Chapter Four

AN ANALYSIS OF TRENDS OF VARIABLES AND RELATIONSHIP BETWEEN VARIABLES

1. Introduction :

It is noticed that there are considerable variations each year in the asset ratios and in the absolute amount of different assets held by household. Our attempt here is to study the general trend that emerges for the whole period i.e. from 1951-52 to 1984-85. As we are interested in studying the impact of expected rate of inflation, We have broken our analysis into three periods: (1) When expected rate of inflation were low i.e. 3% (2) when the expected rates were mild i.e. between 4-7% and (3) when expected rates were high i.e. greater than 8%.

We have also analysed few simple relationships between different variables. First we shall consider the endogen-ous variables of the model.

2. Trends in Endogen-ous Variables:

a) Trends in Household Saving in Liquid Asset Ratio:

TABLE : 4.2.1

HOUSEHOLD SAVING AND ITS RATIO IN LIQUID ASSET

1951-52 - 1984-85

(70-71 = 100) (Rs.Crores)

Years	Saving in Liquid Asset	Liquid Asset Ratio
1	2	3
1951-52	- 253.9	- 1.548

Contd....

TABLE : 4.2.1 : Contd.

1	2	3
1952-53	- 50.7	- 0.296
53-54	44.1	0.241
54-55	209.1	1.123
55-56	473.7	2.463
56-57	175.8	0.867
57-58	185.5	0.934
58-59	224.3	1.041
59-60	391.2	1.793
60-61	304.3	1.308
61-62	326.4	1.361
62-63	431.8	1.785
63-64	695.3	2.755
64-65	448.7	1.631
65-66	560.4	2.154
66-67	363.0	1.373
67-68	368.3	1.271
68-69	375.9	1.267
69-70	628.8	2.007
70-71	709.7	2.147
71-72	771.1	2.303
72-73	1078.9	3.243

Contd....

TABLE 4.2.1 : Contd.

1	2	3
1973-74	935.0	2.670
74-75	388.5	1.107
75-76	761.4	1.964
76-77	1504.0	3.886
77-78	893.8	2.889
78-79	1397.5	3.934
79-80	1224.7	3.566
80-81	1309.8	3.550
81-82	844.5	2.353
82-83	1331.8	3.362
83-84	1603.5	3.666
84-85	1639.7	3.667

Source: (1) Disposable Income : C.S.O. Department of Statistics, Ministry of Planning, G.O.I. 'National Accounts Statistics January 1986 in "Appendix A-1, Macro Economic Aggregates and population 1950-51 - 1984-85".

(2) Data for Saving are from various issues of Reserve Bank of India "Bullet-in". They are

a) Bullet-in March 1967: "Financial Flows in the Indian Economy 1951-52 to 62-63".

b) Bullet-in July 1969, "Financial Flows in the Indian Economy 1961-62 to 1965-66".

c) Bullet-in August 1975, "Flow of Funds in Indian Economy 1966-67 - 71-72".

d) Bullet-in March 1980, "Flow of Fundsin Indian Economy 1970-71 - 1976-77".

e) From 1977-78 onwards Reserve Bank of India, "Report on Currency and Finance" various issues. Statistical Statements dealings with (1) Saving of household sector in the form of financial assets. (2) Financial Flow : Instrument wise.

Looking at column 2 i.e. household saving in liquid asset at constant prices, we notice that there are considerable variations each year, yet the trend is that of an increasing one. In the initial years it was negative, then it remained for nearly 14 years from 1955-56 to 1968-69 in the range of Rs.300 - 400 crores. It increased to Rs.1000 - 1200 crores on an average in the next 16 years from 1969-70 - 1984-85. Thus household saving in liquid assets in absolute amount has been increasing. This is expected in an economy which is especially developing and where monetisation is increasing. In the period before 1968-69, the average annual growth in this asset amount has been 49%, while in the latter period the average annual growth is 20%. This higher growth rate in the earlier period could be due to greater degree of monetisation in the earlier period and lack of other assets with monetisa-

tion. The average amount of liquid assets held before 1969-70 is Rs.292.94 crores, while in the post 1969-70 period it is Rs.1063.91 crores. This implies an increase of 263.18% in this asset amount.

We find similar fluctuations in the household saving ratio in liquid asset series (column 3). The highest percentage increase is in the year 1954-55 over 1953-54 followed by 1953-54 over 1952-53. The lowest percentage increase is in 1968-69, when the ratio was constant as compared to the earlier year. For the initial years upto 1956, this ratio has been increasing at a tremendous rate. But then this trend is reversed and after this inspite of government actively participating in development of the economy, bank nationalisation, rural development schemes, holding of large buffer stocks of food grains by the government, this ratio has never increased by three digits as witnessed during early 1950's. This is partly because we started with a very small base rather a negative ratio in the initial years. Until 1956-57 there is a tremendous increase in this ratio every year, thereafter there is a steady increase till 1959-60. After 1959-60 this ratio is fluctuating till 1968-69, from 1969 to 1973 these ratios have increased steadily while from 1973-74 they have been unstable and again from 1977-78 onwards they have been fairly steady moving in the range of 3-3.5%.

The distinctive features emerging are : the average liquid asset ratio held before 1969-70 is 1.19 while that after 1969-70 is 3.15. Thus the percentage increase in this asset ratio has been 163.93. The average annual increase in this asset ratio before 1969-70 is 23.65, while that after 1969-70 is 5.16. This fall in the annual growth rate indicates that (1) different assets are now available (2) the inflationary conditions are existing and (3) there is greater degree of concentration of wealth and income.

We notice that this ratio was very small to start with but has consistently increased in proportion and in the last few years from 1976-77 onwards forms on an average about 3.43% of disposable income. This is natural for as an economy grows households are going to put increasing amount of income in deposits and with monetisation demand for transaction balances will increase.

We generally notice that the amount of liquid assets held by household increases whenever there are sharp and moderate increases in disposable income, but when the disposable income has fallen this asset amount held does not fall, which may lead to the hypothesis of sticky liquid asset demand which are probably irreversible i.e. their demand does not fall with income falling, though rises when income rises.

TABLE 4.2.2

EXPECTED RATE OF INFLATION AND LIQUID ASSET RATIO

Year	Expected Prices(P^e)	Saving in Liquid Asset Ratio (S_{LA})	Remarks
1	2	3	4
1951-52 - 58-59	1.86	0.599	Period I
59-60 - 65-66	4.64	1.825	Period II
66-67 - 69-70	8.52	1.475	Period III
70-71 - 72-73	5.46	2.562	Period IV
73-74 - 77-78	11.18	2.503	Period V
78-79 - 79-80	5.50	3.750	Period VI
79-80 - 84-85	9.73	3.319	Period VII

Source: Look up Table 4.2.1

Period I is when expected rate of inflation is low but varying a great deal, while period II has medium expected rate of inflation, Period III has steady and high rate, period IV has steady and medium expected rate of inflation period V has steady and high rates of expected inflation, period VI has steady and medium expected rate of inflation and period VII steady and high rate of inflation.

This break up is done not only with the intention of studying the effect of expected rate of inflation, but also to examine how the same rate has affected differently/similarly

the ratio at different times and so there is a comparison of period VI with IV and period VII with III.

It is clear from the above table that apart from the years 1959-60 - 65-66 (which coincided with the 2nd and 3rd 5 year plan) whenever expected rate of inflation has gone up households have reduced this asset ratio. For the years 1959-60 - 65-66 with an increase in expected rate of inflation, there has been a rise in this asset ratio. There could be many reasons for it like the rate of inflation was low and steady. Secondly monetisation on account of vigorous implementation of bold schemes increased at a much faster rate. Probably at this time household had the expectation that inflation rate would not rise and so currency was a convenient means of holding saving. Further India faced political turmoil on account of two wars (1) Chinese aggression and (2) Indo-Pakistan war, which would have made these assets further more convenient to have in the portfolio. Also there were not many alternative assets available to households. In the latter periods a rise in the expected rate of inflation led invariably to a fall in this asset ratio e.g. during 1966-67 - 69-70, when the expected rate of inflation increased from 4.6 to 8.5% this asset ratio fell from 1.82 to 1.47%; again when this rate fell in 1970-71 - 72-73 its ratio increased to 2.5. With a rise in the rate of inflation during 1973-74 -

1977-78, there is a fall in this asset ratio though this magnitude has not fallen by a substantial amount; this is probably because of the existence of black money operating in the economy. Again when rates increased during 1980-81 - 1984-85 this ratio fell probably because of government drive against black money and also due to diversion of funds into other assets especially time deposits.

When we compare how households react to the same rate of inflation at different time periods, we notice that during 1970-71 - 72-73 and 1978-79 - 79-80 the expected rate was the same i.e. 5.5% and before both these periods a higher rate existed. On comparing the asset ratio we find that in both cases the asset ratio increased: in the first instance (i.e. 1970-71 - 72-73) it increased by 73.69% with the absolute fall in the expected rate of inflation of 3%, while in the second instance (i.e. 1978-79 - 79-80) it increased by 50% when the fall in the expected rate of inflation is 5.6%. Thus the responsiveness of this asset ratio to expected rate of inflation is higher in the 1st period than in the 2nd period; this is probably because the positive effects of monetisation have made households used to the convenience of holding money. They now prefer to have the ease of holding these assets rather than earn some interest rate on other assets which yield less convenience. It is the sign of an economy pro-

gressing, where money has started being important and is held primarily for the services it yields. Also the increase in the ratio of black money would have helped in keeping this asset ratio from falling.

Similarly when we compare the subperiods III and VII (i.e. 1966-67 - 69-70 and 1980-81 - 84-85) when expected rate of inflation has increased. In period III with increase in expected rate of inflation of 3.9%, this asset ratio has fallen by 19.2%, while in period VII, the expected rate of inflation increased by 4.2% and this asset ratio fell by 11.49%. The relative less impact of inflation in the later period on this asset suggests that due to availability of other financial asset, household in the later period are holding these liquid assets that are strictly required by them and not much in excess.

Both these sub-period analysis suggest the same that in the latter period household have got used to money asset and therefore the responsiveness of increasing/reducing liquid asset ratio to inflation is less.

b) Trends in Household Saving in Illiquid Asset :

TABLE 4.2.3

HOUSEHOLD SAVING AND ITS RATIO IN ILLIQUID ASSET

1951-52 - 1984-85

At 70-71 Prices(Rs.Crores)

Years	Saving in Illiquid Asset	Illiquid Asset Ratio
1	2	3
1951-52	92.9	0.566

Contd...

TABLE 4.2.3 : Contd..

1	2	3
1952-53	171.3	0.998
53-54	148.5	0.811
54-55	301.8	1.620
55-56	302.5	1.572
56-57	310.6	1.532
57-58	335.6	1.689
58-59	421.2	1.956
59-60	365.3	1.673
60-61	458.1	1.969
61-62	526.2	2.194
62-63	527.3	2.179
63-64	477.8	1.893
64-65	611.2	2.222
65-66	652.3	2.507
66-67	661.5	2.501
67-68	620.3	2.141
68-69	800.4	2.699
69-70	801.4	2.557
70-71	1081.7	3.271
71-72	1206.8	3.604
72-73	1323.1	3.977

Contd...

TABLE 4.2.3 : Contd.

1	2	3
1973-74	1281.4	3.659
74-75	1287.3	3.668
75-76	2216.9	5.716
76-77	2627.7	6.788
77-78	2687.7	5.499
78-79	3119.0	6.045
79-80	2864.6	5.920
80-81	3113.9	5.824
81-82	2888.5	5.239
82-83	3351.0	5.943
83-84	3484.3	5.608
84-85	3806.5	5.947

Source: Look up Table 4.2.1

We find a great deal of variation every year in this asset amount and its ratio to disposable income, yet there is a consistent increase in the amount saved in these assets and its proportion held. From mere Rs.92 crores it increased to Rs.300 crores in 1955 and thereafter till 1963-64 the amount saved in these assets ranged between Rs.300 - 400 crores. From 1964-65 onwards till 1967-68 it was in the range of Rs.600 crores, then from 1969-1975 it was in the range of Rs.1000 - 1200 crores and from 1976 onwards it was in the range of

Rs.2900 - 3100 crores. The highest growth in the asset amount has occurred during 1954-55, followed by increase in 1952-53 and in 1975-76. Probably this high increase in as late as 1975-76 is due to repatriation of savings from Indians residing abroad, announcement of compulsory deposit scheme by the government. Greater percentage increases have occurred in the years 1958-59, 60-61, 64-65, 68-69 and 70-71.

When we see the individual component series we find that there is maximum growth in time deposits followed by, provident fund and then life Insurance fund. The greatest increases in the growth rate have occurred when time deposits have jumped up substantially this holds for the years 64-65, 68-69 and 70-71, while increases in 1958-59 were on account of both time deposits and life insurance fund and in 60-61 due to life insurance fund and provident fund.

We find that before 68-69 the average household savings in these assets were in the range of Rs.400 - 450 crores, while in the post 1969 period the average savings in these assets were Rs.2000 - 2300 crores. The liquid asset amount was slightly lower than illiquid asset in the 1st 14 years, but its amount as compared to illiquid asset increased much less, in the latter years which is expected in an economy where financial intermediation ratio is increasing. The average annual growth in the years before 1968-69 has been 33.40% while in the post 68-69 period it has been 22.09%, So that average growth rates have fallen

as in liquid asset case in the post 1969 period. The average saving in these assets before 1969-70 was Rs.432.49 crores while after 1969-70 it was Rs.2321.35 crores implying a percentage increase of 436.74 which is substantially higher than that for liquid assets.

Looking to column 3, we find that the ratio which was meagre at 0.5 has risen to 1.6 by end of 1959-60 to 2.1 by the year 1968-69 and further increased to 3.5 till 1974-75; after this there is a sharp increase to 5.5-6.0% in the post 1976 period. Thus its proportion in disposable income has been consistently increasing. When we look at the yearly variations we find that there is no consistent pattern of growth. We notice that after reaching the peak level of 6.7 in 1976-77, this ratio has fallen and risen but never reached the 1976-77 level. This fall in the post 1977-78 period is likely to be due to reduction, on account of compulsory deposit scheme repayments and due to better returns on alternative assets especially convertible debentures, deposits with non financial intermediaries and company deposits, which have become popular; and finally the fall in repatriation of money from Indian residents abroad.

The average ratio held before 1969-70 was 1.817 while in the post 1969-70 period it was 4.95 implying an increase of 173.48% which is higher than liquid asset ratio. The average annual growth rate before 1969-70 was 20.93 while in the post 69-70 period it was 8.28.

TABLE 4.2.4

EXPECTED RATE OF INFLATION AND ILLIQUID ASSET RATIO

Years	Expected Inflation	Saving in Illiquid Asset Ratio	Remarks
1	2	3	4
1951-52 - 58-59	1.86	1.336	Period I
59-60 - 65-66	4.64	2.090	Period II
66-67 - 69-70	8.52	2.467	Period III
70-71 - 72-73	5.46	3.613	Period IV
73-74 - 77-78	11.18	5.066	Period V
78-79 - 79-80	5.50	5.982	Period VI
80-81 - 84-85	9.33	5.712	Period VII

Source : Look up Table 4.2.1

Unlike liquid assets that are affected by expected rate of inflation we find that illiquid asset ratio has been consistently moving up from 1.3 to 2.0 to 2.5 to 3.6 to 5.0 and then to 6.0, later it reduced to 5.7. Only in the period 1980-81 - 84-85, there is a fall in this ratio and this is partly because of availability of other assets which yield better returns. The fall in this ratio is particularly prominent in 1980-81 when there was a sharp increase in the disposable income and yet this asset ratio did not increase correspondingly.

As expected rate of inflation had no consistent effect on this asset ratio, we studied whether inflation had secondary effects i.e. on its rate of growth i.e.($\Delta(S_{L.A}/Y_d)$) We notice that with increase in the rate of expected inflation the rate at which these asset ratios increase, falls i.e. when expected inflation has increased from 4.6 to 8.5 the growth rates in this asset ratio have fallen from 56% to 18%. Similarly when it has increased from 5.5 to 9.33 and then from 5.4 to 11.1 the rates have fallen from 18% to 4.51% and from 46.4% to 45.9% respectively; when the expected rate of inflation has fallen from 8.5 to 5.4 the growth rate in this asset ratio has increased from 18% to 46%, while in period VI inspite of inflation rate falling from 11 to 5% the growth rate of this asset has not fallen; therefore the effects of expected rate of Inflation are uncertain when inflation rate is falling.

On comparing periods III and VII we notice that in period III though the ratio has increased, the growth rate in this asset ratio has fallen, while in period VII there is an absolute fall in the asset ratio so that, looking only to the secondary effect, the effect of inflation is higher in case of 1st sub period. On comparing period IV and VI, we notice that with a lower expected rate of inflation, the ratios increase in both the periods, but the effect is stronger, both primary and secondary, in the earlier period as compared to the latter period.

(c) Trends in Household Saving in Consumer Durables

TABLE 4.2.5

HOUSEHOLD SAVING AND ITS RATIO IN CONSUMER DURABLES

1951-52 - 1984-85

(70-71 = 100)(Rs.Crores)

Years	Saving in Consumer Durables	Consumer Durable Ratio
1	2	3
1951-52	219	1.335
52-53	220	1.282
53-54	223	1.219
54-55	242	1.300
55-56	268	1.393
56-57	290	1.431
57-58	310	1.560
58-59	338	1.569
59-60	366	1.677
60-61	399	1.715
61-62	413	1.722
62-63	463	1.914
63-64	471	1.866
64-65	539	1.959
65-66	553	2.126
66-67	626	2.368
67-68	676	2.333
68-69	755	2.546
69-70	820	2.617
70-71	977	2.955

Contd....

TABLE 4.2.5 : Contd.

1	2	3
1971-72	1138	3.398
72-73	1183	3.556
73-74	1192	3.404
74-75	1137	3.240
75-76	1253	3.231
76-77	1478	3.818
77-78	1644	3.850
78-79	1634	3.618
79-80	1676	3.910
80-81	1843	3.906
81-82	2068	4.206
82-83	1833	3.642
83-84	2109	3.844
84-85	2220	3.921

Source: C.S.O. National Accounts Statistics (Various Issues)

We find that household expenditure on consumer durables at constant prices has been increasing all through except in the years 1974-75, 78-79 and 82-83 when there is absolute fall in the expenditure. Till 1959-60 expenditure has been less than Rs.400 crores, while it was less than Rs.700 crores between 1960-61 and 68-69 and it was greater than Rs.1000 crores

till 1980-81 and crossed Rs.2000 crores after this. Thus this amount has been continuously increasing like the other two series, but the degree of variation both as far as magnitude and signs are considered is much less. Before 1969-70, the average yearly expenditure was Rs.409.49 crores, while in the post 69-70 period the average expenditure was Rs1512.84 which implies an increase of 269.44%. This increase is less than illiquid assets but higher than liquid assets. The growth rate in this asset is steady unlike the other two assets where there is a lot of variability every year. The average yearly rate of growth in the pre 69-70 period was 13.59% while it was 10.67% in the post 69-70 period. On comparing growth rates of consumer durables with the other two assets i.e. liquid and illiquid we find that in both these assets the growth rates have been much higher in both the subperiods, but unlike the small fall in growth rate in the latter period in consumer durables, there is a higher fall in the rates in the latter period in both the assets i.e. illiquid and liquid assets. This suggests that: there is some diversion of saving from these two assets to consumer durables and in the latter period households prefer consumer durables.

When we look at the ratio series we find a similar trend. There are yearly fluctuations in this series too, but the variability is much less as far as the number of years

is concerned and the amount. We find a steady increase in the ratio from 1.2 to 2.0 in 64-65 and then it ranges between 2-3 till 1970-71 and between 3-4% from 71-72 - 84-85. For few years namely 1952-53, 53-54, 63-64, 67-68, 73-74, 74-75, 75-76 and 78-79 this ratio has fallen. The average saving ratio held in this asset from 1951-52 - 68-69 is 1.739 while in the post969.70 period the average ratio was 3.570; thus the increase in the growth rate has been 105.30%, which is lower than liquid and illiquid asset ratio growth rates. The average yearly growth rate from 51-52 - 68-69 works out to be 5.039% while in the post 69-70 period it was 3.114%. Here again these rates are much lower than other two assets' average yearly growth rate, but like the other two assets there is a fall in growth rate in this asset too. Thus we find that an increasing amount of disposable income is being diverted towards expenditure on consumer durables and that the rate by which it is increasing is falling marginally.

TABLE 4.2.6

EXPECTED RATE OF INFLATION AND CONSUMER DURABLE RATIO

Years	Expected Inflation (p^e)	Saving in Consumer Durables	Remarks
1	2	3	4
1951-52 - 58-59	1.862	1.379	Period I
59-60 - 65-66	4.642	1.853	Period II

Contd....

TABLE 4.2.6 : Contd.

1	2	3	4
1966-67 - 69-70	8.525	2.458	Period III
70-71 - 72-73	5.466	3.299	Period IV
73-74 - 77-78	11.180	3.500	Period V
78-79 - 79-80	5.50	3.766	Period VI
80-81 - 84-85	9.33	3.904	Period VII

Source: See Table 4.2.5

Over the entire period we find that saving ratio in consumer durables has been consistently increasing from 1.3 to 2.4 to 3.5 to 3.9; thus we dont expect rising/falling inflation to have a consistent effect on this ratio. Therefore we looked for the secondary effect i.e. on the growth rates of this asset ratio. We find that as the expected rate of inflation goes up, though this ratio is increasing, it has increased by a smaller rate e.g. when expected rate of inflation has increased from 4.6 to 8.5%, the growth rate in this asset ratio has fallen from 34.3 to 32.6. Similarly when expected rate of inflation has increased from 5.4 to 11.2% the growth rate has fallen from 34.2 to 6.09. In the years 80-81 - 84-85, when P^e has increased from 5.5 to 9.33, the growth rate has fallen from 7.6 to 3.6. On the other hand when expected rate of inflation has fallen first from

8.5 to 5.4 and then from 11.2 to 5.5 in subperiods IV and VI, we find that the growth rate in this asset ratio has increased from 32.6 to 34.2% and from 6.09 to 7,6% respectively. Thus we can conclude from above that though expected rate of inflation might not have direct effect on this asset ratio, but it has a negative effect on the growth rates of this asset ratio, i.e. with expected rate of inflation increasing, the growth rate in this asset ratio is reduced and vice versa, but the ratio keeps on rising. Another thing noticed is that growth rates in this asset ratio are much lower in the latter period and they are falling. On doing subperiod analysis we notice that the responsiveness of higher expected rate of inflation is stronger in the latter period and that of lower rate is slightly stronger in the former period.

d) Trends in Household Saving in Direct Investment:

TABLE 4.2.7

HOUSEHOLD SAVING AND ITS RATIO IN DIRECT INVESTMENT
1951-52 - 1984-85

At 70-71 Prices (Rs.Crores)

Years	Saving in Direct Investment	Direct Investment Ratio
1	2	3
1951-52	256.8	1.566
52-53	29.1	0.169

Contd....

TABLE 4.2.7 : Contd.

1	2	3
1953-54	8.8	0.048
54-55	129.0	0.693
55-56	349.1	1.815
56-57	306.3	1.511
57-58	149.5	0.752
58-59	123.8	0.574
59-60	161.2	0.738
60-61	433.7	1.864
61-62	268.6	1.120
62-63	273.4	1.130
63-64	401.5	1.591
64-65	222.2	0.807
65-66	192.5	0.740
66-67	199.9	0.756
67-68	201.3	0.694
68-69	206.7	0.697
69.70	76.1	0.242
70-71	261.1	0.789
71-72	167.2	0.499
72-73	239.7	0.720
73-74	178.8	0.510

Contd....

TABLE 4.2.7 : Contd.

1	2	3
1974-75	120.2	0.342
75-76	176.7	0.455
76-77	90.2	0.233
77-78	450.3	1.054
78-79	593.2	1.313
79-80	742.1	1.731
80-81	670.7	1.421
81-82	1294.2	2.632
82-83	919.8	1.828
83-84	1242.8	2.265
84-85	1752.1	3.093

Source: Look up Table 4.2.1

We notice from the above table that there is a lot of variation in saving in these assets every year, increasing sharply in certain years and falling in others. A part of these variations are statistical in nature, arising mainly from non comparability of data over time and better coverage. The average asset amount held till 1959-60 is in the range of Rs.150 - 200 crores, then till 1968-69 leaving the exceptional year 1963-64 the average holding is in the range of Rs.200 - 250 crores, thereafter till 1977 this amount has fluctuated

every year and the average holding has come down to Rs.150 - 200 crores. From 77-78 onwards the average holding is Rs.800 - 850 crores. In the pre 69-70 period the average holding was Rs.218 crores, while in the post 1969-70 period the average holding was Rs.560.8 crores implying an increase of 157%, which is very low as compared to the other assets' growth rate; this could be because the returns are not very high and the capital market is still not developed. The average annual rate of growth over the period 1951-52 - 68-69 is -1.08 and that from 69-70 - 84-85 is 43.97.

When we look at the different components we find that investment in government securities is consistently negative till 1976-77, while small savings have been usually positive and increasing over time; their share in direct investment is increasing. Similarly we find that loans and advances have been consistently increasing and so is its share in direct investment. The last of its components is shares and debentures. Household saving in this is not following any consistent pattern, though the absolute amount has increased over time. Its share in direct investment continuesto be meagre.

When we look at column 3, dealing with this asset ratio, we find that this ratio was high to start with and it has fallen till 1954-55. In 1955-56 it increased, subsequently it has continued to fall and has marginally increased in

1960-61 over the 1955-56 level; thereafter this ratio has been rising and falling but ranging between .5 - .8 till 1976-77; only from 77-78 onwards there is a substantial increase and it has been throughout greater than 1%. In 1981-82 for the first time it increased above 1.86, the level reached in 60-61. Before 1969-70 the average asset ratio was .974 while in the post 69-70 period it was 1.666, thus a % increase of 19.71. The average annual growth rate before 1969-70 was -3.08 and that after 1969-70 was 73.63%.

TABLE 4.2.8

EXPECTED RATE OF INFLATION AND DIRECT INVESTMENT RATIO

Years	Expected Prices (ρ^e)	Saving in Direct Investment Ratio($S_{D\cdot I}$)	Remarks
1	2	3	4
1951-52 - 58-59	1.862	0.887	Period I
59-60 - 65-66	4.642	1.141	Period II
66-67 - 69-70	8.525	0.596	Period III
70-71 - 72-73	5.466	0.669	Period IV
73-74 - 77-78	11.180	0.518	Period V
78-79 - 79-80	5.50	1.523	Period VI
80-81 - 84-85	9.33	2.297	Period VII

Source: Look up Table 4.2.1

We notice that when inflation rate is increasing the proportion is falling except for period II and Period VI During 66-67 - 69-70 when expected inflation rate has increased from 4.6 to 8.5, this ratio has fallen from 1.14 to 0.59. Further when inflation rate has fallen from 8.5 to 5.4 this ratio has marginally gone up from 0.59 to 0.66. When the inflation rate has increased in period V from 5.4 to 11.18, the ratio has fallen from 0.66 to 0.51. Again in period VI when expected rate of inflation has fallen the ratio has increased. Except for the period VII, with expected rate of inflation increasing this ratio is increasing and mainly the increases are on account of its component loans and advances to companies. Thus when P^e has increased from 4.6 to 8.5 and from 5.5 to 9.3, in the first instance the ratio has fallen, while in the 2nd it has increased, so that there is no consistent effect of increase in P^e on this asset ratio. On the other hand when P^e has fallen from 8.5 to 5.4 and from 11.1 to 5.5, in both cases the ratio has increased and the increase is greater in the latter period.

When we look at secondary effects, we notice that during the years 80-81 - 84-85 when the expected rate of inflation has increased this asset ratio has increased but with a lesser amount, so that we can tentatively say on the basis of this analysis that probably the two are negatively related.

e) Trends in Household Saving in Physical Assets:

TABLE 4.2.9

HOUSEHOLD SAVING AND ITS RATIO IN PHYSICAL ASSETS

1951-52 - 1984-85

At 70-71 Prices(Rs.Crores)

Years	Saving in Physical Assets	Physical Assets Ratio
1	2	3
1951-52	813.6	4.963
52-53	561.9	3.276
53-54	646.3	3.535
54-55	401.1	2.181
55-56	877.8	4.564
56-57	1182.6	5.836
57-58	758.3	3.817
58-59	416.6	1.934
59-60	810.8	3.715
60-61	791.8	3.404
61-62	499.1	2.081
62-63	818.4	3.383
63-64	612.7	2.428
64-65	886.3	3.222
65-66	1122.1	4.313
66-67	2127.6	8.048
67-68	1897.5	6.550

Contd....

TABLE 4.2.9 : Contd.

1	2	3
1968-69	1818.8	6.134
69-70	2569.6	8.201
70-71	2168.0	6.557
71-72	2361.4	7.052
72-73	1737.7	5.223
73-74	2459.5	7.024
74-75	2472.2	7.045
75-76	2311.0	5.959
76-77	2880.1	7.440
77-78	3089.8	7.237
78-79	3856.9	8.541
79-80	3142.3	7.331
80-81	3465.8	7.345
81-82	3080.8	6.265
82-83	2487.1	4.942
83-84	3318.4	6.048
84-85	3357.2	5.926

Source: National Accounts Statistics, C.S.O.

The absolute saving series show that physical saving in the form of machinery and equipment, residential dwelling and stocks has been increasing over time though there are a lot of fluctuations every year. The average saving in these

till 1959-60 has been Rs.718.22 crores and from 1960-61 - 69-70 Rs.1313.9 crores and in the post 70-71 period it has been Rs.2812.5 crores. The highest increase in physical assets has been in the years 1955-56, 59-60 and 66-67. The average holding before 69-70 was Rs.946.85 crores and after 69-70 was Rs.2800.12 crores implying a growth rate in this asset of 195.73. The yearly average rate of growth in the pre 69-70 period was 6.86 while in the post 69-70 period was 1.91. Like other assets here too there is a fall in the growth rate in the latter period; comparing with other assets we find that its growth rate in the post 69-70 over pre 69-70 period has been less than liquid asset consumer durable and illiquid asset but more than direct investment asset.

When we look at the ratio series we find that it has been in the range of 3-4% of disposable income before 59-60, while during 60's it was between 4-5%. In the post 1969-70 era it was 6-7% and thus on an average the share has increased which generally with development should fall. This increase in the share is also due to government policy to promote small scale and handicrafts industries; such unorganised and small firms are generally included in our household definition. These households will generally be investing in machinery and equipment and therefore a rise in its ratio under these circumstances should not be taken as a reflection of low

financial development. The average saving ratio in these assets before 1969-70 was 4.071 and after 1969-70 was 6.374 implying an increase of 56.57%. The average yearly rate of growth in the pre 1969.70 period was 1.880 and -0.19 in the post 1969-70 period.

Thus we notice that physical saving continues to have a high share in disposable income and this is particularly so from 1973-74 onwards. In 1978-79 it reached a maximum of 8.541. After that the ratio has been falling continuously till 84-85.

TABLE 4.2.10

EXPECTED RATE OF INFLATION AND PHYSICAL ASSETS RATIO

Years	Expected Inflation (p^e)	Saving Ratio in Physical Asset (S_{PA})
1951-52 - 58-59	1.862	3.763
59-60 - 65-66	4.642	3.221
66-67 - 69-70	8.525	7.233
70-71 - 72-73	5.466	6.277
73-74 - 77-78	11.180	6.941
78-79 - 79-80	5.50	7.931
80-81 - 82-83	9.33	6.105

Source : Look at Table 4.2.9

We notice that this ratio has fallen during 59-60 - 65-66; then there is a sharp increase during 66-67 - 69-70, again a fall in 70-71 - 72-73 and a rise till 79-80 after which it has again fallen. On examining its relationship with p^e, there is no clear relationship. We notice that when expected inflation rate is increasing from 4.6 to 8.5 the ratio too has increased. Similarly when it has increased from 5.46 to 11.18 the ratio has increased, but in the last sub-period, when it has increased from 5.5 to 9.3 this ratio has fallen. Again when p^e has fallen from 8.5 to 5.4 the ratio has fallen, but has increased when p^e has fallen from 11.1 to 5.5. Thus we notice inconsistency in the effect of expected prices on this asset ratio. This could partly be because of the different behaviour of this asset's components, which nullify its effects.

TABLE 4.2.11

COMPONENTS OF PHYSICAL ASSETS OF HOUSEHOLD AND THEIR RATIOS AT CURRENT PRICES (Rs.Crores)

Years	Construction	Machinery & Equipment	Stocks	Construction Ratio	Machinery & Equipment Ratio	Stock Ratio
1	2	3	4	5	6	7
1951-52	446	164	- 3	73.59	27.06	- 0.4
52-53	365	138	24	68.99	26.08	4.5

Contd....

TABLE 4.2.11 : Contd.

1	2	3	4	5	6	7
1953-54	345	157	63	60.95	27.73	11.13
54-55	376	133	- 2	74.16	26.23	- 0.3
55-56	364	284	50	52.07	40.62	7.1
56-57	541	280	61	61.26	31.71	6.9
57-58	426	332	- 41	59.41	46.30	- 5.7
58-59	507	272	- 96	74.23	39.82	-14.0
59-60	592	171	151	64.62	18.66	16.48
60-61	560	215	130	61.87	23.75	14.36
61-62	607	189	- 17	76.35	23.77	2.13
62-63	536	415	121	49.95	38.67	11.27
63-64	480	458	47	48.68	46.45	4.76
64-65	637	608	- 23	52.12	49.75	- 1.88
65-66	869	818	-172	57.35	53.99	-11.35
66-67	1338	752	475	52.14	29.30	18.51
67-68	1740	793	33	67.80	30.90	1.28
68-69	1901	840	-125	72.66	32.11	- 4.77
69-70	2054	1197	303	57.77	33.67	8.52
70-71	2308	942	250	65.92	26.90	7.14
71-72	2164	1278	468	55.33	32.67	11.96
72-73	2137	1417	- 35	60.71	40.25	- 0.99
73-74	2163	1796	950	44.05	36.57	19.34

Contd.....

TABLE 4.2.11 : Contd.

1	2	3	4	5	6	7
1974-75	3113	2411	638	50.51	39.12	10.35
75-76	4160	1657	716	63.66	25.35	10.95
76-77	4572	2511	760	58.27	32.00	9.68
77-78	5281	2489	840	61.32	28.90	9.75
78-79	5025	4243	1728	45.69	38.57	15.71
79-80	4581	4783	1820	40.95	42.76	16.27
80-81	5647	5199	2697	41.69	38.38	19.91
81-82	6054	5985	2265	42.32	41.83	15.83
82-83	7348	4029	2341	53.55	29.36	17.06
83-84	8269	5915	3718	46.18	33.03	20.76

Source : Central Statistical Organisation:

1) National Accounts Statistics, February, 1983, Appendix A.2 "Domestic Capital Formation by Detailed Items" at current prices.

2) National Accounts Statistics, January 1985 & January 1986.

The above figures are at current prices because the break up of physical assets is available only at current prices. The ratios of the components are to gross saving in physical assets held by households. All these figures are in gross terms, where as the physical assets in Table 4.2.9 are net domestic capital formation.

The absolute series of construction indicates that the amount saved by households in construction has increased consistently from Rs.446 crores to Rs.8269 crores over the years 1951-52 - 83-84. This implies an annual growth of 53.15%. Generally saving in construction has increased every year except for few years like 1952-53, 53-54, 55-56, 57-68, 60-61, 62-63, 63-64, 70-71, 71-72, 72-73, 79-80. In all these years the absolute amount has fallen. During 1962-63 and 71-72 we faced two wars and probably the fall in [illegible], 62-63, 63-64, 71-72, 72-73 can be attributed to this.

We notice that this amount has been fairly constant till 55-56, moving closely in the range of 350-375 corers. In 1956-57 there is a high jump to Rs.541 crores. From 1956-57 to 65-66 there are fluctuations, but the amount is steadily moving in the range of Rs.500-600 crores, except in the year 1965-66 when it reached Rs.869 crores. From 66-67, this asset amount is steadily increasing at higher pace till 1970-71. From 1971-72 it has been falling till 73-74, and after 74-75 it has picked up and has continued to increase in almost all the years. The average holding in this asset by the households till 1959-60 is Rs.440 crores, from 60-61 - 69-70 it is Rs.1072.2 crores and in the post 70-71 period it is Rs.4799.5 crores.

The average gross domestic capital formation originating from the household sector during the period 1951-52 - 59-60

was Rs.678 crores, while that between 1960-61 - 69-70 was Rs.1779 crores. In the post 1970-71 period it was Rs.9046 crores. This implies an increase of 162% (in the average saving of households in physical assets) in the 2nd decade as compared to 1st decade. The saving has increased by 408.4% in the 3rd decade (1970-71 onwards) as compared to 2nd decade (1960-61). The same trend is noticed in case of construction where average saving during the period 1960-61 - 69-70, has increased over 1950-52 - 59-60 by 143%. It has increased during the 3rd decade (1970-71 onwards) over the 2nd decade (1960-61 - 69-70) by 347%. In both cases substantial increases have taken place in the post 1970-71 period. In the pre 1970-71 period the growth rates in gross domestic capital formation and in construction are not very divergent, where as it has widened in case of post 1970-71 period. This indicates that among the physical assets, saving in construction in the latter period is not, as preferred an asset as other components of physical assets. We also find the same being indicated, by the share of construction falling consistently in the post 1978-79 period.

When we look at the ratio series we notice that construction had a major share in gross domestic capital formation (GDCF). It was approximately 75% initially, then it fluctuated but remained fairly high till 1961-62. From

1962-63 onwards it fell, but again increased after 1968-69, when the ratio was very close to 1951-52 level. The general tendency in the ratio series is that of a declining one. The decade wise analysis reveals that the average ratio from 1950-51 - 1959-60 was 65.42%, then it became 59.6% during 1961-62 - 1969-70, and in the post 1970-71 period it was 52.1%.

Saving in the form of Machinery and Equipment has increased from Rs.164 crores to Rs.5915 crores. This implies annual % increase of 106.26 over the entire period. On the other hand construction has increased by only 53%, which is half the increase that is witnessed in case of Machinery & equipment.

There is pratically no growth in this asset component till 1954-55. From 1955-56 to 61-62 there is a steady increase but of a very low order; 1955-56 has been the cut off point from no growth to some positive growth. From 1962-63 onwards till 1971-72 the amount saved in this has increased and the increase is fairly steady, while from 1972-73 onwards the amounts held in this asset are particularly high and the growth rates are higher too. This increase is an indicator, that amongst the household sector an increasing proportion of household are gain fully self employed and engaged in small manufacture. It also indicates the Agriculturist, households' preference for mechanical equipment in agricultural operations in the post Green Revolution period. The average holding in these assets from

1951-52 - 59-60 is Rs. 214 crores, it is Rs. 710.4 crores during 1960-61 - 69-70 and Rs. 3189 crores in the post 1970-71 period. The average amount held in this asset in all the 3 periods is less than that corresponding to construction in each of the period. The major increase has taken place in the post 1970-71 period.

The average saving during the period 1960-61 - 69-70 has increased over 1951-52 - 59-60 by 231%. It has increased during the 3rd decade over the 2nd decade by 349%. The above indicates that in the pre 1970-71 period the growth rate in this asset has been more than it has been either in construction or in gross saving in physical assets. The growth rate in the post 1970-71 period has been the same in both construction and machinery and equipment.

The average saving held in machinery and equipment as a proportion of gross saving in physical assets till 1959-60 was 31.5, then it rose to 36.1 during the period 1960-61 - 69-70 and in the post 1970-71 period it was34.6. Thus the highest ratio in this component was in the 2nd period i.e. in the 1960's. After 1960 the ratios have fallen like that in construction. But unlike construction where the ratios have consistently fallen over the whole time span, here they have risen and then fallen. This indicates that during the 1970's and after that there was not enough inducement for

savings to take the form of machinery and equipment, inspite of government giving incentives to small scale industries.

We now turn to asset component changes in stocks. We started with a negative figure of -3 and it reached Rs.3718 crores in 1983-84 which implies an annual growth of 480% over the entire period (here 1951-52 is deleted), which is the highest reached among all its components. The series on change in stocks indicates that until as late as 1972-73 there have been negative changes in stocks by households. After 1972-73 there is a steady increase of high order in stocks figures. The average holding in this asset till 1959-60 was Rs.23 crores, while between 1960-61 - 69-70 it was Rs.70.6 crores and from 1970-71 onwards it was Rs.1368.28 crores. Thus the average saving in this asset has been consistently increasing and the great increase has taken place in the post 1970-71 period. Though the average holding in this asset is small compared to other components viz construction and machinery and equipment, yet the tremendous growth in the post 1970-71 period over 1960-61 - 68-69 period clearly indicates households' preference for this asset*. This increase clearly indicates that manufacturers or farmers, and traders are holding excessive

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* Inspite of government procurement of food grains and take over of wholesale trading in wheat, it is surprising that stocks have increased at such a rate.

stock on account of the following : (1) there is a fear of a shortage of raw material; this results in excessive holding of inventory so that the production process is not affected (2) Due to the expectation of prices rising, the manufacturer may hold excessive stocks to (a) reduce their future cost (b) to resell it at a higher price and make some gain and the farmer and trader may hold excessive stocks to make speculative gains in the expectation that prices of stock of goods that they hold will rise.

The average growth rate in the 2nd decade over the first is 206.95 while in the 3rd period over the second period is of 1854%. Machinery and equipment has increased at a higher rate in the first period but in the decade after 1970-71, the increases are tremendous in stock.

The ratio series indicates that the saving ratio in this asset was very low to start with and it has varied a great deal till 1958-59; thereafter it has generally increased steadily till 1972-73. After 1972-73 it is increasing rapidly and reached high levels in the post 1978-79 period. The average ratio held before 1959-60 was 2.84, that between 1960-61 - 69-70 was 4.2 and from 1970-71 onwards was 13.08. This indicates as in case of other two components that maximum increase has taken place in the post 1970-71 period and here unlike construction

(where average ratios have consistently fallen) and machinery and equipment (where they have first risen and then fallen), this ratio is continuously rising. We notice that from the point of view of the effects of components of physical assets on growth, the most important component machinery and equipment has fallen, construction too has fallen, while stocks which are not as growth promoting as the other two assets have increased; stock is only a lubricant to easen the growth process, its share is continuosly increasing. Therefore though physical assets are increasing but because stocks are increasing in proportion, therefore its effects on growth are not very encouraging and in some case might retard growth.

TABLE 4.2.12

EXPECTED RATE OF INFLATION AND COMPONENTS OF PHYSICAL ASSETS RATIO

(At Current Prices)

Years	Expected Rate of Inflation	Construction	Machinery & Equipment	Stocks
1	2	3	4	5
1951-52 - 58-59	1.862	65.58	33.19	1.14
59-60 - 65-66	4.642	58.70	36.43	5.11
66-67 - 69-70	8.525	62.59	31.49	5.88
70-71 - 72-73	5.466	60.65	33.27	6.03
73-74 - 77-78	11.180	55.56	32.38	12.01
78-79 - 79-80	5.50	43.32	40.66	15.99
80-81 - 83-84	9.33	45.93	35.65	18.39

Source : See Table 4.2.11

From the above table we see that when expected rate of inflation has increased from 1.8 to 4.6, the construction ratio has fallen. On the second occa-sion, when this rate has again risen from 4.6 to 8.5, this ratio has increased. Similarly when expected rate of inflation has risen twice once from 5.4 to 11.1 and from 5.5 to 9.3, this ratio has fallen once and has increased the other time. Thus no definite results can be drawn of a rise in expected rate of inflation; on the other hand a fall in the expected rate of inflation invariably has led to a fall in construction ratio. On comparing period IV (1970-71 - 72-73) and VI (78-79 - 79-80) when the rates of inflation are same (5.5) and these have been preceded by higher inflation rate we find that in both the periods the ratio has fallen. In 1970-71 - 72-73 with a fall in inflation rate of (8.5 - 5.4) 3.1% the ratio has fallen by (62.5 - 60.6) = 1.9, while in 78-79 - 79-80 with a fall in inflation rate of (11.1-5.5) 5.6% the ratio has fallen by (55.5 - 43.3) i.e. 12.2, the fall in the asset ratio is far more than in the earlier period. This indicates that expected rate of inflation had greater effect inthe latter period. Now on comparing period III (66-67 - 69-70) and period VII (80-81 - 83-84) when expected rate of inflation has risen, the ratio in construction too has increased. In the first instance when P^e has risen by (8.5 - 4.6) 3.9% the construction ratio has increased by (62.5 - 58.7) 3.8. In period VII when P^e has risen

by (9.3 - 5.5) = 3.8 the construction ratio has increased by (45.9 - 43.3)= 2.6; thus the response of construction ratio to inflation has decreased in the latter period. Thus what can be probably concluded from this is that when expected prices are likely to rise, then this ratio too is likely to rise and when it is expected to fall this ratio too is likely to fall. Therefore the two tend to be positively related.

In case of Machinery and equipment we see that as expected rate of inflation increased from 1.8 to 4.6, this ratio too increased. But for the later periods we notice that as expected rate of inflation falls this ratio increases and when this rate rises the ratio falls. So that except for the 1st period, all the other period analysis indicates a negative relationship between the two.

On comparing period III with VII we notice that with a rise in inflation rate from 4.6 to 8.5, this ratio has fallen from 36.4 to 31.4, in period III. In period VII with a rise in expected rate of inflation from 5.5 to 9.3 the ratio has fallen from 40.6 to 35.6; thus the responsiveness is almost the same in both the periods, When we compare period IV with VI, when inflation rate has fallen from 8.5 to 5.4 and [illegible] from 11.1 to 5.5, the ratio in the first instance has increased from 31.4 to 33.2 and in the 2nd instance from 32.3 to 40.6;thus the responsiveness in this case has increased in the latter period. Therefore on the basis of the above analysis it can

be said that whenever expected rate of inflation is going to fall, this ratio is likely to rise and its impact is likely to be greater.

When we study the stock ratios, we notice that these have been rising all through from 1.14 to 18.39 and therefore the primary effect of expected rate of inflation is not noticeable. Looking to the secondary effect i.e. on the growth rate of stock ratio we notice that when expected rate of inflation has increased from 4.6 to 8.5 the growth rate has fallen. When expected rate of inflation has fallen from 8.5 to 5.4, the growth rate has fallen and latter when it has risen, the growth rate in this ratio too has increased. Therefore there is no clear evidence of secondary effect also.

When we compare period III with VII. we notice that as expected rate of inflation has increased, the ratio's growth rate has fallen. In period IV and VI when expected rate of inflation has fallen, the growth rate has fallen, so that here too there are no consistent secondary effects. One thing is noticeable that in the year when P^e reached its maximum the growth rate in this asset ratio also reached a maximum of 99.17 (excluding the exceptional growth rate in 1959-60 - 65-66)

f) Trends in Negative Saving (borrowing of the household) :

TABLE 4.2.13

HOUSEHOLD SAVING AND ITS RATIO IN THE FORM OF BORROWING

1951-52 - 84-85

(At 70-71 Prices)(Rs.Crores)

Years	Negative Saving	Negative Saving Ratio
1	2	3
1951-52	100.3	0.611
52-53	- 8.7	0.056
53-54	115.7	0.632
54-55	101.4	0.544
55-56	262.8	1.366
56-57	153.2	0.756
57-58	74.6	0.375
58-59	137.9	0.640
59-60	191.7	0.878
60-61	547.3	2.353
61-62	230.2	0.960
62-63	382.9	1.582
63-64	410.6	1.627
64-65	332.3	1.208
65-66	316.9	1.218
66-67	377.7	1.428
67-68	358.5	1.237

Contd...

TABLE 4.2.13 : Contd.

1	2	3
1968-69	586.4	1.977
69-70	685.0	2.186
70-71	565.3	1.709
71-72	492.8	1.481
72-73	553.3	1.663
73-74	440.3	1.257
74-75	220.8	0.629
75-76	744.2	1.919
76-77	1044.8	2.699
77-78	859.9	2.014
78-79	1313.4	2.908
79-80	1534.8	3.581
80-81	1219.3	2.563
81-82	1424.7	2.898
82-83	1133.3	2.252
83-84	1706.4	3.110
84-85	1727.4	3.050

Source : See Table 4.2.1

The absolute amount series at constant prices has increased from Rs.100.3 crores to Rs.1494.4 crores over the entire span. But this increase has not been consistent. We

generally notice that for two consecutive years this amount increases and in the third year it falls. On comparing agriculture production peak and trough years, with these borrowing amounts we notice that before Nationalisation of banks i.e. before 1969, in the years there was low production in agriculture this negative saving has fallen. This would indicate that farm households' borrowing from these institutions had fallen when their ability to repay fell. In the post 1969 period borrowing amount has increased when agricultural production has fallen indicating in some form the relief measures that are given by the government through the banks. Further in the post 1969 period financial institution lending to non farm household increased; therefore there is no systematic relationship between these two.

Before 1968-69 the average amount of household borrowing was Rs.259.69 crores, while it was Rs.979.1 crores in the post 69-70 period. The percentage increase has been 277.0 which is substantial and more than liquid assets, consumer durable, physical asset, Direct Investment and only less than illiquid asset. This increase is probably attributable to increase in bank offices in rural areas and increase in the role of banks in financing agriculture and small proprietorship firms. The average annual growth rate before 69-70 was 26.92 while in the post 69-70 period it was 9.51.

When we look at the ratio series we notice that till 59-60 the ratio is in the range of 0.4 - 0.7 except for the year 55-56. From 1961 onwards till 1969 it has been in the range of 1.4 - 1.6 and after 70-71 it has been in the range of 2.0 - 2.3. So that in each decade this ratio has been consistently increasing. In the period before 69-70 the average ratio was 1.08, while in the post 1968-69 period it was 2.23, the percentage increase being 106.48. The average annual growth rate before 68-69 was 12.42% while in the post 69-70 period it was 2.47%.

TABLE 4.2.14

EXPECTED RATE OF INFLATION AND BORROWING OF HOUSEHOLD

Years	Expected Rate of Inflation	Borrowing Ratio	Period
1	2	3	4
1951-52 - 58-59	1.862	0.606	I
59-60 - 65-66	4.642	1.403	II
66-67 - 69-70	8.525	1.701	III
70-71 - 72-73	5.466	1.613	IV
73-74 - 77-78	11.180	1.698	V
78-79 - 79-80	5.50	3.246	VI
80-81 - 82-83	9.33	2.601	VII

Source : Look up Table 4.2.1

We see from the above table that as the expected rate of inflation has increased from 1.862 to 4.642 to 8.525 this ratio too has increased from .6067 to 1.4037 to 1.701; when it has fallen from 8.525 to 5.466 this ratio too has fallen from 1.701 to 1.613 and again when it has risen to 11.18 this ratio has increased by a marginal amount. So that before 78-79 period we notice a postive relationship between the two, while in the post 78-79 this relationship is reversed. When we compare period III with VII when expected rate of inflation has increased we find that this ratio has behaved differently in the two periods. In case of the former it has increased while in the latter it has fallen. Similarly the behaviour is different when we compare when expected rate of inflation has fallen i.e. period IV and VI respectively.

Looking to the secondary effects we notice that again expected prices do not have a definite effect on the growth rates of this asset ratio; when expected prices has risen in period III and IV there is a fall in growth rates and when P^e have fallen in period IV and VI, in one period this ratio has fallen and in the other it has increased. Nothing definite can therefore be said about the secondary effect also.

g) Trends in Household Saving:

TABLE 4.2.15

HOUSEHOLD SAVING AND ITS RATIO 1951-52 - 1984-85

At 70-71 Prices (Rs.Crores)

Years	Household Saving	Household Saving Ratio
1	2	3
1951-52	1028.22	6.2715

Contd...

TABLE 4.2.15 : Contd.

1	2	3
1952-53	922.87	5.3746
53-54	955.04	5.2236
54-55	1186.67	6.3745
55-56	2008.36	10.4424
56-57	2112.15	10.4242
57-58	1664.35	8.3779
58-59	1386.07	6.4367
59-60	1902.87	8.7187
60-61	1839.67	7.9094
61-62	1803.16	7.5201
62-63	2131.04	8.8090
63-64	2247.71	8.9080
64-65	2375.21	8.6346
65-66	2763.44	10.6234
66-67	3600.28	13.6188
67-68	3405.00	11.7534
68-69	3370.50	11.3678
69-70	4210.88	13.4403
70-71	4632.20	14.0104
71-72	5151.69	15.3770
72-73	5009.14	15.0570
73-74	5606.52	16.0121
74-75	5184.46	14.7744

Contd...

TABLE 4.2.15 : Contd.

1	2	3
1975-76	5974.80	15.4079
76-77	7535.27	19.4671
77-78	7905.84	18.5184
78-79	9287.2	20.567
79-80	8114.9	18.877
80-81	9183.9	19.483
81-82	8751.3	17.797
82-83	8789.4	17.465
83-84	10051.6	18.321
84-85	11048.8	19.505

Source : Refer to Table 4.2.1; 4.2.5; 4.2.9

The above series has been consistently increasing except for few years when there is a fall. Before 1960, there is a lot of variation in household. saving. After 1960 though there is a variation each year the amount by which it varies is comparatively reduced. The sharp increases have taken place in the years 1954-55, 55-56, 59-60, 62-63, 65-66, 66-67, 69-70, 76-77 and 78-79. The absolute household saving has fallen in the years 1957-58, 58-59, 60-61 61-62, 67-68, 68-69, 72-73, 74-75, 79-80, 81-82.

In the 1st decade ending in 59-60 the average household saving was Rs.1462.55 crores, while in the 2nd decade

ending in 1969-70 the average saving was Rs.2614.72 crores and in the 3rd decade it reached to the level of Rs.7481.80 crores. Thus in each decade there is substantial increase in the total saving of the household. In the first decade the growth rate in saving was 85.06% while in the 2nd decade it was 128.89% and in the 3rd decade it was 138.52%. Thus maximum increases have taken place in the post 1970 period. This increase is reflection of increases in the financial super structure of the economy particularly the nationalisation of banks, the spread of banking habits in the rural areas; and of repatriation of funds by Indians working abroad.

The average saving in the pre 69-70 period is Rs.2032.09 crores and in the post 69-70 period Rs.7277.36 crores implying an increase of 256.90%. The component assets that have increased at a faster rate than this (saving) are illiquid asset, consumer durable, net borrowing of households, and liquid assets while direct investment and physical assets have increased at slower pace; of these the highest growth rate has been in illiquid assets and lowest in direct investment.

The average annual growth rate in household saving before 69-70 was 12.65 and in the post 69-70 period it was 10.14. Thus there is a small fall in the growth rate. This fall in the growth rate should not be viewed negatively especially as the base has increased compared to the earlier years. Thus the role of financial intermediaries especially

the banks cannot be undermined in increasing the household saving.

The ratio series indicates that till 1954-55, the ratio moved in the range of 5.6%, then it jumped to 10.4% in 55-56 and remained at that level even in 56-57. After that there was a fall in this ratio to 8.3% and it continued to be in the range of 7-9% from 57-58 to 64-65. In 65-66 it once again reached 10.6% and thereafter it has constantly been between 10-13%. Between 1970-71 - 1975-76 it steadily increased to 15-16%. In 1976-77 a big jump occurred and then till 1980-81 the ratio moved between 19-20%. From 1981-82 this ratio has again fallen to 17%, but hasrisen in the last year.

The increase in saving ratio from 15-16% to 19-20% has occurred in the post 1976-77 to 78-79 period. This increase is attributable to government incentives in different saving assets the form of tax rebates; then accumulation of saving in the form of compulsory deposit schemes, repatriation of funds from abroad and finally the general improvement in the economy.

The average saving ratio in the 1st decade was 7.51% p.a., while in the 2nd decade it was 9.89% p.a. and in the 3rd decade 17.37%. Thus the saving ratio has consistently increased over the time, the absolute increase being highest in the 3rd decade.

The average saving ratio in the pre 1969-70 period was 8.70 while in the post 69-70 period it was 17.12 implying an increase of 96.88%. The average annual growth rate before 69-70 was 4.51% and after 69-70 was 2.82%. On comparing the components' growth rate we find that liquid asset ratio, illiquid asset ratio and consumer durables have increased at greater rate than saving ratio growth rate in both periods, while physical asset ratio has increased at a lower pace in both periods; net borrowing ratio has increased by greater amount only in the period before 69-70, while direct investment has increased by greater rate only in the post 1969-70 period. The highest increases have occurred in illiquid asset ratio while the lowest are in direct investment.

On comparing the different assets' annual growth rates in the pre 1969-70 period we find that the highest increases have taken place in liquid assets followed by illiquid assets, then borrowing, consumer durables, physical assets and direct investment respectively, while in the post 1969-70 period, maximum average annual growth rate has been in direct investment followed by illiquid asset, liquid asset, consumer durables, borrowing and then physical assets. Thus from the above it may be concluded that in the latter period direct investment share in household saving is increasing. Although almost all the asset annual growth rates have fallen in the post 69-70 period,

yet there is a marginal fall in consumer durables and maximum fall in liquid assets.

Considering various ratios' average annual growth rates and post 1969-70 growth over pre 1969-70 period the following salient feautres emerge:

1) The important component ratios in the latter subperiod (69-70 onwards) are physical assets, illiquid assets, consumer durables and liquid assets.

2) The annual average growth rate has been highest in direct investment followed by illiquid asset, liquid asset and consumer durables in the post 69-70 period.

3) The higher percentage increase in the post 69-70 period over the pre 69-70 period has been in illiquid assets, borrowing and consumer durables.

From these it suggests that:

a) In future the assets that are likely to have sizeable effect are illiquid assets and consumer durables. Their share in total household saving is high and so are their percentage increases in post 1969-70 period over pre 1969-70 period.

b) Physical assets because of its sheer ratio is likely to be still important, but because of lower growth rate in post 69-70 period over pre 1969-70 period and due to negative annual growth rate in the post 69-70 period its importance is likely to fall.

c) The borrowing growth rate is high in the post 1969-70 period over pre 1969-70 period, but its average annual growth

rate is low in the post 1969-70 period. Because its ratio continues to be low, its impact is not likely to be great.

d) Liquid asset share in household saving is fairly high and its annual growth rate is also high, though it has considerably fallen. This component is likely to have considerable effect but less than illiquid assets in the future.

e) Direct investment because of its very low ratio in household saving, will not have great impact inspite of having very high growth rate.

TABLE 4.2.16

EXPECTED RATE OF INFLATION AND SAVING RATIOS

Years	Expected Rate of Inflation	Household Saving Ratio	Period
1	2	3	4
1951-52 - 58-59	1.862	7.361	I
59-60 - 65-66	4.642	8.72	II
66-67 - 69-70	8.525	12.54	III
70-71 - 72-73	5.466	14.81	IV
73-74 - 77-78	11.180	16.75	V
78-79 - 79-80	6.50	19.73	VI
80-81 - 84-85	9.330	18.50	VII

Source : Look up Table 4.2.15

From the above table it is clear that the saving ratio has consistently increased from 7.36 to 8.7 to 12.5 to

14.8 to 16.7 to 19.7. Only for the last period 1980-81 - 84-85 this ratio has fallen to 18.5.

When we study the subperiod analysis no definite conclusion can be drawn on the secondary effect of inflation as with increases in the rate of inflation from 4.6 to 8.5 in period III, the growth rate in saving ratio has increased from 18.47 to 43.8 while with increase in expected rate of inflation in period VII from 5.5 to 9.3 the growth rate of saving ratio has fallen from 17.97 to -6.23%.

Similarly when expected rate of inflation has decreased from 8.5 to 5.4 and from 11.1 to 5.5 in period IV and VI then the growth rate in saving ratio, in the first instance has fallen from 43.8 to 18.1, while in the 2nd case has increased from 13.09 to 17.79.

From this analysis it can be tentatively derived that before 72-73 with an increase in the expected rate of inflation the growth rate in saving ratio increases and with a fall it falls, so that they are positively related, while in the post 72-73 period with an increase in inflation rate there is fall in growth rate of saving ratio and with a fall in the expected rate of inflation there is a rise in the growth rate in saving ratio, so that they are negatively related. This lends support to the hypothesis that as inflation is continuing in the economy, in the latter period the intertemporal substitution effect is stronger here in India unlikedeveloped countries where Real Balance effect is prominent.

h) Trends in Domestic Saving Ratio :

TABLE 4.2.17

DOMESTIC SAVING RATIO

At 70-71 Prices(Rs.crores)

Years	Domestic Saving Ratio
1	2
1951-52	8.329
52-53	5.907
53-54	6.704
54-55	8.404
55-56	11.938
56-57	11.770
57-58	9.289
58-59	8.008
59-60	10.473
60-61	11.598
61-62	10.744
62-63	12.177
63-64	12.432
64-65	11.896
65-66	14.332
66-67	15.216
67-68	12.632
68-69	12.888
69-70	15.459
70-71	16.057

Contd...

TABLE 4.2.17 : Contd.

1	2
1971-72	17.066
72-73	15.980
73-74	19.782
74-75	19.407
75-76	20.481
76-77	23.736
77-78	23.312
78-79	26.131
79-80	24.117
80-81	23.755
81-82	24.098
82-83	22.839
83-84	22.377
84-85	22.238

Source: 1) Figures of Domestic Saving and Net Domestic Product (F.C.), C.S.O., National Accounts Statistics, Jan., 1986. Appendix A-1 Macro Economic Aggregates and Population 1950-51 to 84-85.

2) Figures for consumer durable-refer to Table 4.2.5

We notice that domestic saving ratio has increased consistently over the years, it being 8.3% to start with. It

reached 22.24% in 84-85. Over the whole period the percentage increase was 166.98%; while household saving ratio has increased by 211% which implies that household share in total saving has been improving.

The average domestic saving ratio in the first decade was 8.97, while in the second decade it was 12.93 and in the third decade it was 21.35. The pattern of growth is the same as that of household saving. The growth rate in the third decade in household saving is greater which indicates that its share in domestic saving has gone up. The highest domestic saving ratio is in 1978-79 - it being 26.13%. After this the ratio has been fluctuating in the range of 22.24%. The average ratio before 69-70 was 10.81 and that after 69-70 was 20.98. This implies a growth rate of 94.07% in the post 69-70 period over pre 1968-69 period. The annual percentage increase in the pre 69-70 period was 3.07 and in the post 69-70 period was 2.74.

When we compare the movements in domestic saving ratio and household saving ratio, we find similar movements till 1956-57. After that the constant ratio of 8 - 9% has continued in household saving till 1964-65. The fall in domestic saving was short lived till 1961-62 only. This implies that corporate saving or government saving increased at a faster rate in the period 1961-62 - 64-65. A steady growth in both the ratios is noticed from 1964-65 onwards. Again from 1975-76 onwards there is steady and high increase in both

household and domestic saving. After 1978-79 they have fluctuated and there is a fall in the ratios.

i) Trends in Incremental Capital Output Ratio :

TABLE 4.2.18

INCREMENTAL CAPITAL OUTPUT RATIO

Years	At 70-71 Prices Incremental Capital Output Ratio.
1	2
1951-52	6.873
52-53	2.106
53-54	1.344
54-55	3.564
55-56	4.498
56-57	3.284
57-58	- 7.605
58-59	1.501
59-60	7.703
60-61	2.354
61-62	3.994
62-63	9.700
63-64	3.066
64-65	2.146
65-66	- 2.978
66-67	29.196

Contd...

TABLE 4.2.18 : Contd.

1	2
1967-68	2.001
68-69	5.817
69-70	2.815
70-71	3.250
71-72	12.574
72-73	-11.122
73-74	4.598
74-75	16.596
75-76	2.030
76-77	40.480
77-78	2.292
78-79	4.460
79-80	- 4.063
80-81	3.216
81-82	4.406
82-83	7.811
83-84	2.870
84-85	6.102

Source : Refer to table 4.2.17

We started with the ratio of 6.87 and this ratio continued to fall till 58-59 except for the year 57-58 when it was negative. This ratio was 7.70 in 59-60 and it decreased sharply in the next two years. It rosesharply in 1962-63 to

9.70, then fell for the next two consecutive years, when in 65-66 it became negative. In 1966-67 it rose sharply to 29.19 after that till 70-71 it was moving between 3-4 when again in 71-72 it rose sharply to 12.57 and became negative in 72-73. After 73-74 there are a lot of wide variations in these ratios sometimes increasing and otherwise falling till 79-80. It reached a maximum of 40.48 in 76-77. From 80-81 onwards there are less wide fluctuations and the ratio is moving between 4-5%.

In the 1st decade the average ratio was 2.58, while in the 2nd decade it was 5.80 and in the 3rd decade it was 6.36; thus this ratio has been consistently increasing, though the rate by which it is increasing has fallen. This increase in incremental capital output ratio is a sign of our economy moving towards inefficient utilisation of the scarce factor of production capital.

3. Trends in Exogenous Variables :

a) Trends in Disposable Income

TABLE 4.3.1

PERSONAL DISPOSABLE INCOME

(1970-71 = 100)(Rs.Crores)

Years	Disposable Income
1	2
1951-52	16393
52-53	17150

Contd...

TABLE 4.3.1 : Contd.

1	2
1953-54	18280
54-55	18613
55-56	19232
56-57	20261
57-58	19865
58-59	21532
59-60	21824
60-61	23258
61-62	23976
62-63	24190
63-64	25232
64-65	27506
65-66	26011
66-67	26535
67-68	28969
68-69	29648
69-70	31329
70-71	33062
71-72	33481
72-73	33267
73-74	35013

Contd....

TABLE 4.3.1 : Contd.

1	2
1974-75	35090
75-76	38776
76-77	38707
77-78	42691
78-79	45157
79-80	43105
80-81	47182
81-82	49170
82-83	50325
83-84	54861
84-85	56642

Source : C.S.O., National Accounts Statistics, January 1986, Appendix A.1 "Macro Economic aggregates and population 1950-51 to 84-85".

Personal Disposable income at constant prices has been increasing consistently over time except for few years like 57-58, 65-66, 72-73, 76-77 and 79-80, when the absolute amount in real terms has gone down though it has increased at current prices. Over the whole time span disposable income has increased from Rs.16393 crores to Rs.56642 crores, a % increase of 245.52.

The average disposable income in the 1st decade ~~average~~ was Rs.19238.88 crores, while in the 2nd decade it

was Rs.26655.4 crores and in the 3rd decade Rs.42435.26 crores implying a % increase of 38.54 in the 2nd decade and of 59.19% in 3rd decade. Thus increases have been larger in the post 70 period. The average yearly rate of growth of disposable income is 7.22 which is very modest for an economy striving to grow faster.

b) Expected Rate of Inflation :

To begin with expected rate of inflation was high but then it continued to fall till 1955-56. It was negative from 1954-55 to 1956-57. From 57-58 onwards there is a consistent increase in the rate of inflation from 1.9 to 5.7%. After 1965-66, the inflation rate is in the medium range of 8-10%. After 1973-74 it has generally been greater than 10%, therefore we are moving into the range of higher and higher rates of inflation, though expected rate of inflation was never very high. The average expected rate of inflation in the pre 68-69 period was 3.902 and in the post 69-70 period was 8.727; thus there is an increase in the expected rate of inflation of the order of 123.65%. In the 1st decade the expected rate of inflation was 2.088, in the 2nd decade it was 6.27% and later it was 8.842; thus it has consistently increased.

TABLE 4.3.2

EXPECTED RATE OF INFLATION 1951-52 - 1984-85

Year	Expected Rate of Inflation
1	2
1951-52	9.355
52-53	4.904
53-54	1.431
54-55	- 0.459
55-56	- 2.735
56-57	- 1.162
57-58	1.940
58-59	1.781
59-60	3.930
60-61	6.268
61-62	3.510
62-63	3.669
63-64	4.132
64-65	5.536
65-66	5.761
66-67	8.504
67-68	10.062
68-69	8.568
69-70	7.167

Contd....

TABLE 4.3.2 : Contd.

1	2
1970-71	6.723
71-72	5.065
72-73	4.753
73-74	9.036
74-75	13.308
75-76	12.096
76-77	11.393
77-78	10.427
78-79	6.383
79-80	4.767
80-81	8.530
81-82	9.979
82-83	9.457
83-84	11.356
84-85	9.344

Source: 1) Chandhok, H.L., "Wholesale Price Statistics India 1947-78" Economic and Scientific Research Foundation, NewDelhi

2) From 1979 onwards, "Index no of wholesale Price", Published by Office of the Economic Adviser to Government of India.

c) Rates of Return on Different Household Assets: Bazar Bill Rate (Table(s) follow on pages No. 298-300) :

This is the rate of interest charged by the local money lender in the unorganised market. There are certain restrictions put by the government yet in a limited way the movements in it reflect the market condition. Looking at the expected nominal rate of interest we find that till 1960-61, the rate of interest has been fairly constant moving around 10.6 to 11.7 with few fluctuations, the average rate being 11.14, but in 1961-62 there is a sudden jump after which these rates have been consistently moving up till 67-68. Then till 69-70, they moved very slowly; from 70-71 till 80-81, there is a gradual and steady increase. We notice that the rates of interest are pretty high all through which is natural in the unorganised segment that is consistently starved of funds compared to the demand for them.

When we look at the expected real rates of interest, these have varied a great deal till 60-61 in the range of 1.5 to 14.2. From 61-62 till 1964-65 they stabilised. From 65-66 to 69-70 there are few fluctuations; after 69-70 there are wider variations ranging from 6.5 to 20.2, the extent of fluctuations in absolute terms being nearly the same as in the first period. Thus fluctuations are higher both before 60-61 and after 70-71, while there is some stability during 61-62 - 69-70.

~~69-70~~. Rates of interest on One year deposit: From the table we notice that before 67-68 the rate of interest has moved up very gradually reaching the highest level of 6% in 67-68. Then from 68-69 to 74-75 the interest rates are either falling or marginally increasing. In 1975-76 it crossed the highest reached in 67-68 and after that it has been fluctuating between 6.00 - 8.00% reaching the highest rates in 77-78 and 78-79. As these are administered rates of interest, changes in them basically reflect a change in government policy.

Looking at the real rate of interest on these deposits we find that in contrast to the gradual increase in these nominal rates over the entire time period, the real interest rates have not only fluctuated widely but also in most of the years have been negative due to inflationary pressures. Thus from these 34 years' observations these assets have yielded a negative return to their holders in 23 years and in the other years when it has been positive they were very low except for the years 1955-56 and 56-57, when interest rates have been 5.4 and 3.8% respectively.

Rates of Return on Variable Dividend Securities :

In the initial years till 54-55 these returns have varied a great deal. After 55-56 till 65-66, these returns have been increasing, being in the range of 9-14%; the average nominal rate of return during 55-56 to 65-66 has been 10.80%. After

65-66 it fell drastically in 66-67 to 4.1% and this trend continued till 69-70. After 70-71, the return has been increasing and only sometimes falling but the average return in the period has been 10-12. From 1973-74 to 75-76 and from 80-81 - 82-83 the returns have been fairly high, While between 76-77 - 79-80 they have fluctuated more. But on the whole the returns have generally been in the range of 9-10% except for few years from 66-67 - 69-70 - this period has coincided with the annual plans. The expected real rates have not been really high inspite of high nominal interest rates. In the initial years from 53-54 to 59-60 the returns have been high and positive; after that from 60-61 to 65-66, the returns have fluctuated and fallen compared to earlier period, while from 66-67 to 70-71 they have become negative. After 70-71 the returns have risen and become positive but they were generally low reaching a maximum of 5.5% in 1982-83. The average real return from 1955-56 to 65-66 has been 7.73 and since 71-72 has been 1.75.

Rates of Return on Gold :

The nominal rates of return were particularly low and generally negative till 57-58, From 58-59 to 63-64 these rates have been positive and moderately high being in the range of 5-6% on an average. The return reduced during 64-65 - 67-68, after this till 73-74, the returns have been fluctuating and are moderately high. In 1974-75 there is a sudden jump to a return

of 19.3% and after this the returns have increased tremendously moving in the range of 20-22%. This is precisely the time when world prices too have moved up.

Thus we can bifurcate the period into 3: (1) 1951-52 - 57-58 when returns are negative (2) 1958-59 - 72-73 when returns though positive are fluctuating, yielding only moderate return, (3) Post 73-74 period when returns are really high.

A Similar trend is noticed in case of expected real return on gold. It has been negative before 57-58, then increased very gradually with some fluctuations till 62-63, then from 63-64 to 68-69 has been negative, followed by a period of very small return till 73-74. After 73-74 the return have been increasing they were generally in the range of 10-11% p.a.

The negative return from 65-66 is a reflection of low nominal return on gold while low positive return till 73-74 is because of relatively higher expected rate of inflation exceeding 6% p.a.

Rate of Return on Physical Assets:

Unlike the returns on variable dividend securities and gold, the nominal return has been positive throughout. With a small variation the returns have been around 7.45% till 58-59 then it suddenly jumped to 9.2% in 59-60 and remained quite steady with little variation in each year. The average return over the period 1959-60 to 74-75 has been 11.33%. In 1975-76

the return increased to 18.4% and the average return during this period has been 16.48. Thus we notice that over the years the returns have been slowly and gradually increasing from 7.5 to17.7%.

The breakup of returns i.e. rent and capital appreciation shows that most of the variations are due to variation in capital appreciation and its share in total return is high. On the other hand rent series has been almost increasing steadily over time.

On the other hand the real returns on these assets have been negative on very few occassions, the exceptional years being 1951-52 and 1974-75. Apart from these the real returns have been positive all through though there are variations in returns. The average return before 60-61 was 5.50 and that between 60-61 - 69-70 was 4.44 and in the post 69-70 period was 5.93.

Rate of return on Consumer Durables :

Of the 34 years under observation household expected a positive return on purchasing consumer durables on 15 occasions, i.e. they expected the price of consumer durables to rise faster than the general price index and thereby gain on purchases of consumer durables this period rather than wait and purchase in the future. On 19 occasions they expected the general price

to rise faster than the consumer durable index i.e. negative return on purchases today. There is no consistent trend in this return and there are wide fluctuations each year. On closer scrutiny one can say that leaving aside the earlier years till 1955 when returns were positive the trend has been towards an increase in general price level moving faster than prices of consumer durables till 71-72;there after the trend seems to have reversed. The average return before 71-72 was -1.91 and in the post 72-73 period it was +1.05. The variability in the series in the pre 71-72 is very low compared to the post 72-73 period. This indirectly implies that during the latter period it was profitable for households to have more of consumer durables in the asset portfolio.

Rate of Interest on Borrowing :

These rates of interest are administered and therefore the nominal interest rates are fairly steady for few years and then a sudden jump occurs due to policy change. Till 1963-64 the average rate is 8% and then a sudden jump to 9%, which again continued till 70-71. From 1970-71 to 1974-75, there are variations each year in the rate of interest;subsequently this rate remained around 13% till 1981 and then increased to 14.3%.

On the other hand because of changes in inflationary expectations, the real rates on borrowing have shown no such

steadiness. The real burden of interest cost has been reduced and in some years has been negative e.g. in 51-52, 67-68, 74-75. The real borrowing rates have been particularly high till 1959 after that low till 77-78. From 77-78 onwards there is a tendency for these to rise. The average rates of borrowing in the decade ending 59-60 was 6.02, while that in the decade ending 69-70 was 2.10, and that in the latter years was 3.21. Thus we notice that as compared to the 1st decade borrowing rates have never risen very high both because of government policy and due to inflationary expectation.

The tables are given below:

TABLE 4.3.3

REAL EXPECTED RATES OF RETURN ON VARIOUS ASSETS HELD BY HOUSEHOLD

Year	Bazar Bill	One year Deposit	Variable Dividend Security	Gold	Physical Asset	Consumer Durables	Borrowing
1	2	3	4	5	6	7	8
1951-52	1.5	- 7.0	-15.4	- 7.0	- 1.6	15.9	- 0.6
52-53	6.5	- 3.1	- 0.9	- 4.4	3.1	19.7	3.5
53-54	9.7	0.9	10.1	- 4.9	6.1	14.3	7.1
54-55	11.7	2.8	8.6	- 4.8	7.8	2.9	9.1
55-56	14.2	5.4	13.4	- 2.0	10.0	- 0.1	11.0
56-57	11.3	3.8	11.5	- 1.7	8.5	- 1.7	9.3
57-58	9.3	1.4	7.6	- 2.2	4.7	- 1.9	5.8

Contd...

TABLE 4.3.3 : Contd.

1	2	3	4	5	6	7	8
1958-59	8.9	1.8	7.9	2.6	5.8	0.7	5.1
59-60	6.6	- 0.4	7.0	1.6	5.1	- 0.6	3.8
60-61	4.1	- 2.4	4.0	0.2	3.4	- 3.1	1.2
61-62	8.8	0.1	7.2	3.5	6.6	1.5	4.2
62-63	8.8	0.4	8.3	2.7	7.2	0.7	3.9
63-64	8.8	- 0.1	10.2	0.9	6.6	- 2.8	3.5
64-65	8.2	- 1.4	5.6	- 2.6	4.4	- 1.0	3.3
65-66	9.4	- 1.0	2.4	- 2.6	4.2	- 1.4	3.1
66-67	7.5	- 2.3	- 4.1	- 4.8	2.7	- 5.3	0.5
67-68	6.7	- 3.6	- 5.6	- 5.6	1.6	- 3.5	- 0.9
68-69	8.7	- 2.4	- 4.4	- 2.1	2.9	- 1.8	0.5
69-70	9.8	- 1.5	- 3.2	1.0	4.8	- 4.5	1.8
70-71	11.6	- 1.1	- 0.1	2.0	5.8	- 5.1	2.2
71-72	13.9	0.6	5.0	1.7	6.8	- 2.6	4.1
72-73	13.2	1.2	3.2	2.1	6.5	0.2	4.6
73-74	10.4	- 2.8	0.0	0.2	3.4	- 1.0	1.1
74-75	6.5	- 6.4	0.4	5.3	- 0.2	- 5.2	- 3.0
75-76	8.8	- 3.8	- 1.5	11.6	5.7	4.0	1.2
76-77	10.8	- 3.0	- 5.0	12.7	7.6	5.8	1.8
77-78	12.8	- 2.1	- 2.2	12.3	6.8	- 6.0	2.6
78-79	15.9	0.0	1.9	15.6	9.1	- 5.6	5.6
79-80	20.2	1.2	3.9	11.9	11.1	0.7	7.3

Contd...

TABLE 4.3.3 : Contd.

1	2	3	4	5	6	7	8
1980-81	17.8	- 1.8	2.8	9.1	4.3	6.6	4.2
81-82	16.3	- 2.7	2.2	12.4	2.3	8.0	3.9
82-83	16.8	- 1.8	5.5	15.1	6.1	4.1	4.4
83-84	14.9	- 3.5	- 5.3	10.3	6.0	- 2.6	3.0
84-85	17.1	- 1.6	5.0	9.5	7.5	6.2	5.2

Source : 1) For rates of return on Bazar bill, one year deposit, variable dividend security, gold and borrowing: Various issues of 'Currency and Finance" published by Reserve Bank of India, Bombay.

2) Physical Assets :(a) 1951-52 - 75-76. Dholakia, B.H. "The Economics of Housing in India"LI.M, Ahmedabad (A study sponsored by NBO), (b) 1976 onwards C.S.O. National accounts Statistics, Jan., 1986.

3) Consumer durables : Chandhok, H.L. "Whole Sale Price Statistics India 1947-78". From 1979 onwards "Index number of whole sale prices" published by office of the EconomicAdviser to Government of India.

4. Relationship Between Variables :

Here we will study some simple relationships between the different dependent variables and independent variables; while the relationship between each independent and dependent

variable is dealt with in the next chapter.

a) An Analysis of Simple Correlation Between Different Dependent Variables:

TABLE 4.4.1.

CORRELATION COEFFICIENT MATRIX BETWEEN DEPENDENT VARIABLES (ASSET COMPONENTS)

	$S_{L\cdot A}$ 1	$S_{2\cdot L\cdot A}$ 2	$S_{C\cdot D}$ 3	$S_{D\cdot I}$ 4	$S_{P\cdot A}$ 5	S_{B} 6	$S_{H\cdot H}$ 7	D S 8	$\Delta C/\Delta O$ 9
$S_{L\cdot A}$	1.00	0.713	0.696	0.228	0.393	0.704	0.741	0.728	0.131
$S_{2\cdot L\cdot A}$		1.00	0.933	0.393	0.604	0.830	0.938	0.960	0.164
$S_{C\cdot D}$			1.00	0.304	0.718	0.786	0.960	0.951	0.159
$S_{D\cdot I}$				1.00	0.021	0.571	0.338	0.384	0.152
$S_{P\cdot A}$					1.00	0.548	0.804	0.732	0.329
S_{B}						1.00	0.804	0.833	0.100
$S_{H\cdot H}$							1.00	0.978	0.224
D·S								1.00	0.213
$\Delta C/\Delta O$									1.00

For abbrevations used see the text.

The above table indicates that all the different components of the saving are positively moving, with the household saving, domestic saving and incremental capital output series, except saving in direct investment which is negatively moving with incremental capital output series.

The 1st series saving in liquid asset is having maximum correlation with household saving followed by domestic saving, saving in illiquid asset, negative saving (borrowing) and saving in consumer durables. What this implies is that those households whose savings are increasing are putting them in the form of liquid assets. Also the households who have increased their saving ratio have not only increased their liquid asset ratio but also have savings held in the form of illiquid assets, consumer durables & net borrowing.

The 2nd series on saving in illiquid asset shows a high simple correlation with domestic saving, household saving consumer durables, negative saving followed by liquid asset and physical asset. This indicates that households who have increased their saving ratio are precisely those who have also invested these in assets like consumer durables, illiquid assets and borrowings. We know that the households who are investing in illiquid assets are high salaried income urban households or well to do self employed households or professionals or such rich farmers in the rural areas and it is this class which has easy access to bank loans also. Therefore the gainers during this period have been this class only, who with increases in Income could set apart a larger share in savings.

The 3rd series i.e. savings in consumer durable points out a high correlation with household saving followed by domestic saving and illiquid asset ratio. The next in importance are

borrowing/physical ratio, asset ratio and liquid asset ratio. This relation indicates that households who are saving in the form of consumer durables are also those households investing in illiquid asset i.e. the households who are rich in both urban and rural areas. As physical assets are also correlated with consumer durables it implies that the rural rich farmers who are investing in land development and machinery and equipment related to agriculture are also at the same time, with increases in income, purchasing consumer durables. So purchases of consumer durables is no longer limited to only the urban rich but also spread to rural rich.

Regarding saving in direct investment it does not have high correlation with any other item. It being negatively correlated with $\Delta c/\Delta o$, indicates very roughly that if the corporate or/and government sector procures the funds without any intermediary, then these funds are used effectively and efficiently which results in $\Delta c/\Delta o$ falling.

Regarding saving in physical asset ratio it has high correlation with household saving and consumer durables suggesting that the incomes of relatively well to do households have increased and this increased saving has been diverted towards consumer durables. Had the income of small farmers increased their saving would not be diverted to consumer durables but to liquid assets and the correlation between physical assets and household saving would have been higher.

Regarding saving in negative form, this is closely associated with liquid assets, illiquid assets, consumer durables. The class of households who are likely to have all these assets in their saving portfolio are likely to be the Urban elite class.

Savings of households is related maximum with saving in illiquid assets and consumer durables, then to physical assets and borrowings and finally to liquid assets and direct investment. From the type of assets that have accumulated it seems that saving in household sector is originating primarily from the relatively well to do households both in the urban and rural areas. Nothing really much seems to have been done to tap saving of the lower class as is indicated by saving in direct investment and in liquid assets. This points that during the past few years, it is the lower class(and the poor) that has become more impoverished and the relatively better to do have become still better. When we examine the relation of domestic saving with other components, we see that it has maximum correlation with saving in illiquid assets followed by consumer durables, while the series of household saving has maximum correlation with consumer durables followed by illiquid assets; this is because in domestic saving the government and corporate saving are included; these institutions do not invest their saving in consumer durables as much as households do.

Regarding incremental capital output ratio we notice that it is hardly related to any of the asset ratios. The maximum it is correlated is with physical assets (Producer segment of the household). Essentially household sector is consumer and not producer sector, while $\Delta C/\Delta O$ is a concept more applicable to the producers and the corporate sector; therefore the effect is negligible.

b) An Analysis of Simple Correlation Between Different Independent Variables:

TABLE 4.4.2

CORRELATION COEFFICIENT MATRIX BETWEEN DIFFERENT INDEPENDENT VARIABLES

	Y_d	P^e	$h_{B\cdot B}$	h_{iyr}	$h_{C\cdot D}$	h_{DI}	$h_{P\cdot A}$	h_G	$h_{S\cdot B}$
	1	2	3	4	5	6	7	8	9
Y_d	1.00	0.649	0.713	-0.308	-0.137	-0.073	0.174	0.847	-0.129
P^e		1.000	-0.02	-0.891	-0.038	-0.654	-0.498	-0.470	-0.805
$h_{B\cdot B}$			1.000	0.379	-0.081	0.372	0.650	0.664	0.540
h_{iyr}				1.000	-0.175	0.762	0.761	-0.141	0.893
$h_{C\cdot D}$					1.000	-0.252	-0.188	-0.106	0.131
h_{DI}						1.000	0.621	0.080	0.713
$h_{P\cdot A}$							1.000	0.380	0.774
h_G								1.000	0.023
$h_{S\cdot B}$									1.000

Abbreviations look up the text

We notice from the above table that there is positive correlation between Y_d, h_{bb}, h_G & P^e, while it is negatively related to all the other rates of return. The positive relation between Y_d, h_G & h_{bb} indicates very roughly that during the inflation phase when Y_d is also increasing, it is increasing of that segment of households which demands more of gold and loans from shroffs. The increase in demand for both these, given the relative inelastic supply in the short run, leads to increase in expected real rates of return on gold and interest. The demand for gold is from the relatively rich class and for the loans from the poor class. This therefore suggests that during inflation period there is an increase in disposable income of relatively well to do and decrease in income of the poor, thus increasing the inequality of Income in the economy.

The coefficient of Y_d (Disposable Income) with respect to all variables except h_G (expected return on gold) is small and therefore the problem of multicolinearity might exist between disposable income and return on gold.

Also we find that there is a high correlation between P^e (expected prices) and h_{1y} (return on one year deposits) and h_{sb} (rate of interest on borrowing). Both these rates of return are controlled variables i.e. they are affected by the policy decision of the monetary authority, the Reserve Bank of India. The nominal rates of interest are fairly constant over

time and real rates are primarily dependent on the way price expectations move. The return on deposits and borrowings are also moving closely because it has been the government policy that whenever interest rates on deposits change, generally the rates on borrowing too change. Therefore by including all these variables we are going to face the problem of multicolinearity in our estimation of the equations.