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Review Articles

Measurement of Household Financial Saving in India: A History of the Methodological Evolution

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The paper traces the history of compilation of financial saving of the household sector in India. Against the backdrop of the evolution of various methodologies adopted by the institutions producing primary estimates of household financial saving and the progressive movement towards synthesis, the paper discusses the existing methodological impediments and the future directions in the compilation of financial saving in India.

Introduction

Economic development and the extent of sophistication in compilation of macro aggregates share a mutually reinforcing relationship, encompassing in their interaction a number of aspects like institutional arrangement of compilation, stage of development of the economy and its coverage in the statistics. Traditionally while compilation of national accounts aggregates comes under the purview of the Central Statistical Authority of a country, the central bank takes the primary responsibility of compiling monetary and balance of payments statistics. In most countries, saving is primarily compiled by the Central Statistical Office on the basis of the returns of the Income Tax Authority or some suitable survey-based methods. This is not the case for India where a miniscule fraction of the population pays income taxes and the saving numbers generated from sample surveys yield quite unreliable statistics.

In India within the standard three-sector classification, *viz.*, households, public and private corporates, the saving of the household sector is further decomposed into a two-fold asset based classification, *viz.*, physical and financial assets. There exists

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considerable dichotomy in the method of compilation of saving of these sectors. Saving of the public and private corporate sectors are compiled through an income-expenditure method. On the other hand, physical saving of the household sector is compiled through the production method (*i.e.*, accounting for production of ‘plant and machinery’, ‘construction’ and ‘change in inventory’ by the household sector) as a residual after deducting public and private corporate investments from economy-wide capital formation while financial saving of the household sector is computed through an asset-based approach.

A distinguishing feature of the household sector is that it not only contributes entirely to its capital formation through its physical saving but also generates a financial surplus with the rest of the two sectors, which is its financial saving. On the other hand, in the case of each of the other two sectors, saving is supplemented by the net capital receipts from other sectors and the financial liabilities it incurs to others to finance capital formation. India follows a unique institutional arrangement relating to the compilation of saving between the Central Statistical Organisation (CSO) and the Reserve Bank of India (RBI); the estimations of household financial saving (except in life funds, provident and pension funds) and saving of the corporate sector are undertaken by the RBI, and the CSO compiles savings of the public sector and household sector in physical assets and in life funds, provident and pension funds.

This arrangement of distributing the compilation between two different agencies is, however, of recent origin. In the post-Independence period, the Indian economy was characterised by a multiplicity of saving estimates generated by number of institutions like the CSO, the RBI and the National Council of Applied Economic Research (NCAER). Such multiple estimates about the same number often created confusion among the users. In fact, insofar as the compilation of saving in the Indian economy is concerned, from the standpoint of availability of estimates, one may sub-divide the post-Independence period in three phases, *viz.*, (a) 1950-51 to 1961-62 : when the CSO, the RBI, and the

NCAER all published their independent saving estimates; (b) 1962-63 to 1987-88 : when after the NCAER stopped their publication of saving numbers, only the CSO and the RBI continued to publish their independent saving estimates; and (c) 1988-89 till date: when, following the recommendations of the Working Group on Savings (Chairman: Professor K.N. Raj, 1982; hereafter referred to as Raj Committee), the CSO and the RBI reconciled most of their differences and started publishing saving numbers on the basis of a uniform methodology and data base.

Against this periodisation, this paper is confined to a study of the methodology and its evolution in respect of household saving in financial assets. The rest of the paper is organised as follows. Section 2 deals with the conceptual and methodological issues in estimating financial saving. The evolution of estimation of household financial saving in India during the three phases is taken up in sections 3, 4 and 5. Section 6 is devoted to critiques of the Raj Committee Report and proposed recommendations of the Expert Group on Saving and Capital Formation (Chairman: Raja J. Chelliah hereafter referred to as Chelliah Committee). Instead of presenting concluding observations, section 7 addresses some future directions in the compilation of financial saving in India.

Section 2

Measurement of Financial Saving: Conceptual and Methodological Issues

In a social accounting system there can be two approaches to measure saving of an economy. As per the first approach, saving may be calculated as the excess of current disposable income over current expenditures. Alternatively, saving can be measured from the balance sheet of the sector as the net result of changes (excluding revaluation) in all types of assets and liabilities. The two calculations are necessarily identical. Essentially, the same concept gets reflected in the three sequential flow accounts framed by the United Nations' System of National Accounts 1993 (UNSNA, 1993), as presented below:

First approach: Distribution and Use of Income Accounts:

$$\mathbf{S = I - E} \tag{1}$$

Second approach:

(a) Capital Accounts: $\mathbf{S = [C + (CP\text{-}CR)] + F}$ (2)

(b) Financial Accounts : $\mathbf{F = [FA - FL]}$ (3)

where, S = Saving; I = Current Disposable Income; E = Current Expenditure; C = Increase in sector's Physical Assets; CP = Capital Transfers Paid; CR = Capital Transfers Received; F = Financial Surplus (or Financial Saving); FA = Increase in sector's Financial Assets; and FL = Increase in sector's Financial Liabilities.

As the household sector in the Indian economy contributes entirely to its own capital formation in terms of its physical saving (*i.e.,* CP = CR = 0), then equation (2) can be re-written in the case of the household sector as,

$$\mathbf{S = C + F} \tag{2$'$}$$

Thus, household saving can be measured as an aggregation of its physical saving and financial saving.

Although the procedure, *prima facie*, appears very straight-forward, complexities arise, especially for developing economies like India. As the household sector here is a heterogeneous unorganised sector which does not maintain accounts, information relating to the household sector has to be compiled indirectly. A word of caution about the ambit of the generic entity called 'household sector' needs to be given here. Household is a residual sector. In the Indian situation whatever is not included under private corporate sector or public sector comes under households. The household sector comprises, apart from individuals, all non-government, non-corporate enterprises like sole proprietorships and partnerships owned and/or controlled by individuals and non-profit institutions which furnish educational, health, cultural, recreational and other social and community services to households (CSO, 1989).

Calculation of Financial Saving

Financial saving of the household sector can also be measured by two approaches. Adopting the *first approach*, it can be calculated by deducting the sector's physical saving from its total saving. Here, while the total household saving can be derived by the income approach, household physical saving, which is nothing but its capital formation, can be estimated as a residual by deducting from the economy-wide capital formation, the capital formation for public and private corporate sectors. As per the *second approach*, household sector's financial saving can be compiled directly as the increase in financial assets *net* of financial liabilities, excluding any revaluations. In the Indian context, financial saving of the household sector is estimated by the *second approach*, as it is a direct measurement and also is useful in analysing the volume and composition of the sector's financial portfolio. Thus, the basic framework for instrument-wise estimation of household financial saving is as follows:

Let $\mathbf{W} = \{W_i\}$ be the vector of the financial assets (i = 1, .., n), and $\mathbf{L} = \{L_j\}$ be the vector of financial liabilities (j = 1, .., m) in the economy, all in terms of national currency. In such a frame, the compilation of financial saving of the household sector involves the following three steps.

Step 1: Calculation of households' share in **W** and **L**, say $\mathbf{W}^h$ and $\mathbf{L}^h$.

Step 2: Finding out the flows in $\mathbf{W}^h$ and $\mathbf{L}^h$, say $\Delta\mathbf{W}^h$ and $\Delta\mathbf{L}^h$.

Step 3: Financial Saving (**F**) is then given by, $\mathbf{F} = (\Delta\mathbf{W}^h - \Delta\mathbf{L}^h)$, i.e.,

$$\mathbf{F} = \left[\sum_{j=1}^{n} \left(\mathbf{W}^{h}_{i,t} - \mathbf{W}^{h}_{i,t-1}\right) - \sum_{j=1}^{m} \left(\mathbf{L}^{h}_{j,t} - \mathbf{L}^{h}_{j,t-1}\right) \right]$$

On balance, the household sector has a financial surplus *vis-à-vis* the other sectors of the economy, which is measured by the financial saving computed by netting out annual increases in financial liabilities (flow) from the annual rise of financial assets (flow).

Thus, there are two important issues in the calculation of financial saving of the household sector, *viz.*, (a) choice of constituent items in **W** and **L**, and (b) finding out households' share in **W** and **L**.

As an economy develops and the financial sector deepens and widens, there is an increase of options for households to hold their financial assets. This widening of the menu may take the form of new financial instruments emerging for the households or new financial institutions sourcing their funds from households or existing institutions changing their fund mobilising pattern. For instance, in the early stages, the menu may be limited to very liquid instruments and very illiquid instruments. Later on, this widens to cover whole range of financial instruments offering differing degrees of liquidity and rates of return from which households can choose. The major financial assets of the household sector include currency, deposits, shares and debentures, life insurance funds, provident and pension funds, and claims on government. The household sector incurs liabilities from the banks, financial institutions, corporates, co-operatives and government. Therefore, the task of the compiler is to keep track of the innovations in the financial system and appropriate framing of financial asset and liability vectors of the household sector.

The first best solution for ascertaining the household sector's share in the chosen financial and asset liability vectors is from the detailed flow of funds (FOF) accounts compiled for the economy across its various sectors and financial instruments. As the household sector does not maintain its accounts, information is compiled on an indirect basis from data compiled with respect to other sectors. This indirect procedure of compilation varies from instrument to instrument. Some data like investment in life insurance funds and provident and pension funds are obtained as counterpart information from the accounts of other institutions; for other instruments like bank deposits both counterpart information and survey data are resorted to. In the cases of the other instruments like shares and debentures, the household sector's subscription is estimated as a residual after deducting from the aggregate issues, the investments made by the non-household sectors. However, the compilation and consolidation of FOF accounts of the economy are contingent upon receipt of information from the different sectors of the economy. Hence, the flows of funds accounts invariably suffer a time lag. Therefore, in such cases, the second-best solution becomes estimation of the household financial saving by whatever current data are available along with use of some benchmark ratios.

As a check the household financial saving can also be derived by the *first approach*. For instance, in the flow of funds accounts of the United States, the estimates of household financial saving are compiled by the balance sheet approach and the discrepancy with its alternative estimate derived from the income approach is shown. In the case of India, while the balance sheet approach is used in the estimation of household financial saving, no check is made by estimating with the alternate approach.

Section 3

The Early Stage (1950-51 to 1961-62)

Since the estimate of domestic saving was a key input in projections of various macro aggregates, there were a number of alternative estimates of saving in the initial years of planning. Apart from estimates by individuals, there were a number of official bodies like the Planning Commission, the Reserve Bank of India (RBI), the Central Statistical Organisation (CSO) and the National Council of Applied Economic Research (NCAER) which generated saving estimates for the Indian economy.

Planning Commission's Estimates

The genesis of estimation of financial saving in independent India dates back to the rudimentary estimates made by the

Planning Commission in the *First Five-Year Plan Document*. In its effort towards a national budgeting exercise in 1952, the financial saving was estimated for the private sector for 1950-51 in currency and bank deposits, provident funds, small savings, insurance, and deposits & share capital of co-operative banks. Although the Planning Commission regarded financial saving estimates to be relatively more reliable than physical saving of the private sector, there were notably a number of shortcomings. First, financial saving was estimated for the private sector as a whole and not for the household sector alone. Secondly, the coverage was too limited to gather data for the entire range of financial assets. Thirdly, the Planning Commission admitted to the possibility of double counting, which was adjusted from the aggregate saving estimates to match with the overall investment estimates. Finally, the estimates of household financial saving in insurance and co-operatives related to the year 1949-50 while those for the rest of the instruments related to the year 1950-51.

Private Attempts

In one of the initial private attempts (Avadhani, *et.al.*, 1960), household financial saving was estimated for the period 1949-50 to 1954-55 across three categories of financial assets, *viz.*, liquid assets (currency, deposits and gold), contractual saving (insurance and provident fund contributions) and other financial assets (government securities and other savings transferred to government, and industrial shares and securities). There were some improvements: a separate estimate was arrived for financial saving for the *household* sector, the coverage was widened, the estimates of household financial saving were generated in a time series and the methodology of estimation was refined. Gold was also included as one of the instruments of financial saving. The private hoards of gold were considered to be part of country's *potential* reserves and therefore considered as foreign investment. However, some shortcomings still remained. First, the cash holdings of non-banking corporations were assumed to remain constant and currency with households was estimated to equal the changes of currency in circulation, after adjusting for currency with banks and treasuries.

Secondly, in respect of provident funds (PF), figures for only government employees were taken and no attempt was made to estimate the PF contributions in the private sector. Thirdly, in the calculation of household sector's investment in shares and debentures, the data of bonus issues sanctioned were taken in the absence of information on actual issues. Besides this fundamental estimation exercise on saving, there were some review studies by individual scholars (See Bhatt, 1959 and Raj, 1962).

Three Major Institutional Attempts

Estimates of National Council of Applied Economic Research (NCAER)

NCAER began estimation of household saving by following both institutional (NCAER, 1961, 1965 and 1966) and survey approaches (NCAER, 1962). The institutional approach provided a time series for the period 1948-49 to 1961-62, and the results were verified from the surveys. On the other hand, surveys were aimed at capturing the behavioural and motivational aspects of rural and urban areas.

A number of refinements were made as compared with the earlier attempts. A detailed coverage was made to capture information on both the assets and liabilities of the households across the various financial instruments, *viz.*, currency, deposits, shares and debentures, claims on government, life funds and provident & pension funds and gold and silver. Standard sources and procedures were organised for compilation purposes. The residual system of estimation was adopted for computing holdings of currency, corporate securities and claims on government. As the estimates of non-household sectors' holdings under the various instruments became more refined the saving estimates for the households in these instruments, arrived residually, became more accurate. Besides obtaining data from other sources, notably the RBI (especially for the banking sector, local authorities and for the government) the Council developed its own data base of domestic non-government companies on the basis of sample information available with them. The calculation of commercial bank deposits and commercial bank advances pertaining to the households was refined by blowing up the data pertaining to households in the RBI's survey on ownership of deposits with scheduled commercial banks and in the RBI's survey on outstanding credit of scheduled commercial banks, respectively, on the basis of coverage of aggregate deposits and aggregate credit in these surveys. The coverage of provident funds was improved to include estimates for industrial workers and employees of the government, educational and financial institutions, and employees under Coal Mines' provident fund scheme. Coverage was also made for all the pension funds. Availability of the RBI's surveys on government securities since 1957 improved the household saving estimates in this instrument. The data on household investment in the local authorities were also included.

Some areas of weakness still remained. In the residual derivation of household investment in corporate securities no deductions could be made for the subscription of these securities by the Central and State Government departments. On the other side of the households' financial account, the estimates of liabilities of the household sector to the non-government companies were *ad hoc*.

Estimates of Reserve Bank of India (RBI)

The RBI was the first official agency to systematically estimate the domestic saving of the Indian economy, covering the period 1950-51 to 1957-58 (RBI, 1960). The financial assets were bifurcated into two categories, *viz.,* (i) liquid assets (currency, net bank deposits and gold), and (ii) other financial assets (shares, securities and insurance policies). The refinements made in the subsequently released saving estimates RBI (1961, 1965) have been presented in Annexure I.

While the 1960 and the 1961 series had several limitations, the estimates in the 1965 series became more complete as a result of some refinements in methodology. The estimates of currency and shares and debentures held by households were derived residually after deductions of the holdings of the non-household sectors from the aggregate holdings in these instruments. Therefore, the accuracy was contingent on the correctness of the estimates of aggregate estimates as well as those for the non-household sectors. The estimates of holdings of households in the above mentioned instruments improved as the RBI's data base of sample companies of private corporate business became complete with data pertaining to small public limited companies becoming available from the 1961 series. Furthermore, the increased coverage of the estimates of currency with public to include variations in small coins in the 1961 series made the figures of currency held by the households more accurate. In the case of shares and debentures, in the 1960 series, the data on total consents by the private corporate business were taken as a proxy for the actual issues. However, from the 1961 series onwards, the estimates of aggregate issues were based on the actual issues.

The procedure of estimation of household saving in commercial bank deposits was refined over the years. For instance, while in the 1960 series, the coverage of household saving in commercial bank deposits was incomplete in the sense that the RBI's survey data of commercial bank deposits across the designated household categories were taken to represent for the whole household sector, in the 1961 series and 1965 series, the coverage became more comprehensive as the proportion of household holdings in the total surveyed deposits were applied to the census of aggregate commercial bank deposits available with the RBI (as on end-December in the 1961 series and as on the last Friday of March in the 1965 series) to estimate household commercial bank deposits. In the case of estimating advances by commercial banks to household sector, in the 1960 and 1961 series, the advances to 'personal and professional services' and those to 'non-corporate sector' were added and, thus, there was some double counting to the extent that the advances under the former category included advances under the latter category. Thus, the estimate of net deposits (arrived after deduction of advances from commercial banks) was an underestimate. However, as the coverage of the survey became more precise and survey data became more recent, in the 1965 series, the estimates of commercial bank advances to the household sector became more sound. Gold and silver were included as part of the household sector's financial portfolio in the first two series but excluded in the 1965 series in which precious metals were treated as consumer durables.

Estimates of household investments in government securities improved in the 1965 series as, unlike the procedure of using initial cash subscriptions in the first two series, the results of the ownership survey of government securities were used. Moreover, household investments in other government securities started being included. As far as liabilities of households to the government are concerned state government loans received only from some State governments could be covered for the period up to 1955-56, for the subsequent years, all the states could be considered.

The estimates of household sector's saving in provident funds improved in the 1961 series as the data bases of wages and salaries became available separately for all the categories of public limited companies; for private limited companies, households' saving in provident funds were estimated afresh. The data on provident fund contributions of employers also became available separately not only for the sample of all categories of public limited and private limited companies but also for government companies. In the 1965 series, the coverage improved to include provident funds of employees of statutory corporations and branches of foreign concerns.

Finally, expansion of coverage in the 1965 series to include data on postal insurance and life annuity funds considerably improved the estimates of household financial saving in the form of insurance.

The RBI started publishing annual estimates of financial saving of the household sector regularly in its *Report on Currency and Finance* from the year 1964-65 onwards. The estimates were disaggregated by type of financial instruments. Since the commencement of publication of Flow of Funds accounts in March

1967, the RBI has been publishing at intervals the compilation procedure of the Flow of Funds accounts and refinements being made in them. These captured, *inter alia*, the refinements made in the compilation of financial accounts of the household sector.

Estimates of Central Statistical Organisation (CSO)

The CSO followed the *investment approach* in its maiden attempt to estimate saving (CSO, 1962). Gross domestic saving was estimated by deducting net foreign capital inflow from the estimates of gross domestic capital formation. Household saving was derived as a residual by deducting saving of the government and private corporate sectors from the gross domestic saving. Subsequently the CSO prepared the first 'official' set of estimates of saving for the period 1960-61 to 1965-66 and also published the methodology of estimation of saving which was consistent with the methodology of capital formation and national income (CSO, 1969). The financial flow approach adopted towards instrument-wise compilation of financial saving of the household sector was more or less similar to that followed by the RBI. However, unlike the RBI, the CSO included households' deposits of the non-banking sector in its coverage of deposits. The main data source for non-banking companies for the period after 1962 was the RBI's surveys on Growth of Deposits with Non-banking companies. The RBI's survey on non-banking deposits was not available for the period prior to 1962. The average ratio of households' non-banking deposits (as available from the non-banking survey) to 'other borrowings' of public limited companies (obtained from the RBI sample studies on these companies) for the period 1962 to 1965 was worked out. This average ratio was applied to the data on 'other borrowings' for the years prior to 1962 to derive the estimates for household deposits in the non-banking companies.

Comparison of the Institutional Estimates

The profile of the instrument-wise estimates of household financial saving of the three organisations, *viz.*, CSO, RBI and

NCAER shows sizeable divergences between the estimates of the three organisations as well as no uniformity in direction in them (Table 1). The differences were particularly prominent in net deposits, net claims on government and in shares and debentures. These divergences basically reflected differences in coverage, sources of data and methodologies of compilation in some of the instruments of the respective organisations. While the NCAER included precious metals as part of household financial financial saving, the RBI (since the 1965 series) and the CSO considered holding of these assets as durable consumption and did not include them in the financial saving portfolio. In the case of deposits, the CSO also included the deposits with non-banking companies, while the RBI and the NCAER restricted their coverage only to commercial and co-operative banks. Furthermore, the RBI covered households' investment in debentures of Land Mortgage Banks under 'net claims on government', whereas the CSO included this item under 'shares and debentures'. Although, the households' share of currency holdings was estimated residually, the estimates varied reflecting the differences in the calculations of the non-household sectors. In the estimation of household saving in shares and debentures, while the derivation was on a residual basis after deductions of non-household subscriptions from the total, the estimates still differed due to varied sources. While the CSO and the NCAER directly culled out aggregate data from the records of the Company Law Board, the RBI obtained this data from Controller of Capital Issues (CCI). Similarly, in estimation of household saving in government securities while the CSO used balance sheets for the data on investments by Life Insurance Corporation and co-operatives for deducting their subscriptions from the total, the RBI relied on its surveys for such data.

Table 1 : Household Financial Saving (1950-51 to 1961-62) : Different Estimates

(Rs. crore)

Item / Financial Year (19')	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	60-61	61-62
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Financial Saving: CSO	**62**	**14**	**72**	**142**	**282**	**429**	**333**	**291**	**362**	**433**	**456**	**489**
Currency	81	-116	-17	26	67	203	48	50	111	133	145	94
Net Deposits	-26	-45	43	21	38	24	-19	76	42	68	11	103
Shares & Debentures	52	49	23	27	11	41	71	36	34	61	67	112
Net Claims on Govt	-84	93	-22	-2	91	76	141	19	71	39	57	-12
Life funds	20	13	18	25	28	31	30	29	32	46	50	65
PF & Pension funds	19	20	27	45	47	54	62	81	72	86	126	127
Financial Saving: RBI	**17**	**-20**	**45**	**84**	**307**	**389**	**352**	**355**	**378**	**430**	**369**	**521**
Currency	80	-115	-22	25	85	190	52	55	121	132	147	99
Net Deposits	-38	-45	28	-8	32	0	37	123	63	82	-124	182
Shares & Debentures	33	23	13	24	38	51	54	50	26	55	125	70
Net Claims on Govt	-96	87	-15	-21	41	65	121	37	68	37	54	-5
Life funds	19	12	18	22	24	33	27	18	32	45	58	61
PF & Pension funds	19	18	23	42	87	50	61	72	68	79	109	114
Financial Saving : NCAER	**167**	**-9**	**118**	**162**	**223**	**380**	**279**	**331**	**431**	**423**	**654**	**457**
Currency	71	-115	-19	26	68	194	47	37	115	138	126	89
Net Deposits	-13	-45	21	-2	11	9	-13	38	75	34	107	-7
Shares & Debentures	31	46	30	22	29	30	75	76	51	56	123	113
Net Claims on Govt	14	25	24	35	33	53	57	44	59	32	94	47
Life funds	15	12	18	23	25	28	26	33	40	49	57	69
PF & Pension funds	29	33	26	45	46	53	64	71	56	79	112	111
Gold & Silver	20	35	18	13	11	13	23	32	35	35	35	35

Sources : (1) CSO, 1989, (2) *Report on Currency and Finance, 1970-71*, RBI, (3) RBI, 1978 and (4) NCAER, 1965.

Note : In the cases of the CSO and the NCAER, the estimates of household financial saving (net) are directly available (CSO, 1989 and NCAER, 1965). For the RBI, while estimates of financial saving (net) are directly available for the period 1950-51 to 1955-56 the same had to be derived from the *gross* series of household sector's financial account for the subsequent period, which are available in the above mentioned reports of the RBI.

Section 4

The Second Phase (1962-63 to 1987-88)

In 1966 the NCAER discontinued its institutional approach to estimation of saving and focused on undertaking surveys to obtain estimates of saving and investment of the household sector. Since 1975 the Planning Commission started publishing estimates that have been consistent with those released by the CSO. The RBI and the CSO persevered with systematic time series of household sector's financial saving (Table 2). This system of two sets of estimates for financial saving continued till the adoption of the recommendations of the Raj Committee. There were a few changes in the methodology of compilation of financial saving. Furthermore, the average rate of divergence in the RBI's estimate of financial saving from the CSO's etimate narrowed considerably during 1962-80 from the average rate during 1950-62. The RBI started including non-banking deposits in the portfolio of the household financial saving since the 1960s. On the other hand, although methodology of compilation of household financial saving converged the two organisations could not *retrospectively* revise their data for the earlier period to narrow the differences.

In 1980, the CSO released a more comprehensive methodology of saving in which, *inter alia*, the instrument-wise compilation of household sector's financial saving was elaborated (CSO, 1980). Financial saving of the household sector was estimated in *net terms* across the various instruments by netting out the financial liabilities at the instrument level. Although "currency with households" continued to be derived residually, there were some refinements. First, in the cases of co-operative societies since 1973-74 and general insurance companies since their nationalisation *separate* estimates of their currency holdings were available. Secondly, the currency holdings with private corporate business were estimated by using the RBI's studies of finances of sample companies, which provided detailed information on private limited companies segregated under 'medium and large companies' and 'small companies'. Thirdly, deductions were also made for currency held with railways using data from the records of the Railway Board. The estimation of household sector's commercial bank deposits improved with the application of the RBI's

Table 2 : Household Financial Saving (1962-63 to 1979-80) : Different Estimates

(Rs. crore)

Item / Financial Year (19')	62-63	63-64	64-65	65-66	66-67	67-68	68-69	69-70	70-71	71-72	72-73	73-74	74-75	75-76	76-77	77-78	78-79	79-80
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Financial Saving: CSO	**499**	**743**	**714**	**1072**	**864**	**865**	**795**	**919**	**1371**	**1555**	**2128**	**3612**	**2374**	**3918**	**4852**	**5853**	**6658**	**6081**
Currency	175	211	135	285	118	145	263	334	345	381	616	812	17	321	1130	705	1482	1338
Net Deposits	70	118	253	309	337	268	72	85	265	574	773	1260	1017	1131	1902	2780	2742	1650
Shares & Debentures	45	119	64	175	114	78	84	65	94	61	26	44	137	115	87	325	175	214
Net Claims on Govt	-20	42	-32	-9	-48	-59	-84	-139	-12	-243	-196	434	-95	742	95	180	31	465
Life funds	82	78	88	96	104	122	139	160	189	216	262	326	322	385	480	559	648	739
PF & Pension funds	147	175	206	216	239	311	321	414	490	566	647	736	976	1224	1158	1304	1580	1675
Financial Saving: RBI	**512**	**751**	**662**	**838**	**770**	**843**	**788**	**835**	**1487**	**1622**	**2368**	**2801**	**2602**	**3816**	**5195**	**5444**	**6942**	**6797**
Currency	174	217	135	287	126	161	271	336	355	404	637	769	18	342	1140	703	1525	1398
Net Deposits	64	134	197	247	296	241	-4	5	407	644	882	1041	1318	1181	1917	2445	2840	2438
Shares & Debentures	25	113	26	24	23	42	41	47	81	32	46	8	60	59	15	235	322	267
Net Claims on Govt	31	51	37	8	-5	8	50	-68	42	-130	18	69	154	812	514	230	61	149
Life funds	89	81	85	74	120	122	157	157	180	198	262	311	265	342	437	515	601	670
PF & Pension funds	129	155	182	198	210	269	273	358	422	474	523	603	787	1080	1172	1316	1593	1875

Sources : (1) CSO, 1989, (2) RBI, 1978, (3) *Report of the Working Group on Savings* (Raj Committee), RBI, 1982; (4)*Report on Currency and Finance*, RBI, various issues.

survey on ownership of deposits with scheduled commercial banks through Basic Statistical Returns (BSR) which provided more accurate picture of the household sector's share in total as compared to the use of earlier surveys not based on BSR. Household sector's investment in shares and debentures of non-government joint stock companies was derived as a residual after deducting from the estimate of total paid-up capital (exclusive of bonus) and the debentures, the subscriptions by non-household sectors (*viz.*, central and state governments, local authorities, statutory corporation, LIC and general insurance companies, banks and foreigners) as well as intra-sectoral investment in the form of industrial securities and shares of subsidiary companies. Household saving in life insurance funds comprised saving through Life Insurance Corporation (LIC), postal life insurance and state government life insurance. Household saving in LIC was computed as excess of 'income' (excluding capital gains and old claims) over 'outgo' and the government's share in profits. The saving was netted out with loans and advances to households against mortgage of property. Saving in the postal life insurance and State government life insurance was estimated as excess of receipts over payments. The sources were the annual reports of P&T and the state government budgets. The employees' saving in provident fund included two more categories, *viz.*, funds collected under public provident fund scheme and dock labour provident fund scheme on top of those already covered in the earlier methodology of 1969. Since 1971-72 Employees Family Pension Scheme, 1971 were also included. The procedure of compilation for rest of the categories under this instrument remained the same.

Comparison between the estimates of the CSO and the RBI

There were efforts between the RBI and CSO to harmonise the concepts, methodology and sources adopted for compilation of savings. However, the differences in their estimates persisted (Table 3). The RBI estimated the households' non-banking deposits with non-financial companies from its sample studies of joint-stock company studies and those with financial companies from its survey of non-banking companies. On the other hand, the CSO, relied on one source, *i.e.*, the survey of non-banking companies for estimating these deposits in both financial as well as non-financial companies. Secondly, for the households' holdings in the life funds of LIC, the RBI used the balance sheet data of LIC, while the CSO relied upon the biennial valuation accounts of LIC with adjustments for capital gains. Thirdly, the RBI estimated of household sector's investment in government securities on the basis of its surveys of ownership of government debt. On the other hand, the CSO computed this by the residual approach. On the liability side, in case of borrowings of the households from the Central and State governments, the CSO included a larger number of budgetary items as compared with the RBI's compilation. Finally, in the case of the households' investment in shares and debentures of joint stock companies, the RBI continued to rely upon the quarterly returns of the Controller of Capital Issues (CCI). The CSO obtained data from the Department of Company Affairs (DCA) and CCI for the estimation of aggregate issues of shares and debentures for the corporate sector.

Table 3: Household Financial Saving (1980-81 to 1987-88) : Different Estimates

(Rs. crore)

Item/Financial Year (19')	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Financial Saving: CSO	**8610**	**9614**	**12739**	**13294**	**17879**	**18538**	**23336**	**26820**
Currency	1625	955	2026	2776	2854	2220	3090	4815
Net Deposits	2985	3022	4623	3684	5646	5295	7805	7684
Shares & Debentures	443	513	867	720	1320	1980	2711	2009
Net Claims on Govt	576	1656	1211	1777	2920	3223	2670	3350
Life funds	859	982	1149	1283	1453	1676	2005	2453
PF & Pension funds	2122	2486	2863	3054	3686	4144	5055	6509
Financial Saving: RBI	**8610**	**9588**	**12566**	**13552**	**17816**	**18579**	**23339**	**26819**
Currency	1625	965	2026	2776	2938	2220	3090	4815
Net Deposits	3126	3090	4911	4258	5744	5850	8189	8119
Shares & Debentures	443	624	768	777	1329	1980	2711	2009
Net Claims on Govt	561	1636	1110	1773	2910	3208	2657	3333
Life funds	733	793	886	916	1136	1133	1637	2034
PF & Pension funds	2122	2480	2865	3052	3759	4188	5055	6509

Sources: (1) *National Accounts Statistics*, CSO, Various Issues, and
(2) *Report on Currency and Finance*, RBI, Various Issues.

Section 5

The Third Stage: Unifying Methodology (1988-89 till date)

Rates of saving and investment increased significantly in the late 1970s. However, commensurate acceleration in the overall growth rate of the economy did not occur in this "high saving phase". In this milieu, the Working Group on Savings (Chairman: Professor: K.N. Raj) (RBI, 1982) was appointed to, *inter alia*, critically evaluate the estimates of saving and investment for the Indian economy and recommend improvements in the methods of estimation. The Raj Committee was of the view that the estimates generated in India in 1960s and 1970s were internationally comparable. It suggested further strengthening of efforts by both RBI and CSO to bring about uniformity in concepts, methodology and data sources for saving estimation. As far as the estimates for households' deposits with non-banking companies are concerned, the Committee recommended the supply of the estimates by the RBI to the CSO. For the household sector's investment in government securities, the Committee suggested that the RBI's methodology of using the survey results was more appropriate than the CSO's residual approach as the latter was prone to inaccuracy resulting from differences of valuation, accounting period, etc. across the various institutions. For removing the substantial differences in households' investment in shares and debentures, the Raj Committee recommended that the CSO's expert committee could construct an annual series for paid-up capital. The Committee suggested that the RBI's survey of ownership of corporate securities needs to be revived for deriving the household sector's share in the investments in shares and debentures. The Committee recommended that the RBI and the CSO sort out the remaining differences pertaining to the saving in the form of life fund of LIC and borrowings of households from the government through mutual deliberations. On the presentation aspect the Committee suggested that the RBI's presentation of financial account of the sector showing the financial assets and liabilities separately was preferable to the CSO's convention of presenting only net increases in financial assets as in the form provided a better understanding of the scale of financial intermediation and the growth of saving associated with it. The need for undertaking company finance studies through regular quinquennial censuses covering companies of all sizes more regularly and for finding appropriate blowing-up factors was recommended. As this would, *inter alia*, refine the estimates for private corporate sector it would *ipso facto* remove the biases in household saving for particularly for the instruments in which residual approach is adopted (like currency, shares and debentures, etc.). Expeditious surveys pertaining to ownership of bank deposits and those relating to growth of deposits of non-banking companies were also advised. Furthermore, it was recommended that the bank deposit survey needed to provide more detailed and meaningful break-up of unclassified category of individuals. The non-bank deposit survey was also sought to improve its coverage. The deposits of fully Government-owned public sector companies and security deposits of the households with various improvement trusts, housing boards and electricity boards had to be captured in the financial saving. Furthermore, it was recommended that the inherent inflation in household financial saving, as provident funds of non-government educational institutions are considered without including the loans and advances of these institutions to their employees, needs to be removed. The estimation of these loans and advances to households were recommended to be done on the basis of the deposit and loan pattern of government institutions. As the provident funds of the employees of some private institutions are also kept in the post offices as small savings, it was cautioned that any duplication on this account had to be removed. Duplication also had to be avoided by not including bonus shares in the compilation of investment in shares and debentures. As far as the data base pertaining to local authorities were concerned, the Committee indicated that the State Statistical Bureaus had to compile statistics of local authorities on a complete enumeration basis, and so the liabilities of the household sector to local authorities could also be accounted for. The lag pertaining to information of loans received by households from the primary credit and non-credit co-operative societies also needed to be reduced. The RBI surveys of ownership of shares and debentures of the private corporate sector and ownership of Government debt needed to be revived.

The CSO and the RBI agreed to adopt a uniform methodology and data base as well as to a division of labour in the estimation of savings. Regarding financial saving of the household sector, the CSO undertook the preparation of the estimates for life funds, provident and pension funds and supplying the same to RBI, while the RBI agreed to compile estimates for rest of the financial instruments and to provide the same to the CSO. This division of labour between RBI and the CSO has been insuring that each agency is compiling that set on which it has comparative advantage, as had been notified by the Raj Committee. Now some differences, which persist, essentially reflect just the time differences in the release of the estimates by the two organisations when they update their respective portions of the data base.

The annual publication of the CSO introduced both the asset-wise and liability-wise details of the whole financial account of the household sector. The financial assets for each category of assets were presented in gross terms and financial liabilities to the various sectors were also shown before finally deducting the latter from the former to estimate the financial saving. Refinements in the methodology were also effected. As per the suggestion of the Advisory Committee in National Accounts in 1987, based on sectoral holding pattern, 93 per cent of the currency with public was apportioned to the household sector. It was, however, suggested that this ratio of currency for the household sector would be subject to revision with availability recent survey data of the RBI. The RBI started releasing the survey of ownership of deposits for estimation of commercial bank deposits every year. The coverage of the financial account of the households increased to include estimates of security deposits of the households in the State Electricity Boards (SEBs) on the assets side and the loans and advances by the SEBs to their employees on the liabilities side. In the case of households' investment in shares and debentures, due care was taken to exclude blown-up estimate of bonus shares from the aggregate of global paid-up capital (PUC) of the joint-stock companies and blown up data of debentures. The household sector's investment in this instrument was being derived residually by deducting from the aggregate of shares and debentures, the subscriptions contributed by the individual sectors, as available from the flow of funds accounts. The surveys relating to ownership of government debt and pertaining to shares and debentures were revived. In the case of provident funds from employees of non-government educational institutions, since 1981-82, no separate estimates were shown as PF under this category is included under Employees' PF scheme, 1952.

Besides the impetus provided by Raj Committee's recommendations, further refinements have been effected in the estimation process. The estimates of household investments in Unit Trust of India (UTI) are now being derived on the basis of both its Annual Report and special status-cum-scheme wise break-up of sales and repurchases of units, providing the current holding ratio of the households. Furthermore, the coverage has also been improved to include households' investment in all the other mutual funds. Secondly, in order to correct the unavoidable time lag in the availability of surveys on company finances the current data on new issues of non-government public limited companies are used in conjunction with data of DCA and ownership survey of securities of private corporate business to derive household sector's investment in shares and debentures. Thirdly, similarly, in case of data pertaining to the co-operative sector advance data from summary publications are utilised.

Section 6

Further Developments

The methodology for estimating saving in India has attracted considerable attention during the last two decades, both as episode specific and as critiques of Raj Committee Report. Rakshit (1982, 1983) pointed out an important source of overestimation in household financial saving. Since unlike the saving of the public or the private corporate sector, financial saving is compiled as the change in stock numbers of financial assets (net of financial liabilities) between two end-points, any year-end bulge is going to affect the relevant estimates. Rakshit (1982) termed this as ‘bunching effect’ due to the bunching of foodgrains, cotton, raw jute, oil seeds, sugar cane or tobacco leaves by traders and/or manufacturers in the organised sector, and to the bunching of payment in February/March by a large number of government and semi-government organisation (Rakshit 1983). While the outstanding number of the financial asset/liabilities could be subject to the influence of bunching, its extent in the flow number would definitely be relatively small. Nevertheless, the ideal way to get rid of the ‘bunching effect’ totally could be to work out the saving in currency and deposits on the basis of outstanding numbers on yearly average basis.

Against the backdrop of economic reforms and recommendations of System of National Accounts, United Nations, 1993 (*1993 UNSNA*), an Expert Group on Saving and Capital Formation (Chairman: Prof. Raja J. Chelliah) (Government of India, 1996) submitted its report in December 1996. It recommended a number of measures to streamline data on household financial savings. They include reduction in the time lag associated with the availability of flow of funds data and improvements in coverage to include the household sector’s deposits in institutions like Housing Boards, Mahanagar Telephone Nigam Limited, *etc.*, consumer credit from the non-banking financial companies, credit extended by the non-financial joint stock companies to their employees and all new financial instruments like deep discount bonds, zero coupon bonds *etc.*, including derivatives like warrants, which are traded apart from their underlying securities to which they are linked. It also recommended spreading of accrued interest of the full tenure on deep discount and zero coupon bonds on a yearly basis and inclusion of the same in household financial saving on an annual basis. As a procedural refinement, the Committee advised that currency apportionment to the household sector should be basically on the basis of detailed flow of funds accounts.

In February 1999, the CSO upgraded its methodology and released its new series of national accounts statistics and advanced the base year from 1980-81 to 1993-94. In the area of household sector financial saving the coverage has been improved to include Pension Fund of Dock Labour Boards and Port Trusts.

Section 7

Future Directions

The compilation of household sector's financial saving has come a long way in India. However, considerable refinements need to be made in the existing estimates. The core strategy would be to progressively reduce the time lag in the compilation of flow of funds accounts of the Indian economy so as to make it contemporaneous with estimation of household financial saving and with national income aggregates. Furthermore, the data base of the non-household sectors needs to be refined to tone up the estimates with respect to the household sector on the lines suggested by the Raj Committee and Chelliah Committee.

With the onset of financial liberalisation, there is a need for the compilers to be prepared to increase the coverage of financial asset and financial liability vectors of the household sector to include new financial instruments. For instance, investments in zero coupon bonds and other deep discount bonds as well as the imputed interest accrued on these during their terms have to be incorporated. Similarly, the participation of the household sector, if any, in the auctions of the treasury bills also need to be accounted for. Financial derivatives have added a new dimension to the estimation of household financial saving as the figures under warrants have to be constantly adjusted in the shares of private corporate business depending on the options exercised by the holders.

Progress is also due towards disaggregation of financial saving of the heterogeneous household sector across its different constituent sub-sectors on the lines suggested by the Raj Committee as this would facilitate the analysis of the behaviour of the households proper *vis-a-vis* the other components.

There is a need to examine the feasibility of presenting the estimates of household financial saving in real terms by the most acceptable method, *albeit* as a memorandum item. Saving, being value aggregate, is always presented in *current prices* and is not deflated by compilers. Unless, one uses the investment deflator, there arises a case *ex-post* inequality between real saving and real investment. However, in case of household financial saving, instead of investment deflator the household consumption expenditure deflator may be more appropriate (Shetty, 1990). In the absence of the data on household consumption expenditure in the Indian national accounts, private final consumption expenditure could be used to deflate the series and this can appear as a memorandum item.

Finally, there is also a need to integrate the entire sequence of accounts in the national accounting system (United Nations, 1993), as then it would be possible to derive the estimate of household financial saving by the income approach and check the estimate as arrived by the conventional balance sheet approach.

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Annexure I
Evolution in the RBI's Compilation Procedure in the Pre-Seventies

Financial Assets (net)	***First Series,*** **March 1960 (1950/51 to 1957/58)**	***Second Series,*** **August 1961 (1950/51 to 1958/59)**	***Third Series,*** **March 1965 (1950/51 to 1962/63)**
(1)	(2)	(3)	(4)
1. Currency	Calculated as a residual (currency with public *minus* currency held by non-financial corporates, local authorities, government companies, financial, insurance and co-operative institutions). Data of non-financial companies pertained to medium and large public limited companies and private limited companies.	Currency estimates for households underwent refinements, as variations in small coins also were included and data of currency with non-financial companies were revised due to availability of data on small public limited companies.	No change in procedure was effected.
2. Bank Deposits net of Advances	Households' deposits with commercial and co-operative banks & co-operative credit societies were compiled directly from the RBI surveys on deposits with commercial banks and its publications on co-operative movement, respectively. But the RBI survey used for computing commercial bank advances to households led to unavoidable double-counting imparting downward bias to estimate of households' net deposits.	While earlier the survey data on household deposits were taken directly now the survey ratios were applied to actual year end totals. The procedure for advances was also similar, *i.e.,* by applying survey ratios to the year end totals.	The survey ratios of households' deposits were now applied to the outstanding deposits as at last Friday of March instead of as at end-December. Bank advances to households were compiled on the basis of more updated surveys. Deposits of individuals with co-operative non-credit societies now began to be included.
3. Gold and Silver	Value of annual gold production *plus* smuggled gold	As government acquired gold production from 1958, this was not included in household saving. Silver production was included.	Excluded gold and silver from household saving as they were treated as consumer durables.

(Contd.)

Annexure I (Concld.)
Evolution in the RBI's Compilation Procedure in the Pre-Seventies

Financial Assets (net)	***First Series,* March 1960 (1950/51 to 1957/58)**	***Second Series,* August 1961 (1950/51 to 1958/59)**	***Third Series,* March 1965 (1950/51 to 1962/63)**
(1)	(2)	(3)	(4)
4. Insurance	Increase in life funds from insurance *minus* loans and advances to policy holders	No change in procedure was effected.	Data on postal insurance and life annuity funds were also included.
5. Provident Funds	Included PF of RBI, Central and State governments scheduled and A2 class non-scheduled banks and insurance companies.	With data on small public limited companies and data on employers' contributions for all categories of limited companies available, estimates were refined.	PF of employees of branches of foreign concerns, government companies and statutory corporations were included.
6. Net Claims on Government	Households' Initial subscriptions to Central and State government loans *plus* small savings *plus* investment in local authorities' securities net of advances by government to households	No change in procedure was effected.	Households' investment in approved securities of state electricity boards, transport corporations, financial corporations, *etc.*, were calculated as a residual.
7. Shares and Securities	Residually derived after deducting from the total issues, subscriptions by government and corporate sector. Till 1957 as data on actual issues were not available, data on consents were taken.	As consents were valid for two years, the changes in paid-up capital till 1957 were adjusted to equal to half the change in paid-up capital (PUC) of the current year and half the change of PUC of the preceding year. Households' investment in shares of co-operatives started being included.	Refinements were made by using average of annual ratios of capital (issues) actually raised during 1957-61 period to consents in the corresponding years. Further, refinements were made regarding estimates of subscriptions by non-residents, government and banks.