illegal imports, they would not be captured in official statistics. In India, the government is the sole legal producer and importer of gold. Hence, the household sector can add to its stock legally only through net purchase from the government sector. However, the government in the past, has not disinvested its stock of gold, hence officially, the stock of gold with the household sector has remained almost at a constant level over the years. Hence any regression exercise using the available statistics would reveal the importance of gold price to be insignificant -- this anticipated result was obtained by us also.

The statistical insignificance of 'interest rate on bank deposits' is mainly due to lack of adequate variability in the

data. In India, the bank deposit rates are fixed by the monetary authorities (RBI) and not determined by market conditions.

Growth of unincorporated enterprises have contributed to higher saving of the household sector. However, the estimated coefficients of its proxies were insignificant in our exercise partly because, the savings of the unincorporated enterprises are held primarily in the form of physical assets and very little in financial assets - a point which would be supported by results of one regression equation (reported at the end of the chapter).

Another reason could be that the coverage of the ASI data (a direct proxy) is incomplete. It covers only the unorganised enterprises in the manufacturing sector, leaving out a large body of unincorporated entities engaged in wholesale/retail trade, hotels and other services. Within the manufacturing sector itself, the value of output recorded in the ASI is believed to be an under-estimate. Bank credit to household sector is only an indirect proxy though it covers farm households, non-farm households engaged in manufacturing sector as well as in trade, transport and other services.

We now report selected equations (in linear form) with good fit at the aggregate and disaggregated level. The notations are as follows:

The dependent Variables are

FS = Total financial saving of the household sector

BD = Bank Deposits

ND = Non-banking Company Deposit

UT = Units of the UTI

OS = All Other Assets

The independent variables are

Y = personal income

P = NDP price deflator

N = the number of commercial bank branches (number of co-operative bank branches in the disaggregated equation for co-operative bank/credit society deposit)

T = time trend

The 't' statistics are given within bracket.

* indicates significance at 5 percent level

$$(1) \text{ FS} = -88.19 + 0.161 Y - 68.03 P + 0.283 N$$

(-0.053) (4.411*) (-2.607*) (2.717*)

$$\bar{R}^2 = .99, \text{ DW} = 1.715, \text{ F} = 324.94*$$

Y has the highest β^2 value indicating that it is the most important independent variable in the equation followed by P.

$$(2) \text{ BD} = 103.26 + 0.04 Y - 38.72 P + 0.266 N$$

(0.108) (1.96^) (-2.585*) (4.45*)

$$\bar{R}^2 = .97, \text{ DW} = 1.64, \text{ F} = 171.70*$$

N has the highest β value in this case implying that it is the most important factor in the equation.

A surprising result of this equation is that personal income which was the most significant variable in determining aggregate financial saving of the households, is significant at 10 per cent level but not at 5 per cent level in explaining growth in commercial bank-deposits. This may mean two related things (i) growth in bank deposits has taken place mainly because of shift from other forms of financial assets such as currency,

life insurance etc. and (ii) Since personal income is most significant at the aggregate level, it must be very significant for some other assets, a point borne out by the following regression results:

There are however, some qualitative determinants of bank deposits such as appropriate package of deposit scheme suiting the needs of different classes of people, improvement in customer service etc.

$$(3) \text{ ND} = -491.99 + 0.009 \text{ Y} + 3.095 \text{ P} - 67.19 \text{ T}$$

$$(-2.43*) \quad (2.78*) \quad (1.055) \quad (-3.145*)$$

$$\bar{R}^2 = .95, \text{ DW} = 2.566, \text{ F} = 91.84*$$

Y has the highest β value indicating that it is the most important variable affecting growth of deposits with non-banking companies.

$$(4) \text{ UT} = 127.646 + 0.013 \text{ Y} - 4.58 \text{ P} - 35.156 \text{ T}$$

$$(.503) \quad (3.248*) \quad (-1.246) \quad (-1.314)$$

$$\bar{R}^2 = .758, \text{ DW} = 1.65, \text{ F} = 15.63*$$

Here income appears as the only statistically significant variable.

$$(5) \text{ OS} = -397.573 + 0.0979 \text{ Y} - 17.827 + 14.234 \text{ T}$$

$$(-.264) \quad (4.100*) \quad (-.822) \quad (.090)$$

$$\bar{R}^2 = .98, \text{ DW} = 1.734, \text{ F} = 184.056*$$

Here, too, income appears as the only statistically significant variable.

Thus income emerges as a key determinant of 'total financial saving' as well as its various individual components while inflation is a major determinant of 'total financial saving' and 'bank deposits' whereas proxies for institutionalization of the saving process (number of bank

branches/time trend) are important in respect of 'total financial saving', 'bank deposits' and 'non-banking company deposits'. While the role of income and inflation variable is anticipated across time and region, what is important in the Indian context especially during the reference period (1970-71 to 1984-85) is the role of bank branch expansion in mobilising higher saving out of a given level of income. According to some writers, banks are in a unique position to mobilise the savings of moderate income groups who can not invest in physical assets due to the scale of investment involved. According to Paul Burkett(1986)³ ".....the provision of safe, liquid deposits with reasonable yields can be a crucial service for non-wealthy households with uncertain and/or seasonally uneven income and expenditure flows-especially in rural areas of developing countries."

Burkett's proposition is borne out by the Indian experience. The RBI data(indicated in Table 3.3) reveal that most of the bank deposit accounts happen to be small especially the saving and fixed deposit accounts held predominantly by the household sector.

Table.4.3

Average Amount of Deposit per Bank Account(in Rs)

Type of Account	As on March, 31 1971	1984	Growth-Rate over the Period (in per cent)
Current	5924	11774	98.75
Saving	868	1543	77.76
Fixed	5766	7061	22.46
Over-all	2390	3682	54.06

Source: RBI: 'Composition and Ownership of Bank Deposits' in the September, 1973 and November, 1987 issues of the Bulletin.

During the same period, the wholesale price index rose by almost 200 per cent which means that in real terms, the average amount of deposit per account has declined lending credence to the view that in india, bank saving and fixed deposits are held primarily by middle-income groups who have few other channels of investment.

However, the number of bank branches does not fully reflect the growth of the banking infrastructure. It reflects only the geographical coverage. The introduction of new deposit schemes and widening of the scope of banking services are also important. Besides geographical growth of financial institutions, the wider choice of assets made available by them, has also contributed to the rise in saving of the household sector in India. According to Mujumdar N.A. et al (1980)⁴ "Some sort of 'asset differentiation' analogous to 'product differentiation' has taken place over the years in the spectrum of saving in the form of financial assets".

The trend analysis in the earlier section of the Chapter, had indicated deceleration in the growth rate of 'total financial saving' and bank deposits while the regression exercise here reveals that income is the most important determinant of 'total financial saving' while 'bank branch expansion' is the most important determinant of 'bank deposits'. Together, they imply the following three inter-related things:(i) there is deceleration in the growth rate of 'total financial saving' mainly because of deceleration in the growth-rate of bank deposits, (ii) the deceleration in the growth rate of bank

deposits can be attributed to the fact that 'bank branch expansion' is approaching a saturation point and (iii) income has not grown fast enough to neutralise the impact of saturation in the expansion of bank branches.

We had mentioned earlier in this section of the Chapter that proxies for 'unincorporated forms of enterprises did not perform well in explaining financial saving of the household sector. We had also alluded that one reason could be that saving of the 'unincorporated forms of enterprises' are held primarily in the form of physical assets. To test that hypothesis, we ran the following regression equations. The notations are as follows:

Dependent Variable: PS = Saving of the household sector in physical assets

Independent Variables: Y = Personal incomes

P = NDP price deflator

U = bank credit to household sector/
ASI data on proprietorship and
partnership firms as a proxy for
growth of unincorporated forms of
enterprises

While the ASI data did not perform well, the other proxy (bank credit to household sector) performed well as can be seen from the following equation.

$$PS = 41.854 + .083Y + 2.484 P + 1.056 U$$

$$(.027) \quad (2.670^*) \quad (.111) \quad (2.682^*)$$

$$\bar{R}^2 = .98, DW = 2.178, F = 264.24^*$$

Here, personal income and bank credit to household sector appear as the two most significant variables validating our statement. Bank credit to household sector has become important due to two reasons; (i) bank credit is a proxy for growth of

producer households who invest mostly in physical assets and (ii) Bank credit is available mostly for physical investment. This indirect test of ours, for the first time, provides support for the hypothesis made in the "Raj Committee Report on Savings" that the higher saving rate in the Indian economy especially that of the household sector is partly due to the growth of unincorporated forms of enterprises.

Limitations of Some of the Earlier Econometric Studies

Results obtained by us can not strictly be compared with results obtained by others. Much of the exercises in Indian case are concerned about the high value of \bar{R}^2 with some authors specifically mentioning that they have accepted [as true specification of the functional relationship] and reported the equation that gives the highest value of \bar{R}^2 . Such a high value of \bar{R}^2 is possible if there is near perfect causal relationship between the variables [a rare thing in Economics] or data transformation. Many of the authors have got very high value of \bar{R}^2 due to logarithmic transformation. While log-transformation is useful in the sense that it gives directly elasticities and reduces heteroscedasticity, the results obtained from log-transformed equations can not be compared with linear equations as log-transformation pulls the outliers close to the regression fit and hence yields a higher value of \bar{R}^2 .

Notes and References

1. Lakdawala D.T. and Mody R.J (1975) p.19
2. In order to ascertain the relative importance of various explanatory variables which are measured in different units, the regression co-efficients are sometimes measured with reference to the standard deviations of respective explanatory variables. These new regression co-efficients are called ' β ' co-efficients which are nothing but ordinary regression co-efficients duly normalized. Hence from ' β ' values, we can know the relative importance of various explanatory variables expressed in terms of different units (For details, See Maddala, G.S.(1977): 'Econometrics', Tokyo, McGraw-Hill Kogakusha Ltd., p.119).
3. Burkett P. (1986) p.77
4. Mujumdar N.A et al (1980) p.8

Results and Conclusion

The phenomena of high saving rates of the Indian economy during the late 70's and early 80's has attracted the attention of researchers. The researchers have focussed their attention mainly on two things viz. (i) what explains the scenario of high savings in the Indian economy during this period and (ii) why this high saving rates are not reflected in high growth-rate of the economy. The attempt was essentially to solve the paradox of rapid increase in the rate of saving despite low growth rate of the economy. These were very important issues in the context of development process of the economy. But, one feels, that pre-occupation with these issues, has resulted in neglect of the data base of the saving series. The neglect is conspicuous in the case of household sector's saving in the form of financial assets. The importance of 'financial saving' lies in the fact that it constitutes nearly half of total saving of the household sector while household sector's saving constitutes nearly three-fourths of total domestic saving. Though the Raj Committee Report (1982) on 'Saving and Capital Formation' cautions against taking the estimates of 'financial savings' for granted, this warning seems to have gone unheeded. The present thesis, makes an attempt to fill in the gap to a limited extent. An individual researcher does not have much access to the raw data in respect of most of the financial assets; this limits the scope of our enquiry. Nevertheless, the thesis makes a beginning.

The thesis investigates the nature of data-base of individual components of gross financial saving and provides

alternate series of estimates in respect of (i) deposits with commercial banks, (ii) deposits with co-operative banks/credit societies, (iii) deposits with co-operative non-credit societies, (iv) shares of co-operatives, (v) units of the UTI, and (vi) deposits with non-banking companies separately for Government companies, financial and non-financial companies in the private corporate sector for the period 1970-71 to 1984-85.

A casual glance reveals that apparently there is no clear pattern in the series of differences between official estimates and estimates made by us, both at aggregate and disaggregated level. For some years, the official estimates are on the higher side while in some other years, they are on the lower side compared to our estimation. Thus the sign of 'differences in series' changes frequently. However, these 'sign changes' take place because our estimates smoothen the fluctuations in the official estimates. Both the official and our estimates confirm a sharply rising trend in saving rate till 1978-79. ~~and then~~ in the 80's. But the official series is more irregular compared to our series. It is generally presumed that 'household saving' and 'total domestic saving' in India would normally follow a trend due to the segmentation of asset market and other markets and slow pace of information flow in the economy. Hence we believe that our estimates are more in alignment with the theoretical reasoning compared to official estimates.

Our trend analysis reveals that during 1970-71 to 1984-85, the annual compound growth rate of deposits with non-banking companies was the fastest (30.34 per cent) followed by the units

of the UTI (26.36 percent) while it was the lowest in case of co-operative shares (11.74 per cent). The total gross financial savings increased by 18.53 per cent during this period. Our trend analysis further reveals that there is deceleration in the growth-rate of 'bank-deposits' and 'total financial savings' while there is acceleration in the growth rate of units of the UTI. In respect of other assets, the acceleration/deceleration co-efficients are not statistically significant.

The thesis also attempts to identify the main determinants of financial savings of the household sector both at the aggregate and the disaggregated level. The empirical results show that at aggregate level, three factors viz. (i) personal income, (ii) NDP price deflator as a proxy for inflation rate and (iii) the number of commercial bank branches were important in explaining financial saving behaviour of the household sector. At disaggregated level, income was a statistically significant variable in respect of 'deposits with non-banking companies', 'units of the UTI' and 'all other assets (a residual category comprising almost half of total financial saving)' while number of bank branches and NDP price deflator were important in explaining growth of bank deposits. Our results are broadly similar to the results obtained by other recent studies (discussed in Chapter I).

Finally, we would like to note that further research needs to be done for a fuller understanding of the nature of data-base of the saving and investment series in India. There exists scope for further improvement in the official estimates. As regards the

'determinants of saving', it is possible to have a better specification of the saving function using advanced econometric techniques. All this is necessary as the saving process and the development process are closely inter-linked.

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