
CAPITAL FORMATION AND SAVING IN INDIA 1950-51 TO 1979-80

REPORT OF THE WORKING GROUP ON SAVINGS

APPOINTED BY DEPARTMENT OF STATISTICS,
MINISTRY OF PLANNING, GOVERNMENT OF INDIA

FEBRUARY 1982

CAPITAL FORMATION AND SAVING IN INDIA 1950-51 TO 1979-80

Report of the Working Group on Savings

Appointed by Department of Statistics, Ministry of Planning, Government of India

Published
by
RESERVE BANK OF INDIA
February 1982

Printed by Girish F. Shah at Prinrite, 24 B Hamam Street, Raja Bahadur Compound, Bombay - 400 023 and Published by Shri S.N. Dalal, Director, Division of Reviews, Reports and Publications, Department of Economic Analysis and Policy, Reserve Bank of India, Bombay - 400 023, on behalf of the Government of India.

PREFACE

The Working Group on Savings was appointed in May 1981 with the following functions: (i) to undertake a critical review of the available estimates of investment and saving in the economy, both of the aggregates and their components; (ii) to evaluate their interpretational significance; and (iii) to recommend improvements in the methods and procedures of estimation including suggestions as to the possibility of building up regional estimates. The composition of the Group was as follows:

Professor K.N. Raj, Fellow, Centre for Development Studies, Trivandrum	(Chairman)
Professor M. Mukherjee, Honorary Professor, Indian Statistical Institute, Calcutta	(Member)
Professor S. Chakravarty, Delhi School of Economics, Delhi	(Member)
Dr. I.Z. Bhatta, Director General, National Council of Applied Economic Research, New Delhi	(Member)
Dr. R.J. Chelliah, Director, National Institute of Public Finance and Policy, New Delhi	(Member)
Dr. A. Bagchi, R.B.I. Professor, National Institute of Public Finance and Policy, New Delhi	(Member)
Dr. A.K. Ghosh, Chairman, Bureau of Industrial Costs and Prices, New Delhi	(Member)
Dr. K.C. Seal, Director General, Central Statistical Organisation, New Delhi	(Member)
Dr. S.P. Gupta, Adviser, Planning Commission, New Delhi	(Member)
Sri D.R. Gupta, Adviser, Planning Commission, New Delhi	(Member)
Dr. Mahfooz Ahmed, Economic Adviser, Ministry of Finance, Government of India, New Delhi	(Member)
Dr. N.A. Mujumdar, Adviser, Economic Department, Reserve Bank of India, Bombay	(Member)
Smt. Uma Roy Choudhury, Additional Director, Central Statistical Organisation, New Delhi	(Convenor)

The Group was required to submit its report within six months of the date of its appointment; the period was later extended upto the end of February 1982.

At the first meeting of the Working Group held in June 1981 it was decided to form six Sub-Groups for examining in depth different issues related to the terms of reference (The composition of these Sub-Groups is given in Annexure). The reports of these Sub-Groups were considered at a meeting of the Working Group held towards the end of September 1981. Preliminary drafts of the report of the Working Group were then prepared and discussed in detail, first at a meeting held in New Delhi in the middle of November 1981 and then in Calcutta early in January 1982. The report was finalized in February 1982.

The Working Group received very valuable help from the Central Statistical Organisation at all stages in its work. Smt. Uma Roy Choudhury carried the responsibility of not only collecting and preparing the necessary material for the consideration of the Group but for coordinating the work of the Sub-Groups and getting ready the first drafts of the report (particularly for some of the appendices). Unfortunately, she had to leave on a foreign assignment towards the end of October, 1981 and the Working Group did not have the benefit of her advice and help in the subsequent stages. However the Group continued to receive very valuable assistance from other members of the CSO, particularly from Sri L.N. Rastogi, Sri S.V. Pimparkar, Sri D.N. Chaturvedi, Mrs. Grace Majumdar, Sri R.P. Katyal and Sri R.N. Khera.

The Reserve Bank of India was also generous enough to make available to the Working Group the services of Dr. S.L. Shetty of its Economic Department from the middle of the October 1981. He was of great help in the preparation of the final drafts of the report and in processing the statistical material for inclusion.

The main report of the Working Group is being presented in a form that is easily readable, since the issues involved should be of interest to many sections of the public. The more complex technical questions are discussed in the appendices. The Working Group has also taken the opportunity to present as far as possible estimates of saving and investment for the entire period from the early 1950's; the detailed data are presented in the Statistical Annexures. Statistical tables presented in the report, where the source is not specifically indicated, are based on data supplied by the CSO for the use of the Working Group. While the appendices form an essential part of the report and have the general concurrence of the Working Group, not all the details given therein nor all the views expressed there should be taken as carrying the approval of every member.

CAPITAL FORMATION AND SAVING IN INDIA, 1950-51 TO 1979-80

Report of the Working Group on Savings

CONTENTS

		Page Nos.
	Preface	V-VI
CHAPTERS		
Chapter 1	Introduction	1
Chapter 2	Basic Steps in Estimation and their Implications for Analysis	3
Chapter 3	Capital Formation in the 'Organized' Segment and Sources of Saving	7
Chapter 4	Capital Formation in the 'Unorganized' Segment	11
Chapter 5	Trends in Capital Formation and Savings – A Critical Review	23
Chapter 6	Some Conceptual Questions and Estimational Problems	38
Chapter 7	An Overall Assessment and Interpretation	44
Chapter 8	Suggestions for Improvement in Estimation	49
APPENDICES		
Appendix I	Method of Estimation of Physical Assets Formation of the Household Sector	54
Appendix II	Private Corporate Sector : Some Estimation Issues	71
Appendix III	Public Sector Saving : Problems of Estimation Including Treatment of RBI	75
Appendix IV	Estimation of Household Saving in Financial Assets	83
Appendix V	Measurement of Inventories in the 'Unorganized' Segment	86
Appendix VI	Foreign Private Inward Remittances and their Implications for Domestic Saving	98
Appendix VII	Measurement of Capital Consumption and Capital Destruction	107
Appendix VIII	Differences in the Estimation of Saving and Investment by CSO and RBI	116
Appendix IX	Proposed Improvements in Estimation	121

NOTES OF DISSENT AND COMMENTS

Attachment 1	A Note of Dissent on 'Treatment of the Reserve Bank of India in the Indian System of National Accounts' by Dr. A.K. Ghosh	129
Attachment 2	A Note of Dissent on 'Trends in Capital Formation and Savings' by Dr. S. P. Gupta and Dr. Mahfooz Ahmed	132
Attachment 3	'A Note on the Trends in Dissaving' by Dr. I.Z. Bhatta	134
Attachment 4	Comments on the Note of Dissent of Dr. S.P. Gupta and Dr. Mahfooz Ahmed by Dr. A.K. Ghosh	135
	STATISTICAL ANNEXURES (1 to 34)	139
	LIST OF SUB-GROUPS AND THEIR MEMBERSHIP (including that of the Staff of CSO, RBI and CDS associated with the Working Group).	183

LIST OF TABLES AND GRAPHS

Chapter Tables

3.1	Gross capital formation in the 'organised' segment of the economy and related sources of saving (as percent of GDP) at current prices	9
4.1	Change in stocks estimated from direct and indirect data sources : 1970-71 to 1979-80 (at current prices)	15
4.2	Ratio of 'change in inventories' to gross domestic product (at current market prices) in selected countries	18
4.3	Gross domestic capital formation by sectors (as percentage of of GDP) — at current prices and at 1970-71 prices	19
4.4	Gross fixed capital formation by sectors (as percentage of GDP at current market prices)	20
4.5	Gross capital formation by assets in the household sector (as percentage of GDP at current market prices)	21
4.6	Share of agriculture in gross physical assets formation of household sector (at current prices)	22
Foot Note	NCAER data on investment in agriculture	17
5.1	Gross capital formation in the economy (as percentage of GDP at current market prices)	24
5.2	Income-tax assessments on companies and registered firms (<i>All - India Income-tax Statistics</i>)	25
5.3	Share of proprietorships and partnerships within privately — owned enterprises in the factory sector (<i>ASI</i> data)	27

5.4	Percentage share of unincorporated enterprises in outstanding bank credit to the private sector under major industrial categories (scheduled commercial banks)	27
5.5	Rates of investment in inventories (II) and of gross fixed capital formation (GFCF) (as percentage of GDP at current market prices) (three – yearly moving averages)	29
5.6	Fixed capital formation and GDP deflators	30
5.7	Rates of fixed capital formation in the economy at constant (1970-71) prices (as percentage of GDP)	32
5.8	Gross saving in the economy (as percentage of GDP at current market prices) (three – yearly moving averages)	33
5.9	Saving in the household sector in the form of financial assets (gross and net) (as percentage of GDP)	36
5.10	Estimates of Government savings, 1960-61 to 1978-79	37
6.1	Share of estimated capital consumption in sectoral gross savings	40
Appendix Tables		
I.1	Total value of construction (at current prices)	61
I.2	Total value of construction (at current prices) (percentage distribution)	63
I.3	Value of construction – unaccounted in 'commodity flow' approach (at current prices) (percentage distribution)	65
I.4	Value of construction accounted in 'commodity flow' approach (at current prices) (percentage distribution)	66
Technical List	Important ratios and proportions used in the estimation of capital formation	68
II.1	Number of private limited and public limited companies (non-government)	72
III.1	Differences in the estimates of current expenditure by Ministry of Finance and CSO – selected Ministries	76
III.2	Net receipts under 'Suspence' Account in the Central Government Budget	80
III.3	Statement showing transactions (net) for the years 1975-76 to 1979-80 under Suspence/Remittances Heads	82
III.4	Saving of Central Government Administration	81
V.1	Change in stocks – agriculture	91
V.2	Change in stocks – registered trade	92
V.3	Estimates of stocks for non-registered trade for 1969-70	93
V.4	Change in stocks – unregistered trade	93
V.5	Estimation of change in stocks of foodgrains during 1977-78	94

V.6	Value of stocks held by the proprietorship/partnership concerns	95
V.7	Sample survey of 160 borrowal accounts of proprietary and partnership concerns	96
V.8	Steps involved in estimation of inventories with unregistered manufacturing and trading concerns	97
VI.1	Size of foreign private inward remittances	98
VI.2	Foreign private inward remittances and household financial saving	99
VI.3	Annual variations and outstanding balances in non-resident external accounts	100
VI.4	State-wise data on outstanding bank deposits	103
VI.5	District-wise data on outstanding bank deposits — Andhra Pradesh	104
VI.6	District-wise data on outstanding bank deposits — Kerala	105
VI.7	Data on outstanding deposits in selected centres in Kerala	106
VII.1	Estimates of stock of fixed capital and implicit average age of assets — industry wise, 1970-71 (at 1970-71 prices)	114
VII.2	Estimates of stock of fixed capital and implicit average age of assets — industry wise, 1978-79	115
Chart and Graphs		
2.1 (Chart)	Diagrammatic presentation of the steps in the method of estimation of gross capital formation and saving	6
5.A (Graph)	Gross domestic capital formation (GDCF) (at current prices)	26
5.B (Graph)	Gross domestic fixed capital formation (GDFCF) and net domestic fixed capital formation (NDFCF) (at current prices)	31
5.C (Graph)	Rate of gross domestic saving (at current prices)	34

Please note :

- The following symbols have been used in the tables and annexures :
 - . denotes non-applicability
 - . . denotes non-availability
 - denotes 'nil'
 - n. a. = not available
 - neg. = negligible
- 1.0 crore = 10.0 million
1.0 lakh = 0.1 million
- 'Year' refers to the Indian fiscal year period (April — March) unless specified otherwise.

CHAPTER 1

INTRODUCTION

1.1 Saving and capital formation are crucial to economic development. Planning exercises in India have throughout highlighted their importance not only in the context of resource mobilization and allocation but for assessing the growth potential of the economy. It is hardly necessary therefore to underline the need for conceptual clarity and estimational accuracy when quantifying these variables for analytical and interpretative purposes or for policy formulation.

1.2 The earliest estimates, used as bench-marks by the Planning Commission in the First and Second Five Year Plans, were of a very rudimentary nature and rested on admittedly weak statistical foundations. They helped however to draw attention to the relatively low rates of saving and investment in the economy and the order of increase required in them for sustaining the desired rates of growth in national income. According to the perspectives set out in the First Plan, *net* investment (i.e., gross investment *minus* allowance for depreciation of capital stock) needed to be raised from about 5 per cent of the national income, which was the estimated rate in the early 1950's*, to 20 per cent of the national income in a little over fifteen years; this was thought to be too ambitious at the time the Second Plan was framed, and the target was therefore lowered to 17 per cent of the national income. For making possible self-sustained development it was considered essential to have also a corresponding increase in the rate of domestic saving in the course of this period. The subsequent record has often been compared and assessed in the light of these targets.

1.3 The first systematic attempt by an official agency at estimation of domestic saving was however made only somewhat later, around 1959, by the Reserve Bank of India (RBI). This series, which initially covered the period 1950-51 to 1957-58, has been continued since then by the RBI as an annual feature. Estimates of saving have also been made by the National Council of Applied Economic Research (NCAER) on the basis of sample surveys, separately for rural and urban households; but the objective in this case was primarily to gather information on the motivational and behavioural aspects of household saving, and the resultant estimates have yielded no time series. The most detailed and comprehensive estimates of saving and capital formation now available, published by the Central Statistical Organisation (CSO), are the outcome of a series of attempts from the latter half of the 1950's to generate and improve the estimates of various components of national income; they are also the most widely accepted official series, though the Planning Commission and the Reserve Bank of India have continued to publish estimates often slightly at variance with them.

1.4 Though the first set of estimates consistent with the national income series was published by the CSO only in 1961, estimates of saving and capital formation for the preceding decade have since then been made available. We have therefore now a continuous series from the same source covering the entire period 1950-51 to 1979-80. The estimates of saving are available at only current prices

*This estimate for 1950-51 had explicitly excluded investment in inventories as well as 'non-monetized' capital formation (i.e., investment in rural areas drawing upon local materials and direct contributions of labour). Cf. *First Five Year Plan* (Planning Commission, Government of India, December 1952), Appendix to Part I: 'National Budgeting and the Plan', pp. 105-108.

while those for capital formation are at both current and constant (1970-71) prices. Such estimates have now become a regular feature of the CSO's annual publication, *National Accounts Statistics* (NAS). It is with this CSO series that we shall be primarily concerned.

1.5 According to the CSO estimates, the rates of gross capital formation and of gross saving have gone up significantly since the early years of the 1970's, to about 24 per cent of the gross domestic product by 1978-79; even net capital formation and saving were touching rates of around 20 per cent of the national income. This has raised a number of questions, in regard to both the estimates themselves and their interpretation, particularly since there has been evidently no corresponding improvement in growth momentum within the economy and the problems of mobilization of resources for development seem still as severe as ever before. It is in this context that the present Working Group has been appointed with the following terms of reference:

- “ (i) to undertake a critical review of the available estimates of investment and saving in the economy, both of the aggregate and their components;
- (ii) to evaluate their interpretational significance; and
- (iii) to recommend improvements in the methods and procedures of estimation including suggestions as to the possibility of building up regional estimates.”

1.6 Before attempting to offer any answers it is necessary to examine closely both the methods of estimation and the actual estimates so far made. Chapters 2 to 5 are therefore devoted to such an examination and assessment. Some conceptual questions and estimational problems are discussed in Chapter 6. Chapter 7 takes an overall view of the conceptual and methodological issues, as well as of the trends in capital formation and saving revealed by the official estimates, and attempts an assessment of their implications for analysis and interpretation. The interpretations offered here are by no means exhaustive and are intended only to indicate some of the inferences these estimates lend themselves to. Chapter 8 contains the main suggestions of the Working Group for improvements in the methods and procedures of estimation. Since several of the issues dealt with in Chapter 2 to 8 involve details of a technical or highly descriptive nature, their full treatment is relegated to appendices in order to make the main text of the report more easily readable.

CHAPTER 2

BASIC STEPS IN ESTIMATION AND THEIR IMPLICATIONS FOR ANALYSIS

2.1 To be able to interpret correctly the available estimates of domestic saving and investment it is essential to keep in mind the basic steps in estimational procedure and the logical and practical considerations on which they rest. We shall review them briefly in this chapter and in the process indicate the nature and sources of the possible errors in estimation.

2.2 To begin with, the economy is divided into three broad sectors: the public sector, the private corporate sector, and the household sector. Since the first two belong to the 'organized' segment of the economy, estimates of both saving and capital formation at current prices can be made for these sectors from the published government and company accounts; and, if all the relevant documents are available for this purpose, it should be possible in principle to avoid any significant errors in estimation. The problem arises primarily in regard to the 'unorganized' household sector, for which such information is not easily available; it needs to be noted that this sector includes conceptually not only farm households engaged in agricultural production but all unincorporated enterprises engaged in industry, trade, transport and finance, private 'charitable' trusts, as also households that are not directly involved at all in production of any kind (except very marginally perhaps through ownership of residential houses).

2.3 The estimates for this large, heterogeneous, and unorganised segment of the economy covered by the household sector are essentially in the nature of residuals derived by deducting the saving and investment estimates for the public sector and private corporate sector from estimates of aggregate saving and aggregate investment independently arrived at for the economy as a whole. This makes it a matter of crucial importance how these aggregates are estimated.

2.4 The first step here is to estimate aggregate domestic investment in the economy each year. This is done by identifying three important forms in which physical assets can be accumulated i.e., construction, machinery and equipment, and inventories, and estimating the addition to such assets each year with reference to either the commodities that by their nature get accumulated (such as steel, cement, machinery and equipment) and/or the expenditures associated with such accumulation. The method of estimation adopted for each of these different types of assets is discussed later briefly in Chapter 4 and in more detail in Appendix I. What needs to be noted here is that, while it is relatively simple to compute the available quantities each year of the main commodities that go into fixed capital formation, there can be large margins of error in estimating the total capital outlay with which they are associated since they would depend on the correctness of a variety of norms used for this purpose. In the case of inventories also, while estimates of investment in the public sector and in some of the major industries in the private sector can be made without much difficulty, estimates of inventory accumulation in the rest of the economy are much more problematic (for reasons that will be obvious from Chapter 4).

2.5 Consequently, the possible errors in estimation of aggregate investment in the economy are not only sizeable but, in the present state of our statistical data base, quite indeterminate. The gross investment in the public sector and in the private corporate sector can be independently estimated

from published accounts (as indicated earlier), and this is precisely what is done at the second step. But when the gross investment in the household sector is derived at this stage as a residual, all the errors in estimation of aggregate investment in the economy (done in the first step) and such errors as may enter into the estimates for the 'organized' segment are necessarily carried over to the estimates for this sector. Consequently these estimates of investment in physical assets within the household sector are subject to a possibly significant and necessarily indeterminate degree of error.

2.6 The next step adopted in the estimation procedure is to relate the aggregate investment so arrived at with the flow of savings available each year from within and outside the economy. The savings generated within the public sector and the private corporate sector are directly estimated from the published accounts. Similarly, the inflow of foreign savings is derived from the capital account of the balance of payments. What remains therefore to be computed are the savings of the household sector; this is done by estimating the net addition to its holdings of financial assets* (representing the liabilities of the other two sectors), after allowing for increase in its liabilities, and adding to it the value of the increase in physical assets accumulated in the household sector each year (which, as indicated, is earlier estimated as a residual).

2.7 In principle, the estimates of aggregate saving available for domestic investment (which include the net foreign saving inflow) should be equal to the estimates of aggregate investment in the economy. However, discrepancies have been found in practice, sometimes very sizeable. The procedure adopted by the CSO implies in effect that the estimates of aggregate saving are the more reliable of the two; therefore, at the next step, when the estimates of aggregate investment are higher (or lower), it treats the difference between the two as "errors and omissions" to be deducted from (or added to) the estimates of aggregate investment. It is these adjusted estimates of aggregate investment that form the basis of the over-all rates of investment in the economy, expressed as proportions of the gross domestic product, to which reference was made in Chapter 1.

2.8 It will be evident however from the underlying logic of the estimation procedure that the possible errors in the estimate of investment in physical assets in the household sector are not actually covered or even partially touched by the adjustments so made. In fact the estimate of saving in the form of additions to physical assets in the household sector each year is taken as identical to the estimate of such investment in the sector, and this is therefore common to the estimates of both aggregate saving and aggregate investment in the economy.

2.9 What is achieved by independent estimation of aggregate saving is something quite different. It offers essentially a cross-check on the estimates of investment in the 'organized' segment of the economy (i.e., in the public sector and private corporate sector) and of the savings available for the purpose. To the extent that the total investment in this segment is not covered by its own savings it has to be necessarily matched by inflow of foreign saving and/or by net transfer of savings from the household sector (the latter of which should be equal to the net addition to the holdings of financial assets by this sector). When they do not match it is indicative of errors or omissions in the estimation of one or other of the above components, and it is such errors that are really captured by the adjustment in aggregate investment referred to above.

*As will be seen from Chapter 3, the estimates of the additions to the holdings of financial assets in the household sector are also generally derived as residuals.

2.10 This will be clear from the following diagrammatic representation of the steps in the method of estimation and of the underlying reasoning. The diagram brings out also the basis of estimation of gross domestic saving i.e.,excluding inflow of foreign saving, and of its sectoral distribution.

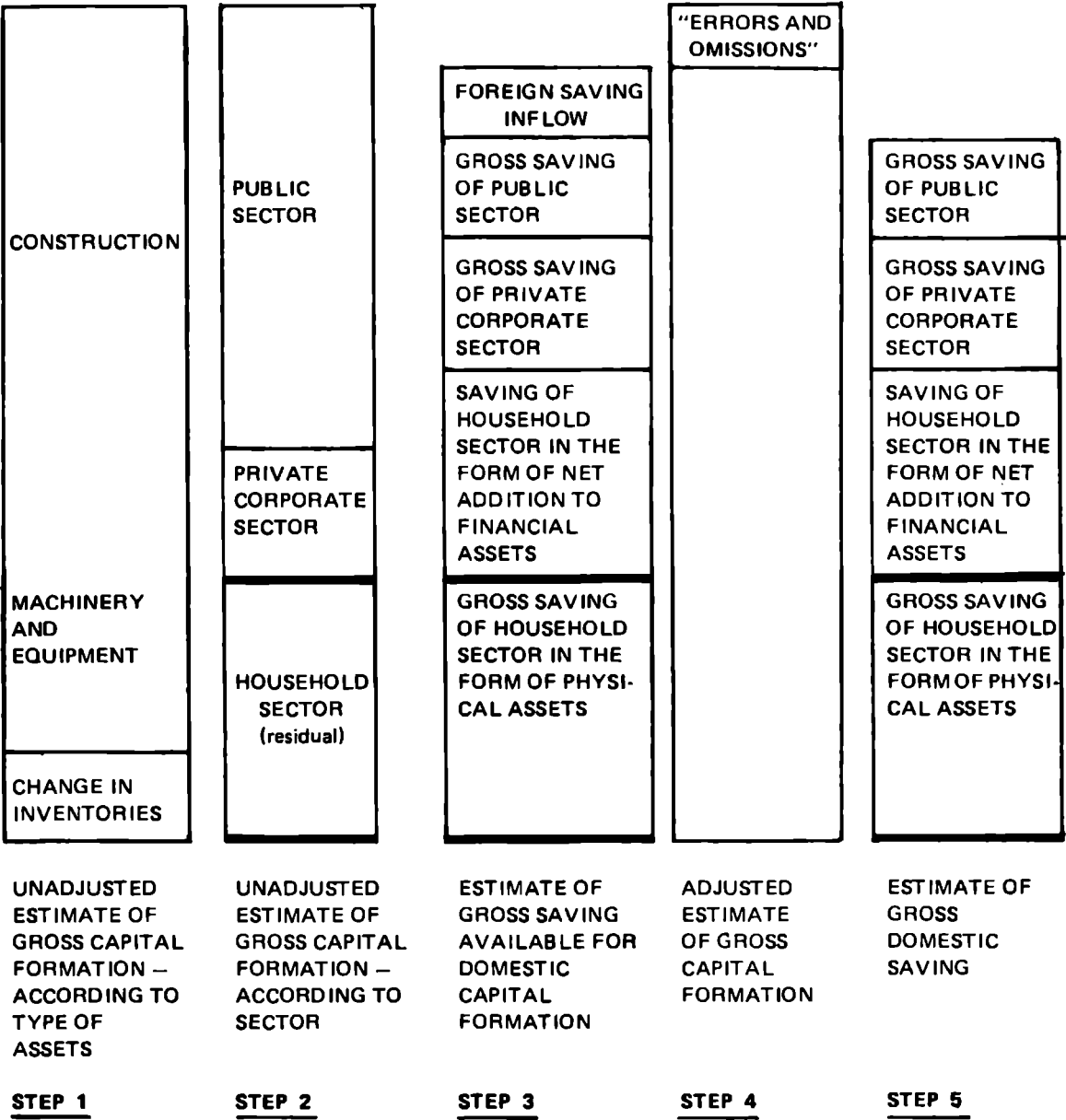
2.11 The CSO does not offer a sector-wise distribution of its adjusted estimates of gross capital formation (i.e.,after making allowance for the “errors and omissions” in the unadjusted estimates); such a distribution is available (as can be seen from the diagram) only in respect of the unadjusted estimates. This has to be borne in mind when using the CSO estimates of gross capital formation for any of the sectors.

2.12 It will be evident however that, while a sector-wise breakdown is not attempted of the adjusted estimates of gross capital formation (see step 4), the CSO does provide a sector-wise distribution of gross domestic saving corresponding to the adjusted estimates of gross capital formation (see step 5). It will also be seen that, in this sector-wise distribution, the gross saving of the household sector in the form of physical assets is identical to the estimate of gross capital formation in the household sector in the unadjusted series (see step 2). This implies that gross capital formation in the other two sectors (i.e.,in the ‘organized’ segment of the economy) must logically bear the brunt of the adjustment made on account of “errors and omissions”. It also brings out clearly that the possible errors and omissions in the estimation of physical assets in the ‘unorganized’ household sector (in step 2), though they cannot be specifically demarcated, have to be allowed for additionally to the CSO estimate of “errors and omissions”. These two categories of errors and omissions are both important for a critical review of the available estimates of gross capital formation and saving in the economy and their interpretational significance. We shall attempt such a review in the following two chapters.

2.13 In chapter 3 we shall examine the sources of data and of the possible errors in estimation of the gross investment in the ‘organized’ segment of the economy (i.e.,in the public sector and private corporate sector), as well as of the savings that can be regarded as being available to them, with a view to judging the reliability of the estimates for this segment. This will necessarily cover, for reasons that should be obvious from the above analysis, the estimates of saving in the form of financial assets in the ‘unorganized’ segment since it represents the amount transferred to the ‘organized’ segment through one form of financial intermediation or another.

2.14 Chapter 4 will be confined to a similar examination of the sources of data and methods of estimation of the investment in physical assets within the ‘unorganized’ segment (i.e.,the household sector) and, therefore by implication, of the saving corresponding to it in this segment. Though the errors in estimation here might be sizeable, and would be difficult to allow for without substantial improvements in the statistical data base relating to this segment, a critical review could help to identify the main sources of such error and the direction of the biases,if any.

**CHART 2.1: DIAGRAMMATIC PRESENTATION OF THE STEPS IN THE
METHOD OF ESTIMATION OF GROSS CAPITAL FORMATION
AND SAVING**



CHAPTER 3

CAPITAL FORMATION IN THE 'ORGANIZED' SEGMENT AND SOURCES OF SAVING

3.1 As indicated in Chapter 2, capital formation and saving in the 'organized' segment of the economy are estimated directly from available accounts. In the case of the public sector the relevant data are available from the budgets of the Central and State Governments, the accounts of departmental undertakings and local authorities, and the balance-sheets and profit and loss accounts of the non-departmental corporations and companies; and, in the case of the private corporate sector, from the balance-sheets and profit and loss accounts of public and private limited companies. Data from the Annual Survey of Industries are also used for estimation of capital formation in the manufacturing sector. Since all these data relate to actual receipts and payments as reported by the concerned organizations they offer as firm a basis for the estimates as can be expected.

3.2 There are of course in practice several difficulties in estimation even here. They can be traced mainly to the following:

- (i) the problems involved in determining, on the basis of the available data, precisely how much of the expenditure shown under different heads is really on capital formation and how much on current consumption;
- (ii) non-availability of the accounts of several non-departmental undertakings (particularly among those belonging to State Governments) and of the great majority of local authorities, and the consequent need to adopt various procedures of indirect estimation;
- (iii) the difficulties in securing the balance sheets and profit and loss accounts of most private limited companies, as also of public limited companies with relatively small paid-up capital, and the need therefore to rely on samples of different degrees of adequacy for making the estimates (see Appendix II); and
- (iv) lack of adequate information on the economic life of physical assets on the basis of which the appropriate rates of depreciation of capital stock can be computed, and the errors so introduced in the estimation of net capital formation.

Consequently there can be errors in the estimates of capital formation and saving for the public sector as well as for the private corporate sector.

3.3 However, the sources of error indicated above are such that in many cases they would affect estimates of capital formation and of saving almost symmetrically, such as when the proportion of expenditure going into capital formation in the public sector is over-estimated and the resulting under-estimation of consumption expenditure shows up in an equivalent increase in saving within the sector (see Appendix III). To the extent that estimates are based on samples and the blowing-up factors used introduce some bias there could be some asymmetric effects. This means that, whatever may be the degree of error in the estimates of capital formation and saving in the public sector and private corporate sector, they may not make a significant difference to the gap between the two. It is this gap between capital formation and saving in the 'organized' segment that, for reasons indicated

in Chapter 2, one would expect to be matched by net saving transfer from the 'unorganized' segment and net saving inflow from abroad. It follows that, when they do not match, there would be strong ground for presuming that the discrepancy is due to 'errors and omissions' in the estimates of these two sources of saving.

3.4 This presumption gains further support when we go on to examine the problems involved in estimating the net addition each year to the household sector's holdings of financial assets (such as currency, bank deposits, insurance and provident funds, and shares and debentures) representing the liabilities of the 'organized' segment of the economy (see Appendix IV). The household sector's holdings of many of these assets are arrived at as a residual by deducting those held in the public sector and private corporate sector from the total of such assets in the economy, and difficulties are encountered at both ends. For instance, there are varied estimates of the financial resources raised by companies in the private sector through public deposits and issue of shares and debentures, and so the extent of the gross addition annually in the total liabilities of the private corporate sector on this account is itself in doubt; how much of these are held as assets within the 'organized' segment is also somewhat uncertain. Similarly, estimates of the holdings of currency and of bank deposits in the private corporate sector (and even public corporations) are at best approximations, as they are based on sample studies and/or periodic surveys and therefore subject to various estimation errors. There could also be considerable errors in the estimation of increases in the financial liabilities of the household sector, such as on account of borrowings from commercial and co-operative banks and from government, which have to be netted out in order to arrive at the net addition to its financial assets.

3.5 For the purpose of this analysis we have introduced the net saving inflow from abroad as essentially a balancing item, though such inflow need not be exclusively into the 'organized' segment of the economy. This would be in principle equivalent to the net increase in the external liabilities of the country after allowing for the changes in its external financial assets, and it should be possible to estimate it from such changes in external liabilities and assets recorded in the balance of payments on capital account. However, here again, delays in the finalization of the relevant accounts in the balance of payments and in the analysis of the accounts of foreign companies and/or their branches operating within the country introduce some errors in estimation. The "errors and omissions" as identified in the published balance of payments accounts are indicative of the discrepancies which need to be allowed for in this context.

3.6 In Table 3.1 we present the CSO estimates of gross capital formation in the 'organized' segment of the economy and of the related sources of saving. It will be seen that the total saving from the three sources enumerated here (i.e., from within the segment itself, from the 'unorganized' segment, and from abroad) falls short of the gross capital formation in this segment in many years and exceeds it in some. As indicated in Chapter 2, it is in effect these discrepancies that have been identified as "errors and omissions" by the CSO, and used for adjusting the estimates of gross capital formation in the economy as a *whole* on the implicit assumption that the estimates of gross saving are more reliable.

3.7 It would however appear from our analysis that there are no strong grounds for such an assumption, because (a) to the extent that there are errors in the estimates of gross capital formation in the 'organized' segment, there may also be errors in the same direction in the estimates of gross

**Table 3.1: Gross Capital Formation in the 'Organised' Segment of the Economy
and Related Sources of Saving
(as % of GDP) (at current market prices)**

Year	Gross capital formation in the 'organized' segment (unadjusted)			Gross saving in the 'organized' segment			Net transfer of saving from 'unor- ganised' segment	Net inflow of saving from abroad	Discre- pancy ('errors and omi- ssions''
	Public sector	Private corporate sector	Total	Public sector	Private corporate sector	Total			
1	2	3	4	5	6	7	8	9	10
1950-51	2.7	2.2	4.9	1.8	0.9	2.7	0.6	(-)0.2	(-)1.8
1951-52	3.0	2.5	5.5	2.5	1.3	3.8	0.1	1.8	+ 0.2
1952-53	2.6	0.7	3.3	1.5	0.6	2.1	0.7	(-)0.3	(-)0.8
1953-54	2.8	neg.	2.8	1.2	0.8	2.0	1.4	(-)0.1	+ 0.5
1954-55	4.5	1.5	6.0	1.6	1.2	2.8	2.9	0.2	(-)0.1
1955-56	4.9	2.1	7.0	1.7	1.3	3.0	4.2	0.4	+ 0.6
1956-57	5.6	2.9	8.5	2.0	1.3	3.3	2.8	3.0	+ 0.6
1957-58	6.9	3.3	10.2	2.0	1.0	3.0	2.4	3.9	(-)0.9
1958-59	6.1	1.8	7.9	1.7	1.0	2.7	2.6	2.8	+ 0.2
1959-60	6.4	2.1	8.5	1.7	1.3	3.0	3.1	1.7	(-)0.7
1960-61	7.6	3.6	11.2	2.8	1.8	4.6	3.0	3.2	(-)0.4
1961-62	7.2	4.6	11.8	3.1	2.0	5.1	3.1	2.2	(-)1.4
1962-63	8.5	3.1	11.6	3.3	2.0	5.3	2.9	2.6	(-)0.8
1963-64	8.6	4.4	13.0	3.6	2.0	5.6	3.8	2.2	(-)1.4
1964-65	8.5	3.9	12.4	3.5	1.7	5.2	3.1	2.6	(-)1.5
1965-66	9.2	2.9	12.1	3.4	1.6	5.0	4.4	2.5	(-)0.2
1966-67	7.7	2.2	9.9	2.4	1.5	3.9	3.1	3.3	+ 0.4
1967-68	7.2	2.5	9.7	2.1	1.2	3.3	2.7	2.6	(-)1.1
1968-69	6.5	2.3	8.8	2.6	1.3	3.9	2.4	1.3	(-)1.2
1969-70	6.1	1.8	7.9	2.8	1.5	4.3	2.5	0.7	(-)0.4
1970-71	6.9	2.6	9.5	3.1	1.6	4.7	3.4	1.0	(-)0.4
1971-72	7.3	3.0	10.3	2.9	1.7	4.6	3.6	1.1	(-)1.0
1972-73	7.5	2.8	10.3	2.8	1.6	4.4	4.4	0.6	(-)0.9
1973-74	8.2	2.8	11.0	3.1	1.8	4.9	6.1	0.7	+ 0.7
1974-75	8.1	3.9	12.0	3.8	2.1	5.9	3.4	0.9	(-)1.8
1975-76	10.4	2.9	13.3	4.5	1.4	5.9	5.3	(-)0.2	(-)2.3
1976-77	10.6	2.0	12.6	5.1	1.4	6.5	6.1	(-)1.6	(-)1.6
1977-78	8.2	2.5	10.7	4.5	1.5	6.0	6.1	(-)1.6	(-)0.2
1978-79	10.2	2.5	12.7	4.8	1.6	6.4	7.3	(-)0.2	+ 0.8
1979-80	10.3	2.5	13.3	3.7	1.6	5.3	6.4	0.5	(-)1.1

saving in this segment; (b) it is possible to identify a number of sources of possible errors and omissions in the estimates relating to net transfers of saving from the 'unorganized' segment and from abroad; and (c) the discrepancies referred to above cannot be analytically related in any way to possible errors and omissions in the estimates of gross capital formation within the 'unorganized' segment. All that can be said therefore is that gross capital formation and gross saving could both be over-estimated or under-estimated, to about the same extent for the organized segment of the economy; that discrepancies of the kind noticed between gross capital formation in this segment and the total savings available to it should be attributed more to errors in the estimation of net transfers of saving from the 'unorganized' segment of the economy and from abroad; and that various improvements can be made in all these estimates which would make it possible to reduce the errors and omissions on this account. Our suggestions in this regard are contained in Chapter 8 and also in Appendix IX.

CHAPTER 4

CAPITAL FORMATION IN THE 'UNORGANIZED' SEGMENT

4.1 It has already been pointed out in Chapter 2 that the CSO's estimates of capital formation in the 'unorganized' segment (i.e., the household sector) are obtained as a residual, that is, by deducting the estimates of gross capital formation for the 'organized' segment from the estimates for the economy as a whole. Therefore, for assessing the estimates of capital formation relating to the 'unorganized' segment, it is necessary to examine the methods of estimation adopted for the entire economy as well as for the 'organized' segment. This chapter (a) presents a brief description of the procedures involved in their estimation, (b) identifies the several points at which errors or biases may be introduced into the estimates of capital formation in the 'unorganized' segment, and (c) attempts a review of the trends in capital formation in this segment as revealed by the existing estimates.

4.2 The estimates for the economy as a whole are built up separately by the type of assets accumulated in the process of capital formation, viz., construction, machinery and equipment, and inventories. How this is done for the economy as a whole, and separately for the 'organized' segment, is briefly described below for each of these different forms of capital formation; more details are given in Appendix I.

Gross construction outlay in the ec

4.3 The construction component of capital formation is estimated in two parts: (i) construction undertaken with substantial use of five specified construction materials (viz., cement, iron and steel products, timber and round-wood, bricks and tiles, and permanent fixtures and fittings); and (ii) labour-intensive construction undertaken with the help of freely available construction materials like grass, leaves, reeds and mud. Construction of the first category is usually described as 'accounted' or *pucca*, and that of the second variety 'unaccounted' or *kutchra*. The estimates of *pucca* construction are made on the basis of the 'commodity flow' method and those of *kutchra* construction are derived by the 'expenditure' method. While the 'expenditure' method relies only on estimates of expenditure on new construction works in money terms, the 'commodity flow' method requires first the estimation, in terms of physical quantities, of the net availability of the specified construction materials used for the purpose of new construction works and then its evaluation in money terms. Net availability is derived by taking the estimates of domestic production of each material (say, steel) and then allowing for its use elsewhere (i.e., other than in construction), for changes in stocks, as well as for imports and exports. The valuation of physical quantities is undertaken on the basis of the official or market prices, as the case may be, and it is also marked up for trade and transport charges.

4.4 The total value so arrived at, in respect of the five construction materials identified for the 'commodity flow' method, is added to the estimated value of other construction materials. Other construction materials include crude coal tar, road tar, hard board, PVC flexible sheetings, refractories and furnace lining bricks, hume pipes, asbestos cement sheets, paints and varnishes, sheet glass, pipes, limestone, etc. Sufficient data are however not available to enable an independent estimation of these other construction inputs. Based on sample surveys, an estimate is therefore arrived at of the proportion that the cost of the five specified construction materials bear to the total cost of all construction

materials together for a bench-mark year; this is found to be nearly 66 per cent. For the subsequent years, this proportion is adjusted for the relative movement of prices of the five basic materials as compared with the prices of other construction materials.

4.5 Similarly, the proportion that factor income payments associated with construction bear to the total value of material inputs is determined for a bench-mark year 1970-71; this has been found to be 60 per cent. For the subsequent years, the bench-mark proportion is adjusted for the differential movements in the prices of construction materials and wages of construction workers.

4.6 Estimates of labour-intensive construction (i.e., *kutchha* construction), as stated earlier, are made on the basis of available data on the expenditures incurred on new construction works. Such labour-intensive construction is confined to the 'unorganized' household sector except for (i) afforestation and re-afforestation in the public sector, and (ii) tea, coffee and rubber plantations in the private corporate sector. Data on expenditures on afforestation and re-afforestation in the public sector are available in the budgets of the Central and State Governments. In the case of the private corporate sector, the estimates are based on data obtained from the Tea, Coffee and Rubber boards.

4.7 In the case of the household sector, labour-intensive *kutchha* construction relates to residential and non-residential buildings and 'other construction works'; the estimates for each of them are prepared first for a bench-march year using the 'expenditure' method, and they are then carried forward for other years through relevant indicators. The estimates for the bench-mark year prepared by using ratios derived from different surveys conducted in rural and urban areas which provide data on construction outlays per annum. The total expenditure on unaccounted (or *kutchha*) construction is taken as equivalent to (a) 28 per cent of the value of private household construction outlays in residential as well as non-residential structures in rural areas, (b) 20 per cent of the value of private construction outlays in residential and non-residential buildings in urban areas, (c) all of the outlay on 'other construction works' excluding construction of wells, and (d) two-seventeenth of the outlay on construction of wells. The bench-mark estimates thus obtained are moved to other years using appropriate quantity and price indices.

4.8 The estimates for the two categories of construction, viz., accounted (*pucca*) and unaccounted (*kutchha*), are then added to obtain the current value of total annual construction (exclusive of expenditures on repairs as well as on construction for defence purposes).

Gross investment in machinery and equipment in the economy

4.9 Estimates of gross domestic fixed capital formation in 'machinery and equipment' are also prepared by the 'commodity flow' method, and the estimate for the household sector is then derived as a residual. Various items of machinery and equipment which are domestically produced or imported are classified into four groups: (a) capital goods, (b) parts of capital goods; (c) 'partly capital goods', and (d) parts of 'partly capital goods'. The estimated capital formation in a year in 'machinery and equipment' is then taken to be equal to (a) the total value of capital goods available, (b) 50 per cent of the value of parts of capital goods, (c) varying proportions of the value of 'partly capital goods', e.g., 50 per cent of furniture and fixtures, 75 per cent of typewriters, 20 per cent of refrigerators, 80 per cent of air-conditioners and 30 per cent of cars, and (d) in respect of parts of 'partly capital goods', one-half of the proportions applied above to the value of 'partly capital goods'.

Gross investment in fixed assets in the 'organized' segment

4.10 As explained earlier, the estimates for the household sector's capital formation in 'construction' and in 'machinery and equipment' are derived by deducting the estimates for the public sector and the private corporate sector from those for the economy as a whole. Estimates of such additions to fixed assets in the administrative departments of government and in public sector undertakings are based on information provided in the budgets of the Central and State Governments, departmental enterprises, local authorities, and port trusts, and in the annual accounts of non-departmental enterprises. For private joint-stock companies engaged in manufacturing, the estimates of fixed capital formation are based on data published in the *Annual Survey of Industries*; for electricity undertakings the data used are from *Public Electricity Supply: All India Statistics* (issued by the Central Electrical Authority); and for the rest of the joint-stock companies, the estimates are based on the results of the studies on the finances of joint-stock companies published annually by the Reserve Bank of India. The estimates themselves relate to the annual changes in the value of the stock of assets. The estimates of fixed capital formation so arrived at are then allocated between 'construction' and 'machinery' in proportion to the estimates for the two categories as obtained from the results of sample studies on joint-stock companies in the private sector. 'Capital works in progress' and 'expenditure during construction' have been allocated between 'construction' and 'machinery' in proportion to gross expenditures under the latter two categories.

Inventories

4.11 The estimates for 'change in stocks' in the economy as a whole are prepared separately for the following economic activities (or what may be called industrial categories): (i) agriculture, (ii) forestry and logging, (iii) mining and quarrying, (iv) manufacturing, (v) construction, (vi) electricity, gas and water supply, (vii) transport, storage and communications, (viii) trade, hotels and restaurants, (ix) real estate, (x) public administration and defence, and (xi) other services.

4.12 For the industries exclusively in the public sector and for the public sector component in other industries, the estimates are built up using the data contained in budget documents and in the annual accounts of public sector companies; they are a direct source of data on inventory accumulation. Other direct sources of data relating to the private corporate sector are the Annual Survey of Industries, the Reserve Bank of India studies on joint-stock companies, all-India statistics on electricity companies, and mineral statistics.

4.13 The 'unorganized' sectors, for which indirect sources of data are used to estimate the stock accumulation, are: (i) households engaged in agriculture (excluding plantations and livestock), (ii) livestock, (iii) unregistered enterprises engaged in manufacturing, and (iv) household enterprises engaged in trade, hotels and restaurants, and real estate. The estimates for households engaged in agriculture have been prepared on the basis of data on bank advances (according to occupation-cum-organisation) available annually from the Reserve Bank of India; it is assumed that banks generally keep a margin of 25 per cent except for purposes where separate margins have been prescribed. Livestock data are based on the livestock censuses, with appropriate methods of interpolation and valuation in money terms. For unregistered enterprises engaged in manufacturing, estimates are based on the proportion of value added to inventories in selected years.

4.14 In the case of household enterprises registered for trade in commodities other than foodgrains, data on bank advances to such trading establishments are used for estimating the inventories held. In the case of households not so registered, estimates of stocks for the year 1969-70 have been arrived at on the basis of the data contained in the 24th Round (1969-70) of the National Sample Survey, relating to some features of household non-registered trade; they are then moved to other years on the basis of the advances of banks to partnership firms and households engaged in private trade. Estimates of stocks of foodgrains with private traders have been prepared on the basis of information on the marketed surplus (defined to mean arrivals in particular market centres); after deducting the quantity procured by the Government, it is assumed arbitrarily that 25 per cent of the balance is kept as stocks with private dealers each year, and the change in quantity of stocks so arrived at is valued at the average price of foodgrains prevailing during the year.

4.15 The estimates of investment in inventories by households do not however cover the stocks held by *producers* of foodgrain. It is assumed that stocks held by them are only for current consumption, and are left out of account as all such stocks held by consumers.

Estimation biases

4.16 It will be obvious from the description of the methodology of estimation of gross capital formation in the aggregate, and therefore of the 'residual' relating to the 'unorganized' segment, that there are several points at which errors or biases may enter. Where the 'commodity flow' method is used, the estimates of construction materials and machinery produced in the 'unorganized' sector, of construction inputs other than the five basic ones, and of factor income payments (based on proportions derived from field data for remote years) are all evident sources of error. The basis of estimation of labour-intensive construction appears to be still more tenuous.

4.17 While this much is obvious, there is no way of judging the precise extent of the errors involved. As brought out in Appendix I, the share of *kutchha* construction in the total value of construction has remained almost constant at around 16 per cent during the eight-year period 1970-71 to 1977-78. Vast fluctuations are found in the share of non-residential construction attributed to the household sector out of the total value of construction estimated through the 'commodity flow' method. However, it is not possible to say anything about the degree of reliability of these estimates.

4.18 Errors or biases in any element in the entire structure of the estimates relating to total fixed capital formation must naturally affect the estimates of fixed investment in the household sector (since the latter are derived as residuals). Consequently, any upward or downward bias in the estimates of investment in the form of fixed assets in the public sector or in the private corporate sector (through inflated project costs, leakages of various kinds, or merely estimational errors) would have a corresponding downward or upward bias in the estimates for the household sector.

4.19 This is also true of those parts of the estimated changes in stocks that are based on indirect sources of data; they accounted for 15 per cent to over 100 per cent of the total inventory investment in different years in the course of the 1970's (Table 4.1). However, it is difficult to pass any definitive judgement as to whether the existing estimational procedures are introducing an upward (or downward) bias into the actual estimates of stock accumulation. There is some evidence which

Table 4.1: Change in Stocks Estimated from Direct and Indirect Data
Sources: 1970-71 to 1979-80 (at current prices)

Year	Total change in stocks	Estimated from direct data sources	Estimated from indirect data sources	Share of direct sources as per- centage of total	Share of indirect sources as percentage of total
(Rupees, Crores)					
1	2	3	4	5	6
1970-71	1,039	811	223	78.0	22.0
1971-72	1,337	952	385	71.2	28.8
1972-73	460	(-)41	501	(-)8.9	108.9
1973-74	2,323	1,605	713	69.1	30.9
1974-75	3,579	3,052	523	85.2	14.8
1975-76	3,150	2,450	701	77.8	22.2
1976-77	2,382	1,620	762	68.0	32.0
1977-78	1,253	345	907	27.5	72.5
1978-79	3,211	1,870	1,341	58.2	41.8
1979-80	3,428	1,980	1,443	57.8	42.2

suggests that there may be no bias in the upward direction. For instance, a brief study on inventories held by traders in the city of Bombay, undertaken by the Reserve Bank of India for the Working Group, indicates that their holdings are considerably larger in size than might be inferred from the total bank advances to them and the relevant bank margins (see Appendix V). It would also appear from a comparison of the ratios of 'change in inventories' to GDP in different countries that, while they are relatively high in India compared to the developed countries, there are other developing countries (such as Mexico) where also these ratios are high* (see Table 4.2). The evidence is however inconclusive and nothing can be really said either way. Besides, large accumulations of particular commodities (such as, of foodgrain in some years, and of steel or coal in other years) have figured prominently in inventory investment over the last decade.

Trends in gross capital formation in the household sector

4.20 Keeping these estimational problems in mind, we shall now review the trends in gross capital formation in the household sector. A conspicuous aspect of the trends in sectoral gross capital formation (as depicted in Table 4.3) is that, since the mid-1960's, when the aggregate rate of capital formation reached a peak, it is the rate of gross capital formation in the household sector that has shown the greatest increase. Earlier, the improvement in the rate of total domestic capital formation was mainly on account of increases in the public sector, and to a more limited extent in the private corporate sector; the rate of capital formation in the 'unorganized' household sector fluctuated from year to year but showed no increase during this period.

4.21 Such a rise in the rate of capital formation in the 'unorganized' segment over the last decade and a half is evident also when we consider the rate of gross fixed capital formation, i.e., excluding 'change in stocks' (see Table 4.4).

4.22 The increase has taken place essentially under capital formation in 'construction'; and, within 'construction', under *pucca* construction (as distinguished from *kutchha* construction), as can be seen from Table 4.5.

4.23 As has been emphasized earlier, the 'unorganized' household sector is highly heterogeneous in composition. Considering the nature of the data sources, it is extremely difficult to pin-point as to which of its constituent elements (e.g., farm households or non-farm business enterprises) brought about this improvement in gross fixed capital formation. A significant improvement in the rate of *pucca* construction, as well as the continuance of a fairly high level of investment in the form of 'machinery and equipment', suggest however that urban construction and non-farm investment, possibly contributed a great deal to the overall improvement in the rate of fixed assets formation in this sector.

*In a study of a cross section of 48 countries, Simon Kuznets reported that "net additions to inventories account on the average for only 1 to 3 per cent of gross national product. But whereas the relative weight of fixed capital formation in national product declines as we move from the high to low income countries, that of inventory accumulation does not; and in consequence, its share in gross domestic (or national) capital formation is appreciably greater in the low income than in the high income countries". Kuznets, Simon, "Quantitative Aspects of the Economic Growth of Nations: V Capital Formation Proportions: International Comparisons for Recent Years", *Economic Development and Cultural Change* (Vol. VIII, No.4, Part II), July 1960, p.7.

4.24 It would appear from estimates of private investment in agriculture available from the CSO that such investment was rising as a proportion of the total investment in physical assets within the household sector, till it reached a level of about 36 per cent in the mid 1960's; thereafter it has evidently remained below that level (see Table 4.6). This implies that non-agricultural activities within the household sector account for the bulk of the increase in investment in the 'unorganized' segment of the economy after the mid-1960's.

4.25 Published data from the *All India Rural Debt and Investment Survey, 1961-62*, and the *All India Debt and Investment Survey, 1971-72*, indicate that the proportion of cultivators reporting capital expenditure in farm business had gone down from two-thirds in 1961-62 to slightly less than one-half in 1971-72 at the all-India level*; however, since the sample was larger in 1971-72 than in 1961-62 and since there were also some differences in sample design, one has to be careful in drawing inferences from this finding.** Household surveys conducted by the National Council of Applied Economic Research (NCAER) indicate some increase in the rate of investment in agriculture between the early 1960's and the early 1970's, from 4.4 per cent of gross rural household income in 1962 to 5.8 per cent in 1970-71; there has been evidently no significant increase since then, the estimated rate for 1978 being about 5.9 per cent. £

* See Reserve Bank of India, *Capital Expenditure and Capital Formation of Rural Households* (All India Debt and Investment Survey, 1971-72) (Bombay, March 1978), pp. 128-129.

** The 1961-62 survey covered a sample of 2,000 villages, while the 1971-72 survey covered 12,000 villages. In selecting sample households from sample villages, the 1971-72 survey first stratified the village households, whereas the 1961-62 survey chose households without prior stratification. However, the larger number of sample households in the 1961-62 survey (40 households) as compared to the 1971-72 survey (10 households) offsets, at least partly, the deficiency on account of lack of stratification. The comparability bias on account of these differences needs to be studied.

£ The relevant data furnished to the Working Group by the NCAER are presented below in tabular form:

	1962 AV	1967-68 VG	1968-69 VP	1969-70 P	1970-71 G	1975-76 VG	1978 AV
Gross investment in agriculture (in Rs. crores at current prices)	390	1,062	622	938	1,160	1,717	..
Gross rural household income (in Rs. crores at current prices)	8,729	19,646	17,335	18,735	19,844	30,167	..
Rate of gross investment (as % of gross rural household income)	4.4	5.4	3.6	5.0	5.8	5.7	5.9

- Note:**
1. The following abbreviations shown beneath the years describe the weather factor: AV = Average; VG = Very Good; VP = Very Poor; P = Poor; G = Good
 2. Investment represents investment in land and its improvement in farm assets of all types including dug wells and farm buildings, and in livestock. Inventories are excluded. Net purchase of land accounts for less than 2% of total investment.
 3. For 1978, the estimate is based on a field study on 'asset preferences' pertaining to Northern and Southern regions of India. With appropriate weightage and on the assumption that the Western and Eastern regions could have a rate of investment somewhat lower than the Southern region, NCAER estimated the average for the country at 5.90 per cent.

Table 4.2: Ratio of 'Change in Inventories' to Gross Domestic Product
(at current market prices) in Selected Countries

(in percentages)

	Country/Year	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
	1	2	3	4	5	6	7	8	9	10
18	1. Canada	0.1	0.4	0.5	1.3	2.3	(-)0.1	0.8	0.2	0.3
	2. France	2.7	1.5	1.9	2.4	2.4	(-)0.3	1.2	1.3	1.1
	3. Germany (Federal Republic)	2.3	0.5	0.3	0.8	0.6	(-)0.1	1.2	1.0	0.7
	4. Japan	3.5	1.5	1.4	1.7	2.6	0.4	0.6	0.6	0.6
	5. United Kingdom	0.8	0.3	0.1	2.0	1.6	(-)1.3	0.5	1.2	1.0
	6. United States of America	0.3	0.6	0.7	1.1	0.4	(-)0.6	0.6	1.4	1.0
	7. Argentina	0.4	0.9	0.9	1.1	2.1	0.2	n.a.	n.a.	n.a.
	8. Egypt	2.6	1.5	1.8	1.1	2.1	2.1	3.1	3.8	n.a.
	9. India	2.6	3.1	1.0	3.9	5.1	4.2	3.0	1.4	3.3
	10. Iraq	1.4	1.0	3.9	4.3	9.5	8.9	n.a.	n.a.	n.a.
	11. Kenya	4.7	1.2	0.6	5.4	6.6	(-)2.1	0.3	2.7	4.2
	12. Malaysia	3.0	(-)0.1	(-)1.1	0.5	3.1	(-)1.7	(-)0.3	0.5	n.a.
	13. Mexico	2.7	1.6	0.04	(-)0.3	4.8	1.8	2.4	2.4	2.9
	14. Sri Lanka	2.5	1.5	0.3	(-)1.1	1.3	1.6	1.4	(-)1.4	(-)0.3

Source: UNO, Year Book of National Accounts Statistics, 1979

RAJ



0F88C

Table 4.3: Gross Domestic Capital Formation by Sectors
(as percentage of GDP)

Year	At Current Prices			At 1970-71 Prices*		
	Public sector	Private corporate sector	Household sector	Public sector	Private corporate sector	Household sector
1	2	3	4	5	6	7
1950-51	2.7(. .)	2.2(. .)	6.9(. .)	3.5(. .)	2.9(. .)	8.9(. .)
1951-52	3.0(2.8)	2.5(1.7)	6.1(6.1)	3.8(3.5)	3.1(3.3)	7.6(7.6)
1952-53	2.6(2.8)	0.7(1.1)	5.4(5.6)	3.1(3.4)	0.9(1.3)	6.5(6.8)
1953-54	2.8(3.3)	neg(0.7)	5.4(5.3)	3.3(3.6)	0.1(0.8)	6.4(6.0)
1954-55	4.5(4.1)	1.5(1.2)	5.2(5.8)	4.5(4.3)	1.5(1.2)	5.2(6.2)
1955-56	4.9(5.0)	2.1(2.2)	6.9(6.5)	5.1(5.3)	2.2(3.3)	7.1(6.8)
1956-57	5.6(5.8)	2.9(2.8)	7.5(6.8)	6.2(6.4)	3.2(3.0)	8.2(6.8)
1957-58	6.9(6.2)	3.3(2.7)	6.0(6.2)	7.9(6.7)	3.7(2.9)	6.8(6.7)
1958-59	6.1(6.5)	1.8(2.4)	5.1(5.9)	6.1(6.8)	1.8(2.6)	5.1(6.2)
1959-60	6.4(6.7)	2.1(2.5)	6.6(5.9)	6.5(6.7)	2.2(2.5)	6.6(5.9)
1960-61	7.6(7.1)	3.6(3.1)	6.0(5.9)	7.5(7.0)	3.5(3.4)	5.9(5.7)
1961-62	7.2(7.8)	4.6(3.8)	5.0(5.8)	6.9(7.5)	4.4(3.6)	4.8(5.6)
1962-63	8.5(8.1)	3.1(4.0)	6.3(5.4)	8.2(7.9)	3.0(3.6)	6.1(5.3)
1963-64	8.6(8.5)	4.4(3.8)	5.0(5.5)	8.5(8.5)	4.3(3.8)	5.0(5.5)
1964-65	8.5(8.8)	3.9(3.7)	5.3(5.5)	8.8(9.0)	4.0(3.8)	5.5(5.7)
1965-66	9.2(8.5)	2.9(3.0)	6.3(7.0)	9.7(8.9)	3.1(3.8)	6.7(7.4)
1966-67	7.7(8.0)	2.2(2.5)	9.2(7.8)	8.2(8.6)	2.4(3.2)	9.9(8.4)
1967-68	7.2(7.1)	2.5(2.3)	7.9(8.4)	7.3(7.6)	2.7(2.7)	8.5(8.9)
1968-69	6.5(6.6)	2.3(2.2)	7.9(8.5)	6.8(7.6)	2.4(2.5)	8.2(8.9)
1969-70	6.1(6.5)	1.8(2.2)	9.6(8.7)	6.3(6.7)	1.8(2.3)	9.9(3.9)
1970-71	6.9(6.8)	2.6(2.5)	8.6(9.1)	6.9(6.8)	2.6(2.3)	8.7(9.2)
1971-72	7.3(7.2)	3.0(2.8)	9.0(8.4)	7.3(7.3)	3.0(2.5)	9.0(8.4)
1972-73	7.5(7.7)	2.8(2.9)	7.4(8.2)	7.7(7.9)	2.9(3.0)	7.6(8.2)
1973-74	8.2(7.9)	2.8(3.2)	8.3(8.2)	8.7(8.2)	3.0(3.0)	8.9(8.5)
1974-75	8.1(8.9)	3.9(3.2)	8.9(8.7)	8.2(8.8)	3.9(3.2)	8.9(8.6)
1975-76	10.4(9.7)	2.9(2.9)	8.8(9.0)	9.4(9.2)	2.6(2.8)	8.0(8.6)
1976-77	10.6(9.7)	2.0(2.5)	9.3(9.2)	10.0(9.1)	1.9(3.3)	8.9(8.7)
1977-78	8.2(9.7)	2.5(2.3)	9.4(9.7)	7.9(9.0)	2.4(2.2)	9.1(9.1)
1978-79	10.2(9.6)	2.5(2.5)	10.3(9.7)	9.2(9.0)	2.3(2.3)	9.2(9.0)
1979-80	10.8(. .)	2.5(. .)	9.6(. .)	9.8(. .)	2.3(. .)	8.7(. .)

Figures in brackets represent three-yearly moving averages

*The implicit GDCF deflator has been uniformly applied to all the sectors.

Table 4.4: Gross Fixed Capital Formation by Sectors
(as percentage of GDP at current market prices)

Year	Public sector	Private corporate sector	Household sector	Total
1	2	3	4	5
1950-51	2.3	0.9	6.9	10.1
1951-52	2.6	0.9	6.1	9.6
1952-53	2.9	1.0	5.2	9.1
1953-54	3.1	0.6	4.8	8.5
1954-55	4.1	1.2	5.3	10.5
1955-56	5.2	1.0	6.3	12.5
1956-57	5.2	1.6	6.9	13.7
1957-58	5.4	2.4	6.3	14.1
1958-59	5.2	1.7	5.8	12.7
1959-60	6.3	1.6	5.5	13.4
1960-61	7.0	2.2	5.2	14.4
1961-62	6.9	3.2	5.0	15.1
1962-63	7.7	2.3	5.6	15.6
1963-64	7.9	3.3	4.7	16.0
1964-65	7.9	2.6	5.4	15.9
1965-66	8.5	1.7	7.0	17.2
1966-67	7.4	1.7	7.6	16.7
1967-68	6.2	1.7	7.8	15.7
1968-69	6.3	1.6	8.2	16.1
1969-70	5.9	1.3	8.8	16.0
1970-71	6.0	1.5	8.1	15.6
1971-72	6.6	1.8	7.9	16.3
1972-73	7.7	1.7	7.4	16.8
1973-74	6.8	1.8	6.7	15.3
1974-75	6.1	1.7	7.9	15.7
1975-76	7.6	2.4	7.9	17.9
1976-77	8.8	1.6	8.6	19.0
1977-78	8.7	1.8	8.5	19.0
1978-79	9.5	1.7	8.6	19.8
1979-80	9.4	1.7	8.7	19.8

Table 4.5: Gross Capital Formation by Assets in the Household Sector
(as percentage of GDP at current market prices)

Year	Construction			Machinery and equipment	Change in stocks	Total
	Kutcha	Pucca	Total			
1	2	3	4	5	6	7
1950-51	1.8	3.9	5.7	1.2	(-)0.1	6.9
1951-52	1.6	2.9	4.5	1.6	neg.	6.0
1952-53	1.4	2.3	3.7	1.4	0.3	5.4
1953-54	1.3	2.0	3.3	1.5	0.6	5.4
1954-55	1.4	2.5	3.9	1.4	neg.	5.2
1955-56	1.4	2.2	3.5	2.8	0.5	6.8
1956-57	1.5	3.0	4.6	2.4	0.5	7.5
1957-58	1.3	2.3	3.6	2.8	(-)0.3	6.0
1958-59	1.4	2.4	3.8	2.0	(-)0.7	5.1
1959-60	1.5	2.8	4.3	1.2	1.1	6.6
1960-61	1.4	2.3	3.7	1.4	0.9	6.0
1961-62	1.4	2.4	3.8	1.2	neg.	5.0
1962-63	1.3	1.9	3.1	2.4	0.7	6.3
1963-64	1.1	1.3	2.4	2.3	0.2	5.0
1964-65	1.2	1.6	2.8	2.6	(-)0.1	5.3
1965-66	1.3	2.3	3.6	3.4	(-)0.7	6.3
1966-67	1.6	3.2	4.8	2.7	1.7	9.3
1967-68	1.8	3.6	5.4	2.5	0.1	7.9
1968-69	1.8	3.9	5.7	2.5	(-)0.4	7.9
1969-70	1.8	3.8	5.6	3.3	0.8	9.6
1970-71	1.6	4.1	5.7	2.3	0.6	8.7
1971-72	1.7	3.3	5.0	2.9	1.1	9.0
1972-73	1.5	2.9	4.5	3.0	(-)0.1	7.4
1973-74	1.6	2.1	3.7	3.0	1.6	8.3
1974-75	1.6	2.9	4.5	3.5	0.9	8.9
1975-76	1.7	3.9	5.6	2.3	0.9	8.8
1976-77	1.7	3.9	5.6	3.0	0.7	9.4
1977-78	1.7	4.2	5.9	2.5	1.0	9.5
1978-79	1.7	3.7	5.5	3.2	1.6	10.2
1979-80	1.7	3.4	5.1	3.6	0.9	9.5

Table 4.6: Share of Agriculture in Gross Physical Assets Formation of Household Sector
(at current prices)

Year	Private sector investment in agriculture (Rupees, Crores)	Physical assets formation in household sector (Rupees, Crores)	(2) as % of (3)	3-yearly moving average
1	2	3	4	5
1950-51	59	657	9.0	..
1951-52	100	607	16.5	12.1
1952-53	57	529	10.8	15.0
1953-54	100	567	17.6	16.4
1954-55	105	508	20.7	19.3
1955-56	136	699	19.5	22.2
1956-57	233	884	26.4	23.8
1957-58	182	717	25.4	29.2
1958-59	246	684	35.9	29.5
1959-60	248	916	27.1	31.9
1960-61	296	906	32.7	31.0
1961-62	265	795	33.3	31.4
1962-63	303	1,073	28.2	32.3
1963-64	348	987	35.3	33.0
1964-65	434	1,223	35.5	35.9
1965-66	559	1,515	36.9	32.3
1966-67	630	2,566	24.6	28.6
1967-68	623	2,567	24.3	24.9
1968-69	672	2,616	25.7	24.4
1969-70	820	3,556	23.1	25.5
1970-71	969	3,502	27.7	24.9
1971-72	934	3,912	23.9	28.0
1972-73	1,143	3,521	32.5	28.8
1973-74	1,467	4,910	29.9	28.1
1974-75	1,354	6,163	22.0	24.6
1975-76	1,431	6,531	21.9	24.6
1976-77	2,249	7,556	29.8	26.9
1977-78	2,484	8,565	29.0	30.9
1978-79	3,387	9,998	33.9	..

CHAPTER 5

TRENDS IN CAPITAL FORMATION AND SAVINGS – A CRITICAL REVIEW

5.1 In the light of our examination of the methods of estimation and the sources of data, we shall now attempt a critical review of the trends in capital formation and saving in India over the last three decades on the basis of the official estimates made available by the CSO. The intention here is only to bring out clearly what these estimates indicate. A fuller interpretation is reserved to a later chapter.

5.2 Estimates of capital formation at both current and constant (1970-71) prices are available for the period 1950-51 to 1979-80*. Though the series published by the CSO is adjusted for "errors and omissions" in estimation, we have indicated in Chapter 3 why there are no strong reasons for making this adjustment. Both the unadjusted and adjusted series as percentages of GDP are therefore presented in Table 5.1; three-yearly moving averages are also given, and separately for the 'organized' and 'unorganized' segments of the economy, in order to smoothen out year-to-year variations (see also Graph 5-A).

5.3 It will be seen that, according to both the series, the greater part of the increase in the rate of gross capital formation in the economy took place in the period between the early 1950's (when it was around 10 per cent of GDP) and the middle of the 1960's (by when it was about 18 per cent of GDP). It will also be noticed that the greater part of the increase during this period (about 6 per cent of GDP) was recorded in the public sector, though there was also some increase (2 per cent of GDP) in the private corporate sector; the rate of capital formation in the household sector changed very little. The subsequent increase in the overall rate of gross capital formation has been of a smaller order (from around 18 to 22 per cent of the GDP); and moreover, unlike in the earlier period, much the greater part of the increase has been in the household sector. The consequent improvement in the relative share of the 'unorganized' segment of the economy, raising it to nearly one-half of the aggregate capital formation by the end of the 1970's, is therefore as striking a feature of this period as the increase in the over-all rate.

5.4 We have referred in Chapter 4 to the method of estimation of gross capital formation in the household sector and observed that, though the data base for these estimates is weak, there was no reason to doubt that substantial increases have taken place in this sector. Apart from the larger quantities of machinery and equipment and of materials like steel and cement that have been available to this sector since the middle of the 1960's, there is some independent (though fragmentary) evidence of substantial growth among unincorporated enterprises outside the farm sector during this period. It may be useful to cite some of this evidence here.

5.5 For instance, it will be seen from Table 5.2 that the number of registered firms assessed for income-tax rose very sharply from less than 1 lakh in 1969-70 to 2½ lakh in 1978-79; their income assessed to tax had also more than doubled during this period. While the income so assessed was very much lower than that of the private corporate sector upto 1969-70, it appears to have exceeded the latter since then in several years. No other information is available regarding these registered firms, but it is clear that such increases could not have taken place without fairly substantial investment in one form or another.

*For 1979-80, only 'quick' estimates of a provisional nature, with limited details, are available.

Table 5.1: Gross Capital Formation in the Economy
(as % of GDP at current market prices)

Year	<u>Gross capital formation in the economy</u>				<u>Gross capital formation (sector-wise)</u>		
	<u>Adjusted series</u>		<u>Unadjusted series</u>		<u>Unadjusted series</u>		
					(3-yearly moving average)		
		3-yearly moving average		3-yearly moving average	Public sector	Private corporate sector	Household sector
1	2	3	4	5	6	7	8
1950-51	10.0	..	11.8	..	..	..	..
1951-52	11.9	9.9	11.6	10.7	2.8	1.7	6.1
1952-53	7.9	9.5	8.8	9.5	2.8	1.1	5.6
1953-54	8.7	9.2	8.2	9.4	3.3	0.7	5.3
1954-55	11.0	11.3	11.2	11.1	4.1	1.2	5.8
1955-56	14.3	14.0	13.8	13.7	5.0	2.2	6.5
1956-57	16.6	15.4	16.0	15.3	5.8	2.8	6.8
1957-58	15.4	15.1	16.2	15.0	6.2	2.7	6.2
1958-59	13.3	14.3	12.9	14.7	6.5	2.4	5.9
1959-60	14.3	14.8	15.1	14.8	6.7	2.5	5.9
1960-61	16.9	15.5	17.2	16.4	7.1	3.1	5.9
1961-62	15.3	16.4	16.8	17.3	7.8	3.8	5.8
1962-63	17.1	16.3	17.9	17.5	8.1	4.0	5.4
1963-64	16.6	16.6	17.9	18.2	8.5	3.8	5.5
1964-65	16.2	17.0	18.7	18.3	8.8	3.7	5.5
1965-66	18.2	18.0	18.3	18.7	8.5	3.0	7.0
1966-67	19.7	18.1	19.2	18.4	8.0	2.5	7.8
1967-68	16.5	17.2	17.6	17.8	7.1	2.3	8.4
1968-69	15.4	16.3	16.6	17.3	6.6	2.2	8.5
1969-70	17.1	16.8	17.6	17.5	6.5	2.2	8.7
1970-71	17.8	17.8	18.2	18.4	6.8	2.5	9.1
1971-72	18.4	17.7	19.4	18.5	7.2	2.8	8.4
1972-73	16.9	18.4	17.8	18.8	7.7	2.9	8.2
1973-74	20.0	18.7	19.3	19.3	7.9	3.2	8.2
1974-75	19.1	19.7	20.8	20.7	8.9	3.2	8.7
1975-76	19.9	19.8	22.1	21.6	9.7	2.9	9.0
1976-77	20.4	20.1	22.0	21.5	9.7	2.5	9.2
1977-78	20.0	20.4	20.4	21.9	9.7	2.3	9.7
1978-79	23.7	21.8	23.2	22.2	9.6	2.5	9.7
1979-80	21.8	..	23.0	..	..	..	..

5.6 This inference is supported by the available data for the entire factory sector available from the *Annual Survey of Industries (ASI)*, which covers not only factories owned by companies but also those in the hands of individual proprietors and private partnerships (provided they have at least 10 workers with power or 20 workers without power). These data, presented in Table 5.3, show that the share of such proprietorships and partnerships in the total stock of fixed capital within privately owned enterprises in the factory sector rose from 12.4 per cent in 1973-74 to 14.8 per cent in 1977-78; and that their share in the total number of employees in such enterprises rose during the same period of four years from 31.3 per cent to 36.8 per cent.

**Table 5.2: Income-Tax Assessments on Companies and Registered Firms
(All-India Income-Tax Statistics) ***

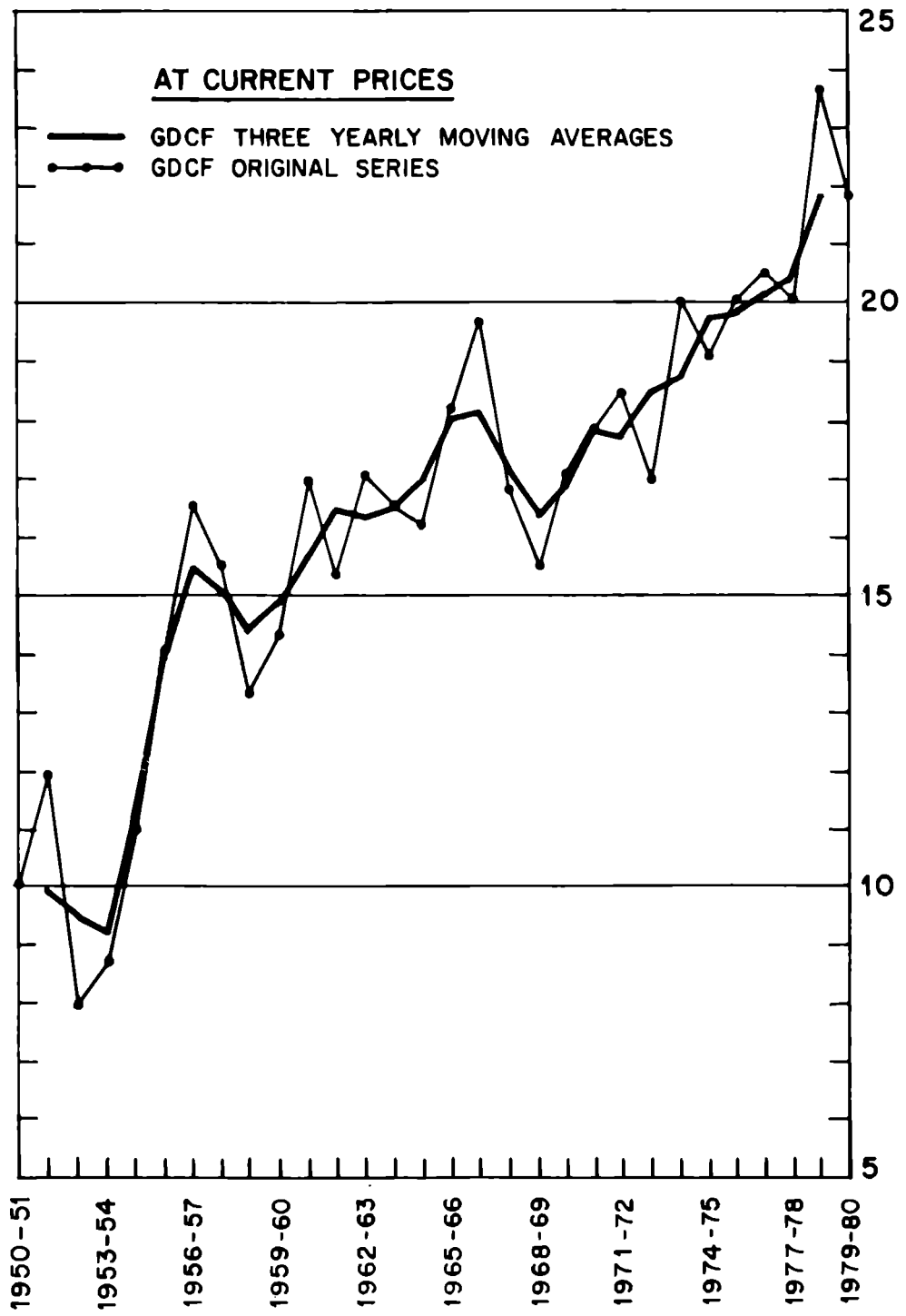
Assessment Year	Number of assessments (‘000s)		Total income assessed (Rupees, crores)	
	Companies	Registered firms	Companies	Registered firms
1	2	3	4	5
1957-58	11.0	9.3	219.7	74.2
1960-61	10.4	15.4	248.9	127.5
1963-64	10.3	33.7	271.6	205.0
1966-67	13.5	59.3	544.2	382.4
1969-70	11.5	94.1	559.9	604.3
1972-73	10.6	170.2	679.4	710.9
1975-76	13.3	246.0	847.4	1,116.0
1978-79	11.5	274.1	1,346.1	1,314.3

5.7 Data collected by the Reserve Bank of India on outstanding commercial bank advances to the private sector, distinguished according to the different forms of organization within the sector, indicate a similar shift. The share of “partnerships, proprietary concerns, joint families, etc.” in the total bank credit for the private sector rose from 34.6 per cent in June 1975 to 41.5 per cent in June 1980. Among the industrial sub-groups in which such shift took place in favour of unincorporated enterprises were food manufacturing industries, construction, wholesale trade, as well as one subgroup described as small-scale industrial units; increases took place also in the borrowing of other unincorporated enterprises falling in the category of retail traders, transport operators and professional services (see Table 5.4)[£].

*There are serious lacunae in these data, since the assessments refer only to those completed in each individual year and there appears to be significant under-coverage of the companies; increases in the case of registered firms could also have been due to the efforts of tax enforcement agencies to extend the coverage of such firms. These are however unlikely to affect the basic theme presented here.

£It is possible that the policy thrust during this period in favour of extending more bank credit to certain priority sectors could have contributed to the higher proportion of such credit extended to unincorporated enterprises, independently of increases in the economic activity of these enterprises. It is to be noted however that the share of the ‘small-scale sector’ in the total non-food credit extended by banks rose only very slightly from 13.5 per cent in 1975 to 13.7 per cent in 1980.

GRAPH 5A
GROSS DOMESTIC CAPITAL FORMATION (GDCF)
(AT CURRENT PRICES)



**Table 5.3: Share of Proprietorships and Partnerships within
Privately-owned Enterprises in the Factory Sector**
(AS/ Data)

(in percentages)			
Year	Number of factories	Fixed capital	Employees
1	2	3	4
1973-74	78.3	12.4	31.3
1974-75	80.0	14.3	33.3
1975-76	79.4	14.5	33.9
1976-77	94.2	14.3	35.7
1977-78	90.8	14.8	36.8

**Table 5.4: Percentage Share of Unincorporated Enterprises[£]
in Outstanding Bank Credit to the Private Sector**
Under Major Industrial Categories
(Scheduled Commercial Banks)

Industrial Category	June 1975	June 1980
1	2	3
1. Industry (mining, manufacturing and electricity)	24.4	31.4
2. Large and medium-scale industry (1-3)	10.1	13.3
3. Small-scale industry	72.4	76.9
4. Total bank credit excluding public food procurement credit	34.6	41.5

£ Unincorporated enterprises are taken here to cover the category of "partnerships, proprietary concerns, joint families, associations, clubs, societies, trusts and groups" and exclude "individuals". Accounts with credit limits of Rs.10,000 and less have been excluded from the table as the required details of those accounts are not available.

Source: RBI, *Basic Statistical Returns* (BSR)

5.8 The picture that emerges — namely of a smaller increase in the rate of gross capital formation in the economy after the middle of the 1960's than before, and this being largely in the unorganized segment of it (i.e., in the household sector) — is not altered when we allow for investment in inventories and take into account only the rates of gross fixed capital formation. Investment in inventories in the public sector had risen towards the middle of the 1970's (when large stocks of foodgrain were built up), but it was no higher towards the closing years of this decade than in the middle of the 1960's (see Table 5.5). In the household sector (including unincorporated enterprises) the rates of investment in both inventories and fixed capital formation have risen.

5.9 We have so far examined only the estimates of capital formation at current prices. To be able to say whether and how far there has been increase in fixed capital formation in *real* terms, it is necessary to adjust these estimates for changes in the prices of commodities and services that go into it. For determining how far such price movements have affected the *rates* of fixed capital formation (expressed as percentages of GDP), it is necessary also to correct the estimates of GDP, for similar changes in price.

5.10 The price deflators implicit in the CSO estimates of fixed capital formation and GDP at current and constant prices have been used for this purpose (see Table 5.6). It is evident that, while the prices of commodities and services going into fixed capital formation rose at about the same rate as the prices of commodities and services going into GDP from the middle of the 1950's upto the middle of the 1970's, the former have risen more rapidly than the latter since then (as can be seen from the recomputed estimates with 1974-75 as the base-year).

5.11 In *real* terms, therefore, the rate of gross fixed capital formation has risen much less rapidly since the first half of the 1970's than appears from Table 5.5. In fact, as will be evident from Table 5.7, when the changes in the relative prices of fixed capital goods and of all other commodities and services are allowed for, the rate of gross fixed capital formation as a proportion of GDP was only about as high towards the end of the 1970's as it was in the middle of the 1960's, and on a comparable basis only about two-thirds higher than in the middle of the 1950's (see Graph 5.B). This is an extremely important result that emerges from the published official estimates of the CSO without interposing any other considerations that might be relevant for the interpretation of these estimates. It will be noticed however from Table 5.7 that the rate of gross fixed capital formation in *real* terms in the household sector was slightly higher towards the end of the 1970's than in the middle of the 1960's.

5.12 While the above analysis brings out clearly that the rate of gross fixed capital formation in *real* terms was not higher towards the end of the 1970's than the peak levels reached earlier (and the somewhat higher rates of investment in inventories in the household sector could be at least in part due to the method of estimating such investment with reference wholly to increases in bank credit extended to this sector), there is no doubt whatever that there has been substantial increase in the rate of gross saving at current prices within the economy. This can be seen from Table 5.8 and Graph 5.C. The rate of gross domestic saving rose from a little over 9 per cent in the early 1950's to over 15 per cent by the middle of the 1960's, and from then to over 22 per cent by the end of the 1970's. With year-to-year variations smoothened out by three-year averages, this rate appears to have risen also at a fairly steady rate, throughout this period, except for a few years between 1966-67 and 1969-70; but there is a perceptible quickening of the pace between 1973-74 and 1978-79 (as is evident also in an earlier period between 1952-55 and 1956-57).

5.13 There are however some obvious sector-wise differences. In the public sector, increases in the

**Table 5.5: Rates of Investment in Inventories (II)
and of Gross Fixed Capital Formation (GFCF)**

(As percentage of GDP at current market prices)								
(Three-yearly moving averages)								
Year	Public sector		Private corporate sector		Household sector		Total	
	II	GFCF	II	GFCF	II	GFCF	II	GFCF
1	2	3	4	5	6	7	8	9
1951-52	0.2	2.6	0.9	0.9	0.1	6.1	1.1	9.6
1952-53	(-) 0.1	2.9	0.2	0.8	0.3	7.7	0.5	9.1
1953-54	(-) 0.1	3.4	(-) 0.2	0.9	0.3	5.1	neg.	9.4
1954-55	(-) 0.1	4.1	0.3	0.9	0.4	5.5	0.6	10.5
1955-56	0.2	4.8	0.8	1.3	0.3	6.2	1.4	12.2
1956-57	0.6	5.3	1.1	1.7	0.2	6.5	1.9	13.4
1957-58	0.9	5.3	0.7	1.9	(-) 0.2	6.4	1.5	13.5
1958-59	0.8	5.6	0.5	1.9	neg.	5.9	1.3	13.4
1959-60	0.5	6.2	0.7	1.8	0.4	5.5	1.6	13.5
1960-61	0.3	6.7	1.1	2.3	0.7	5.2	2.1	14.3
1961-62	0.6	7.2	1.2	2.6	0.5	5.3	2.3	15.0
1962-63	0.6	7.5	1.1	2.9	0.3	5.2	2.0	15.6
1963-64	0.6	7.9	1.1	2.7	0.3	5.2	2.0	15.8
1964-65	0.6	8.2	1.2	2.5	(-) 0.2	5.6	1.6	16.3
1965-66	0.8	7.7	1.0	2.0	0.1	6.8	1.9	16.5
1966-67	0.5	7.5	0.9	1.7	0.5	7.3	1.9	16.5
1967-68	0.5	6.6	0.7	1.6	0.5	7.9	1.7	16.1
1968-69	0.5	6.1	0.7	1.5	(-) 0.2	8.3	1.0	15.9
1969-70	0.4	6.1	0.8	1.5	0.4	8.3	1.6	15.9
1970-71	0.6	6.2	0.8	1.5	1.0	8.3	2.4	16.0
1971-72	0.6	6.6	1.1	1.7	0.5	7.9	2.2	16.2
1972-73	0.7	7.0	1.1	1.8	0.9	7.3	2.7	16.2
1973-74	1.1	6.8	1.4	1.8	0.8	7.4	3.3	16.0
1974-75	2.1	6.8	1.2	2.0	1.1	7.6	4.3	16.3
1975-76	2.2	7.5	1.1	1.8	0.8	8.2	4.1	17.6
1976-77	1.4	8.3	0.6	1.9	0.9	8.5	2.6	18.7
1977-78	0.8	8.9	0.7	1.6	1.1	8.6	2.5	19.3
1978-79	0.7	8.9	0.8	1.7	1.2	8.4	2.6	19.6

Table 5.6: Fixed Capital Formation and GDP Deflators

Year	CSO deflators		Recomputed CSO deflators	
	Fixed capital formation	GDP	Fixed capital formation	GDP
1	2	3	4	5
	(1970-71 = 100.0)		(1954-55 = 100.0)	
1950-51	39.0	51.0	85.9	115.4
1951-52	41.0	52.5	90.3	118.8
1952-53	41.8	49.1	92.1	111.1
1953-54	42.5	49.5	93.6	112.0
1954-55	45.4	44.2	100.0	100.0
1955-56	44.5	45.3	98.0	102.5
1956-57	45.5	49.5	100.2	112.0
1957-58	44.8	50.5	98.7	114.3
1958-59	52.6	52.6	115.9	119.0
1959-60	53.5	53.5	117.8	121.0
1960-61	56.4	55.1	124.2	124.7
1961-62	59.2	56.3	130.4	127.4
1962-63	60.7	58.6	133.7	132.6
1963-64	64.5	63.7	142.0	144.1
1964-65	66.9	69.4	147.4	157.0
1965-66	71.3	75.9	157.0	171.7
1966-67	81.2	85.9	178.8	194.3
1967-68	85.8	93.7	189.0	212.0
1968-69	88.8	93.3	195.6	211.1
1969-70	93.8	97.1	206.6	219.7
1970-71	100.0	100.0	220.3	226.2
1971-72	105.8	105.2	233.0	238.0
1972-73	114.3	117.1	251.8	264.9
1973-74	127.9	139.1	281.7	314.7
1974-75	159.4	162.3	351.1	367.2
			(1974-75 = 100.0)	
1975-76	176.2	155.7	110.5	95.9
1976-77	179.9	166.3	112.9	102.5
1977-78	184.8	173.1	115.9	106.7
1978-79	200.2	175.2	122.0	107.9
1979-80	231.8	204.4	141.4	125.9

GRAPH 5B

RATE OF GDFCF AND NDFCF AT 1970-71 PRICES
(IN PERCENTAGES)

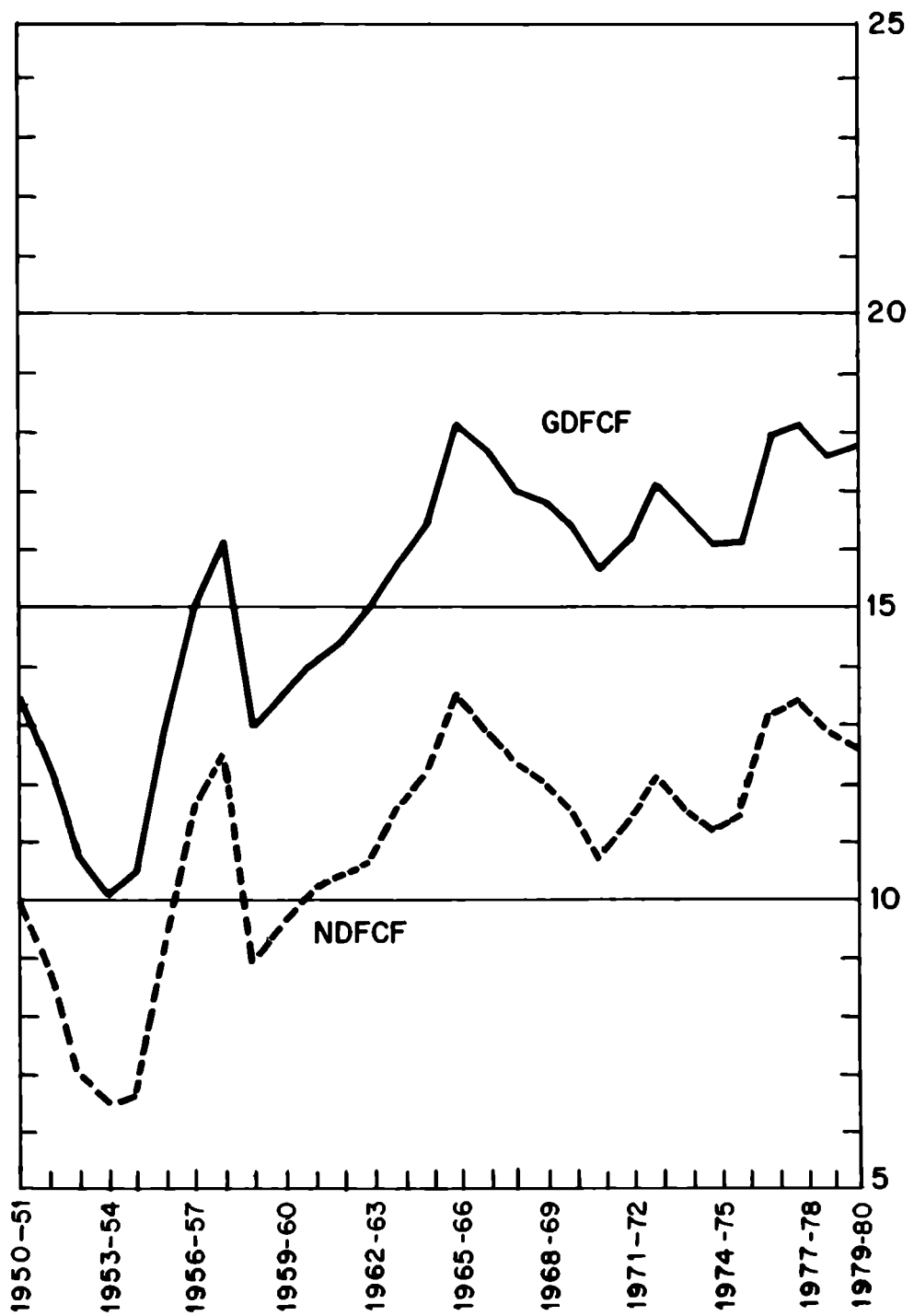


Table 5.7: Rates of Gross Fixed Capital Formation in the Economy at Constant (1970-71) Prices
(as % of GDP)

Year	Gross fixed capital formation (GFCF) in the economy (unadjusted)	Sector-wise rates of GFCF (unadjusted)			
		3-Yearly moving average	Public sector	Private corporate sector	Household sector
1	2	3	4	5	6
1950-51	13.5	. .	3.1(. .)	1.2(. .)	9.2(. .)
1951-52	12.4	12.2	3.4(3.3)	1.2(1.2)	7.9(7.8)
1952-53	10.8	11.1	3.4(3.5)	1.2(1.0)	6.2(6.6)
1953-54	10.1	10.5	3.7(3.7)	0.7(1.0)	5.7(5.7)
1954-55	10.5	11.2	4.0(4.4)	1.2(1.0)	5.2(5.8)
1955-56	12.9	12.8	5.4(5.0)	1.0(1.3)	6.5(6.5)
1956-57	15.1	14.7	5.7(5.8)	1.7(1.8)	7.7(7.2)
1957-58	16.2	14.7	6.2(5.7)	2.8(2.0)	7.3(7.0)
1958-59	12.9	14.2	5.3(6.0)	1.6(2.0)	5.9(6.2)
1959-60	13.5	13.5	6.4(6.2)	1.6(1.8)	5.5(5.5)
1960-61	14.1	14.0	6.9(6.6)	2.1(2.2)	5.1(5.1)
1961-62	14.4	14.5	6.6(7.0)	3.0(2.5)	4.8(5.1)
1962-63	15.1	15.1	7.4(7.3)	2.3(2.8)	5.4(5.0)
1963-64	15.8	15.8	7.8(7.8)	3.2(2.7)	4.7(5.2)
1964-65	16.4	16.8	8.2(8.3)	2.6(2.5)	5.6(5.9)
1965-66	18.2	17.5	9.0(8.4)	1.7(2.0)	7.4(7.0)
1966-67	17.8	17.7	7.9(7.9)	1.8(1.8)	8.1(8.0)
1967-68	17.1	17.3	6.8(7.1)	1.8(1.7)	8.5(8.4)
1968-69	16.9	16.8	6.6(6.5)	1.6(1.6)	8.6(8.7)
1969-70	16.5	16.3	6.1(6.2)	1.3(1.5)	9.1(8.6)
1970-71	15.6	16.1	6.0(6.2)	1.5(1.5)	8.1(8.4)
1971-72	16.2	16.3	6.5(6.8)	1.8(1.7)	7.9(7.9)
1972-73	17.2	16.7	7.9(7.3)	1.8(1.9)	7.6(7.6)
1973-74	16.7	16.7	7.4(7.2)	2.0(1.8)	7.3(7.7)
1974-75	16.2	16.4	6.3(6.9)	1.7(1.9)	8.2(7.6)
1975-76	16.2	16.8	6.9(7.2)	2.1(1.8)	7.1(7.8)
1976-77	18.0	17.5	8.3(7.8)	1.5(1.8)	8.2(7.8)
1977-78	18.2	18.0	8.3(8.4)	1.7(1.6)	8.1(8.0)
1978-79	17.7	17.9	8.5(8.4)	1.5(1.6)	7.7(7.9)
1979-80	17.8	. .	8.4(. .)	1.6(. .)	7.8(. .)

Figures in brackets represent three-yearly moving averages.

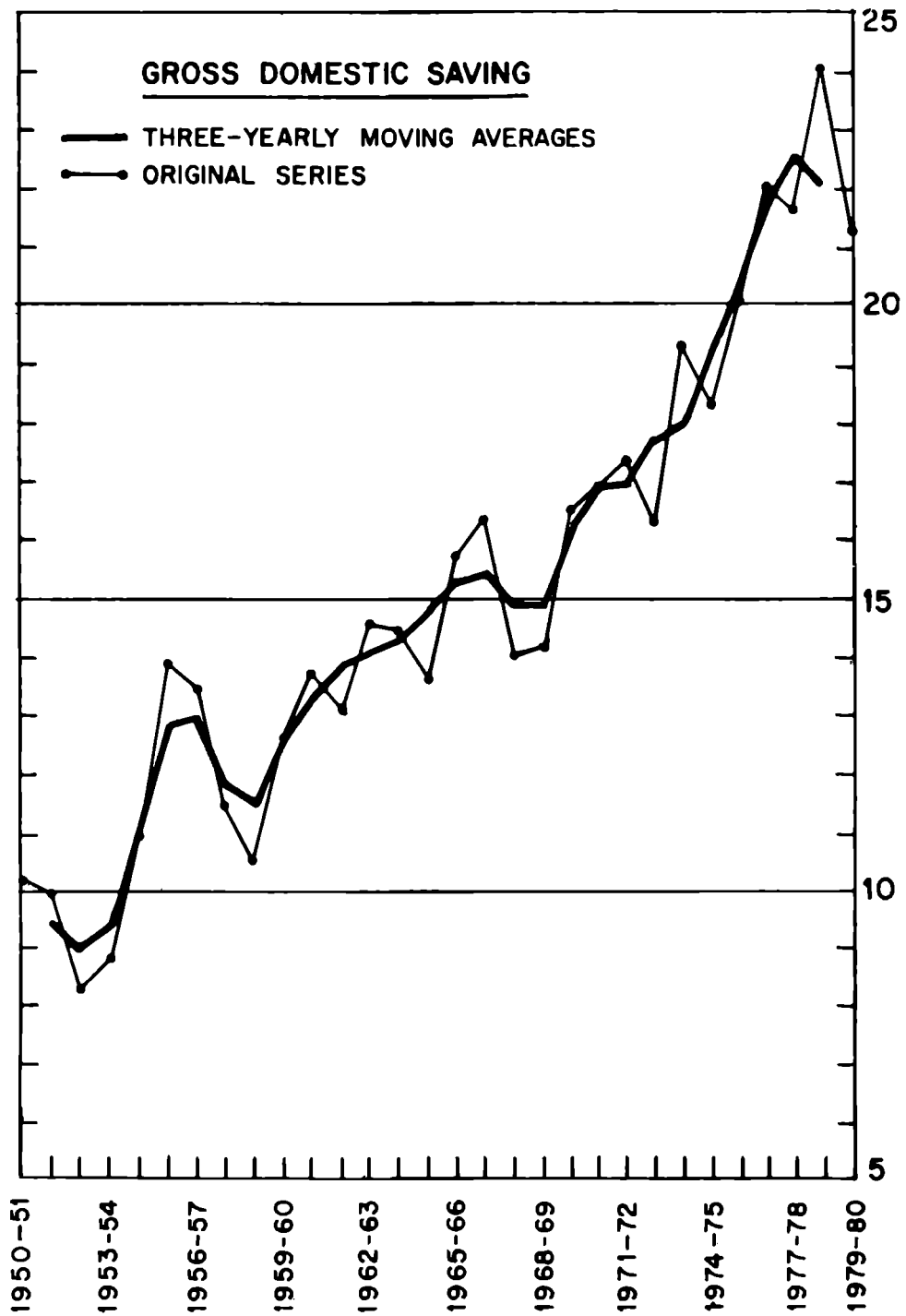
Table 5.8: Gross Saving in the Economy
(as % of GDP at current market prices)

(Three-yearly moving averages)

Year	Gross saving in the public sector	Gross saving in the private corporate sector	Gross saving in the household sector in the form of			Total gross domestic saving
			financial assets	Physical assets	total	
1	2	3	4	5	6	7
1951-52	1.9	0.9	0.5	6.1	6.6	9.5
1952-53	1.7	0.9	0.7	5.6	6.4	9.0
1953-54	1.4	0.9	1.7	5.3	7.0	9.3
1954-55	1.5	1.1	2.8	5.8	8.6	11.2
1955-56	1.8	1.2	3.3	6.5	9.8	12.8
1956-57	1.9	1.2	3.1	6.8	9.9	12.9
1957-58	1.9	1.1	2.6	6.2	8.8	11.8
1958-59	1.8	1.1	2.7	5.9	8.6	11.5
1959-60	2.1	1.4	2.9	5.9	8.8	12.3
1960-61	2.5	1.7	3.1	5.8	8.9	13.1
1961-62	3.1	2.0	3.0	5.8	8.7	13.8
1962-63	3.3	2.0	3.2	5.4	8.7	14.0
1963-64	3.5	1.9	3.3	5.5	8.8	14.2
1964-65	3.5	1.8	3.8	5.5	9.3	14.6
1965-66	3.1	1.6	3.5	7.0	10.5	15.2
1966-67	2.6	1.4	3.4	7.8	11.2	15.3
1967-68	2.3	1.3	2.7	8.4	11.1	14.8
1968-69	2.5	1.3	2.5	8.5	11.0	14.8
1969-70	2.8	1.5	2.8	8.7	11.5	15.8
1970-71	3.0	1.6	3.2	9.1	12.3	16.8
1971-72	3.0	1.6	3.8	8.4	12.2	16.8
1972-73	3.0	1.7	4.7	8.2	12.9	17.6
1973-74	3.2	1.8	4.6	8.2	12.8	17.9
1974-75	3.8	1.8	4.9	8.7	13.6	19.2
1975-76	4.5	1.6	4.9	9.0	14.0	20.1
1976-77	4.7	1.4	5.8	9.2	15.0	21.2
1977-78	4.8	1.5	6.5	9.7	16.2	22.5
1978-79	4.3	1.6	6.6	9.7	16.3	22.2

GRAPH 5C

RATE OF GROSS DOMESTIC SAVING
(AT CURRENT PRICES)



rate of gross saving are concentrated mainly in two periods, from 1958-59 to 1963-64 and from 1973-74 to 1977-78. In the private corporate sector there has been no increase in the rate since 1962-63. In the household sector, on the other hand, there was hardly any increase from the 1950's till the middle of the 1960's, but there were significant spurts in the earlier period (from about 6½ to 10 per cent of GDP between 1952-53 and 1956-57) as also later (from less than 13 per cent in 1973-74 to well over 16 per cent in 1977-78). The periods of rapid growth of saving in the household sector, were associated primarily with substantial increases in the rates of saving in the form of financial assets (i.e., in the saving made available to other sectors), though after 1973-74 there was evidence also of a perceptible improvement in the rate of saving in the form of additions to physical assets within the sector.

5.14 The scale of financial intermediation and the growth of saving in the household sector associated with it are not fully reflected in the above estimates, as they show only the net increases in the financial assets of the sector after allowing for the increases in its financial liabilities. The gross increases in the financial assets of the household sector and the extent to which its savings in this form are reduced by additions to its financial liabilities (such as through borrowing from commercial and co-operative banks) will be evident from Table 5.9 which presents the relevant data (available from the Reserve Bank of India along with its estimates of saving) for the 1970's. It will be seen that rapidly growing borrowing of the household sector from banks, and the resulting additions to its financial liabilities, have been an important factor in reducing the rate of its net additions to financial assets as percentage of GDP from 1975-76.

5.15 Table 5.9 shows also that the bulk of the increase in the financial assets of the household sector has been on account of additions to its holdings of currency and bank deposits. Increases in currency holdings have been significant in years of sharp price rises (such as in 1972-73, 1973-74 and 1979-80) and, to that extent, reflect a form of forced saving; but such increases have taken place also on account of large procurements of goodgrain (paid for mainly in currency). Increases in both currency and deposit holdings have in addition reflected foreign inward remittances on private account, particularly from 1975-76 (see Appendix VI); such remittances formed over 18 per cent of the increases in currency and deposit holdings in the subsequent four years.

5.16 One should expect that, with such expansion in the scale of financial intermediation, the gross earnings and profits of the institutions involved, particularly of commercial banks, would have recorded substantial increases and, being largely part of the public sector (after the nationalization of banks in 1969), contributed to its savings. The relevant estimates have not been published so far by the CSO, but they have been made available to us from its work-sheets and are presented in Table 5.10 which gives estimates of the gross saving of the public sector accruing from administrative departments, departmental undertakings, non-departmental non-financial enterprises, and non-departmental financial enterprises. The profits of the Issue Department of the Reserve Bank of India transferred to the government are shown under administrative departments, while the profits of the Banking Department of the RBI as well as the profits of nationalized commercial banks are shown as part of the gross savings of non-departmental financial enterprises. It will be seen that the net savings of the non-financial, non-departmental enterprises in the public sector have been either negative or negligible, and that it is the inclusion of the savings of financial enterprises that makes the published estimates of the gross savings of non-departmental enterprises as a whole appear somewhat more substantial.

Table 5.9: Saving in the Household Sector in the form of Financial Assets (Gross and Net)
(as % of GDP)

Increases in financial assets/and liabilities		1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
1		2	3	4	5	6	7	8	9	10	11
93	A. Increase in financial assets	5.2	5.4	6.3	6.2	4.9	6.7	8.5	7.9	9.5	8.8
	Currency	0.9	0.9	1.3	1.3	neg.	0.4	1.4	0.8	1.6	1.3
	Bank Deposits	0.8	2.3	2.5	2.1	2.0	2.6	3.5	3.5	4.1	3.6
	Other deposits	1.2	0.1	neg.	0.5	0.2	0.3	0.6	0.4	0.6	0.5
	Loans to Companies	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.2	(-) 0.1	0.2
	Life Insurance Funds	0.5	0.6	0.7	0.6	0.5	0.5	0.6	0.6	0.7	0.7
	Provident Funds	1.0	1.1	1.1	1.0	1.1	1.5	1.5	1.5	1.6	1.7
	Claims on Government	0.3	neg.	0.2	0.2	0.3	1.1	0.8	0.4	0.2	0.3
	Corporate and Co-operative Societies	0.2	neg.	neg.	neg.	0.1	0.1	neg.	0.2	0.3	0.2
	Securities of term lending and other financial institutions	neg.	neg.	0.1	neg.	neg.	neg.	neg.	neg.	neg.	neg.
	Units of Unit Trust	neg.	neg.	neg.	neg.	neg.	neg.	neg.	neg.	0.1	0.1
	Other assets	0.1	0.2	0.2	0.4	0.6	neg.	neg.	0.2	0.4	0.2
	B. Increase in Financial Liabilities	1.5	1.7	1.3	1.4	1.2	1.6	2.1	1.8	2.4	2.5
	Bank advances	1.3	1.1	1.0	1.1	0.9	1.3	1.5	1.6	2.1	2.3
	Loans from other financial institutions	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Loans and advances from Government	0.2	0.3	0.1	neg.	0.1	neg.	0.2	0.1	0.2	0.1
	Loans and advances from co-operative non-credit societies	(-) 0.1	0.1	neg.	0.1	0.1	neg.	neg.	neg.	neg.	neg.
	Other Liabilities	neg.	0.1	0.1	0.1	neg.	0.2	0.3	neg.	neg.	neg.
	C. Net increase in financial assets	3.7	3.7	5.0	4.8	3.7	5.1	6.4	6.1	7.1	6.3

Source: Reserve Bank of India (RBI)

Table 5.10 : Estimates of Government Savings, 1960-61 to 1978-79

(Rupees, Crores)

Year	Administrative departments and departmental enterprises						Non-department enterprises				
	Net Saving					Consumption of fixed capital*	Net Saving				
	Central Government	State Government	Local bodies	Total (2)+(3)+(4)	Gross Savings (5)+(6)		Financial enterprises	Non-financial enterprises	Total (8)+(9)	Consumption of fixed capital	Gross Saving (9)+(10)
1	2	3	4	5	6	7	8	9	10	11	12
1960-61	113	121	64	298	64	362	20	(—) 9	11	52	63
1961-62	236	49	81	366	60	426	21	(—) 24	(—) 3	71	68
1962-63	202	117	89	408	72	480	23	(—) 23	—	86	86
1963-64	242	177	94	513	73	586	31	(—) 5	26	97	123
1964-65	312	175	111	598	81	679	36	(—) 23	13	125	138
1965-66	376	97	69	542	83	625	66	(—) 16	50	134	184
1966-67	148	190	70	408	88	496	37	(—) 38	(—) 1	173	172
1967-68	59	217	84	360	98	458	54	(—) 59	(—) 5	214	209
1968-69	196	251	96	543	92	635	36	(—) 57	(—)21	244	223
1969-70	338	221	67	626	99	725	53	(—) 34	19	290	309
1970-71	368	323	43	734	123	857	84	(—) 14	70	326	396
1971-72	218	184	40	742	122	864	93	(—) 73	20	394	414
1972-73	343	324	11	678	148	826	145	(—) 84	61	445	506
1973-74	397	533	31	961	165	1,126	204	(—) 84	120	361	681
1974-75	671	850	31	1,552	151	1,703	336	83	419	554	973
1975-76	911	1,259	101	2,271	178	2,449	327	(—)105	222	668	890
1976-77	885	1,459	169	2,513	186	2,699	503	131	634	790	1,424
1977-78	1,120	1,379	66	2,565	190	2,755	561	(—) 93	368	965	1,333
1978-79	1,296	1,542	15	2,853	216	3,069	682	(—)173	509	1,078	1,587

* relates to departmental enterprises only as no allowance for the consumption of fixed capital is made in respect of the administrative departments.

CHAPTER 6

SOME CONCEPTUAL QUESTIONS AND ESTIMATIONAL PROBLEMS

6.1 Before we attempt an over-all assessment of the CSO estimates of capital formation and saving, and of their interpretative significance for understanding the trends in the economy, it is necessary to raise certain broader conceptual questions and consider the related estimational problems. They relate to the following: (a) the distinction drawn between gross and net capital formation (and saving), and what precisely the estimates for them denote; (b) the case for taking into account the destruction of a part of the total stock of capital each year through natural calamities and accidents of various kinds; (c) the need to allow for under-estimation of GDP on account of under-reporting of output and incomes, and for possible over-estimation (or under-estimation) of gross fixed capital formation (due to similar distortions in reporting on the materials used and/or expenditures incurred by the concerned agencies), when estimating the rates of capital formation as percentage of GDP; (d) the problems involved in adjusting estimates of saving for rise in prices, in order to arrive at the quantum of saving in *real* terms; and (e) the desirability of making a clear distinction between farm households, unincorporated enterprises in the non-farm sector (in industry, transport, trade, etc.), and households proper (i.e., those which are only consuming units not directly involved in the organization of production) within the 'unorganized' segment of the economy. We shall take up these questions one by one and consider the issues and problems they raise.

Allowance for capital consumption

6.2 As is well known, gross capital formation refers to the total addition to capital stock (both fixed capital and inventories) in a year, while net capital formation denotes the extent of such addition after allowance for capital consumption, i.e., fixed capital stock used up in the process of production during the year. Capital consumption depends on the expected economic life of individual assets, and is designed to cover loss in value due to normal wear and tear (including normal amount of accidental damages not made good by repair) as well as due to foreseeable obsolescence.

6.3 While the magnitude of gross capital formation can in principle be ascertained objectively by collecting the relevant information, any estimate of capital consumption involves necessarily a process of imputation, as there is no way of determining precisely what is the extent of wear and tear in capital stock each year, and how much therefore is the appropriate rate of depreciation. In economies (and sectors) in which technological progress is rapid, and obsolescence makes replacement necessary even before the concerned machinery and equipment becomes unusable, the appropriate rate of depreciation could be very high; on the other hand, where such compulsions are less powerful, the effective life of machinery and equipment can (and often is) extended considerably, beyond even the period for which they are designed by the manufacturers, through either more careful use and/or extensive repairs carried out at periodic intervals. In certain types of construction, such as in traditional agriculture and rural housing, the wear and tear could be of course so high as to require immediate replacement; but whether a correspondingly high rate of depreciation is to be allowed for will depend on whether the outlay on such replacement is being treated as additions to capital stock or as part of the current expenditure on repairs.

6.4 These problems do not get resolved but are often further compounded when the actual financial provisions made on account of depreciation (for replacement of the capital stock at a later stage) are taken as a proxy for the appropriate rate of depreciation. Such provision could be influenced by other considerations, such as the fiscal concessions given on the saving and investment so stimulated or by the expected increases in the price of the capital stock to be replaced. Tax-free depreciation provisions are often intended primarily to make available higher gross profits for the immediate requirements of business enterprises, and need not bear any particular relationship to the effective rate of depreciation of capital stock. Moreover, while private corporate enterprises generally make such financial provisions on account of (or in the name of) depreciation, keeping in mind also the later replacement requirements, this practice is often not followed in public sector departmental enterprises to the same extent, and not at all in government administrative departments. Many small unincorporated enterprises, as in agriculture and small-scale industry, do not make any specific provision for depreciation.

6.5 A further complication that has to be taken into account in relation to the concept of maintaining capital stock constant (which is implicit in the attempt to estimate rates of depreciation) is that often the machinery and equipment and/or construction that replaces an earlier one is not exactly identical (in terms of physical semblance or quality of the product) to that which is replaced. If the case for making provision for depreciation is primarily to maintain constant the stock of capital and the productive capacity it is associated with, allowance has to be made for such qualitative changes as well.

6.6 These are considerations well known in the literature on measurement of capital and there is no completely satisfactory solution to the problems they raise. In industrially advanced countries one solution found has been to focus attention primarily on the rates of gross investment and saving (including in them such depreciation provisions as are made) and avoid making any estimate at all of the appropriate rate of depreciation; this meets the requirements, as the main concern in these countries is generally with the magnitude and timing of gross investment expenditure (and with the fluctuations in demand and output thereby caused). This may not however be the appropriate practice to follow in the less developed countries where, in the context of growth and the necessary capital accumulation, there is much greater concern with the actual additions to capital stock and the increase in productive capacity thereby created. A case can therefore be made out for making estimates of the effective rate of depreciation of capital stock, and allowing for it when interpreting the estimated rates of capital formation and judging the adequacy of the gross saving rate in the context of the desired rates of growth of investment and output.

6.7 However, if this is the context and the purpose, very great care has to be taken to ensure that the estimates reflect as faithfully as possible the actual rates of depreciation even if they are no more than approximations. For this it is necessary to compile a comprehensive life table of physical assets so that estimates of capital consumption bear some relationship to the actual wear and tear of such assets.

6.8 Reviewing the existing methods of estimation in India it is found that, in respect of agriculture and farm buildings, capital consumption is estimated from figures of capital stock derived through the perpetual inventory method (which, in principle, is perhaps the best that can be done)*. In the case

*Under the perpetual inventory method, capital stock is estimated as a cumulation of capital formation (net of depreciation) over a selected base year, *plus* the base year capital stock, all converted to current prices.

of agricultural machinery and equipment, consumption of fixed capital is estimated at 11 per cent of the value of the stock of such assets, while in the case of farm houses, grain golas, etc., the rate is taken to be only 2 per cent (presumably on the assumption that most of the wear and tear is covered annually by current repairs); these proportions are based on the age-structure of the concerned assets. Similar method is used for the estimation of fixed capital in the case of residential buildings. In respect of other sectors, however, no such inventory of capital assets or of their age-structure is attempted. The provisions for capital consumption in the private corporate sector are based on those made in the company accounts, and the same practice applies to departmental undertakings as well as companies and corporations in the public sector. In the case of some of the departmental enterprises, such as the Railways and Posts and Telegraphs, the expenditures incurred each year on renewals and replacement are alone considered as equivalent to depreciation provision, while no allowance at all is made for the consumption of fixed capital in public administration and defence. (In the case of Railways, for which the provision for depreciation is palpably low, the average life of assets implicit in the provisions made is well over 100 years). Depreciation for construction activity is taken as a fixed proportion of total output or value added while, for all labour-intensive 'kutcha' construction activity in the household sector, the consumption of fixed capital is taken to be negligible (as almost no capital assets are used). What all this adds up to is that, while there is a wide range in the incidence of capital consumption in different sectors, it is not clear how far the estimated rates of depreciation are related to the actual age-structure of the physical assets concerned; in some cases they appear extremely low, while in some others they are probably higher than warranted, but such judgements could be wrong.

6.9 Further details of the present method of estimation are given in Appendix VII. The extent of differences in the depreciation provision now being made, expressed as a proportion of the estimated gross saving in each sector, is reflected in Table 6.1.

Table 6.1: Share of Estimated Capital Consumption in Sectoral Gross Savings

Gross saving (Rupees, Crores)				Estimated capital consumption (Rupees, Crores)		
Year	Household sector	Private corporate sector	Public sector	Household sector	Private corporate sector	Public sector
1	2	3	4	5	6	7
1975-76	10,448	1,056	3,339	2,500 (23.9)	708 (67.1)	846 (25.3)
1976-77	12,454	1,161	4,124	2,634 (21.1)	854 (73.6)	976 (23.7)
1977-78	14,025	1,385	4,088	2,878 (20.5)	962 (69.5)	1,155 (28.3)
1978-79	17,177	1,543	4,657	3,361 (19.6)	1,044 (67.6)	1,294 (27.8)
1979-80	17,326	1,714	4,015	3,971 (22.9)	1,122 (65.5)	1,584 (39.5)

Note: Figures in brackets represent percentages to respective gross saving.

Capital destruction and losses

6.10 Apart from capital consumption, another factor which could affect the estimates of net capital formation in the economy is the effect of loss or destruction of capital for which no specific allowances are now being made. The total capital loss occurring annually from such extraneous causes as floods, cyclones, fire, earth quakes, etc., is estimated to be dimensionally large and could account for as much as 10 per cent of the net fixed capital formation in many years. To the extent that such losses are incurred by corporate bodies their subsequent balance sheets may make allowance for them, particularly after claiming the benefits of insurance. Capital destruction in even the unorganised segment of the economy could get reflected in the estimates of capital stock arrived at on the basis of periodic surveys such as the *All-India Debt and Investment Survey* (conducted by the Reserve Bank of India) and the quinquennial *Livestock and Agricultural Machinery Censuses*. However, since they are not specifically taken into account, and one has no idea how much of such capital losses and destruction are in fact implicitly allowed for, it is difficult to venture any estimate as to the margin by which the present estimates of capital formation need to be scaled down on this account.

Issues relating to estimation of domestic product

6.11 All such adjustments will affect the estimates of both gross and net capital formation (and saving) in the economy. Since these estimates are used to arrive at the *ratios* of gross and net capital formation (and saving), i.e., as proportions of gross domestic product (GDP), it is necessary also to consider whether and how far there could be under-estimation of the gross domestic product. Obviously the greater the degree of under-estimation of the latter the lower would be these ratios. Since many of the judgements made about capital formation and saving are based on the magnitude and direction of change of these ratios, one must examine this possibility in greater depth.

6.12 Some under-estimation of the gross domestic product could arise as a direct consequence of under-estimation of gross fixed capital formation itself, i.e., to the extent that the elements going into the latter have not been counted in when estimating the former. Under-estimation of gross domestic product could however take place for various other reasons as well, and to a much greater extent.

6.13 It has been noticed for instance that there is a fairly significant discrepancy between the official CSO estimates of gross domestic product and of gross domestic expenditure (which should, in principle, be equal). Though the margin fluctuates from year to year, aggregate expenditure exceeds the aggregate product by as much as 4 per cent in many of the recent years. CSO uses the gross domestic product as the controlling total (on the presumption that the estimates of gross domestic expenditure are less firm) when working out the rates of capital formation and saving as proportions of GDP.

6.14 One could however argue that the estimates of aggregate expenditure, arrived at to some extent independently from the estimates of the aggregate product, are more realistic; and that it is therefore the gross domestic expenditure figures that should be used as the controlling total. It is known that the value added in some sectors of the economy, particularly in those segments that are subject to taxation (such as the private corporate sector), is often under-reported very considerably by inflating the expenditure on inputs and other related business expenses and showing several items of consumption expenditure as if they are part of the inputs required for production. Output itself is often under-reported (sometimes by under-pricing the products sold) as part of various similar mani-

pulations of accounts in order to evade both direct and indirect taxation (particularly excise duties on manufactured goods). Such under-reporting takes place even in relatively small unincorporated enterprises that are not subject to direct taxation, particularly among those engaged in industrial processing, trade and service industries such as those provided by hotels and restaurants.

6.15 Some attempts have been made to estimate the magnitude of such under-reporting of output and income which is believed to sustain and promote activity in what is often described as the 'parallel economy' functioning below the surface. Most of these estimates have however no firm basis and cannot be accepted. But some of them (such as exercises focussed on actual electricity generated and the proportion of it that cannot be specifically accounted for on the basis of available estimates of production and consumption) hold some promise, and could yield more dependable (even if partial) estimates if pursued in greater depth and detail.

6.16 The current fashion the world over is to estimate the size of unreported incomes through macro-studies such as those based on income velocity or aggregate money demand functions. In such exercises the imponderables are too many: in particular, the functional relationships are hardly stable when many structural and behavioural changes take place such as changes in the sectoral composition of output and employment, in the distribution of incomes and assets, in the degree of monetisation, and in the behavioural patterns of households and corporations. It is also difficult to spot a historical bench-mark period when the unreported income was generally absent. Above all, the changes in the velocity functions may themselves be linked with the nature and size of unreported incomes.

6.17 In this context, it is important to make sure that output and income under-reported in some sectors (such as manufacturing) do not get captured in the estimates for other sectors (such as trading), since the basis of estimation differs from sector to sector. All that can therefore be said is that there is *prima facie* reason to suspect under-estimation of GDP and that—though it is impossible even to guess on the basis of presently available knowledge how large a difference it could make to the aggregate—any allowance made for it would tend to lower somewhat the estimated ratios of investment and saving in the economy.

Estimation of *real* domestic saving

6.18 We need also to mention here the problems involved in allowing for changes in price in estimating the quantum of saving in *real* terms. As indicated earlier, the official CSO estimates available are only for the rates of saving at current prices. In view of the price increases that have been taking place, it may seem that there is a case for estimating also the rates of saving in *real* terms.

6.19 We have explained already in Chapter 5 that the prices of commodities and services entering into capital formation (which could be broadly described as capital goods) have been rising recently at a more rapid rate than the prices of other commodities and services that form part of GDP and that the rate of fixed capital formation in *real* terms is therefore not as high as that indicated by the estimate at current prices. The question now is what precisely are the implications of the rise in prices for the estimates of *saving* at current prices.

6.20 One implication is of course clear. It is that, even though the rates of saving in money terms have risen rapidly in recent years, the rates at which they could be transformed into capital goods have risen at a much slower rate. This is indeed an important inference.

6.21 There are difficulties however in saying very much more. Saving flows are a value aggregate which cannot be factorised into quantity and price counterparts, and cannot therefore be deflated directly. It can be done only indirectly, by deflating the difference between decomposable value flows. If saving is conceived as the difference between NNP at market prices and aggregate consumption expenditure (in a closed economy), the two latter flows can be decomposed and deflated, and the difference between the two deflated flows will give estimates of *real* saving. The gross saving series could also be tackled in exactly the same way. But this would be merely the obverse (in a closed economy) of the *real* capital formation series, since the GNP can be divided also into consumer goods and capital goods and can be decomposed into appropriate quantities and prices. Essentially, the deflated saving series would be therefore identical with the *real* capital formation series. This means, in other words, that the deflator of gross (and net) capital formation has to be such that an appropriately weighted combination of such a deflator with the deflator of consumption expenditure would give the GNP (or NNP) deflator.

Composition of the household sector

6.22 Lastly, we need to give attention to a question that has indirectly been raised in the course of the analysis in the earlier chapters, namely, the heterogeneous character of the household sector and the consequent difficulties in interpreting the trends in capital formation and saving within the sector. In national/social accounting systems, households are generally considered to be only consuming units, and all producing enterprises are treated as firms (some of which might take the form of companies while others are unincorporated). This kind of classification corresponds broadly to the economic reality of advanced industrial economies. In the context of largely agrarian economies still in the process of industrialization, it is important to distinguish at least between farm households (engaged mainly in agriculture), non-farm producing households in other sectors (such as manufacturing industry, transport and trade), and households proper (i.e., those that are primarily consuming units). The problem however is essentially one of securing data in the necessary detail to be able to make such disaggregated estimates; it can be overcome only over a period of time by systematically developing an adequate data base. The lines along which this may be done are indicated in Chapter 8.

CHAPTER 7

AN OVERALL ASSESSMENT AND INTERPRETATION

7.1 It is now possible to take an overall view of the conceptual and methodological issues as well as of the trends in capital formation and saving revealed by the official estimates and attempt an assessment of their implications for analysis and interpretation. In view of the various observations already made in the earlier chapters we shall refer here only to those which need to be highlighted in this context.

7.2 It will have been obvious from our analysis in Chapter 5 that, even though the rate of gross capital formation in the economy would at first appear to have risen by about 2½ times over the last quarter of a century (from around 10 per cent of the GDP in the middle 1950's to nearly 24 per cent by the end of the 1970's), the order of increase has been much lower. When year-to-year fluctuations are smoothened out, and both the capital formation and domestic product series are estimated at 1970-71 prices, the rate of gross *fixed* capital formation in the closing years of the 1970's (about 18 per cent of GDP) turns out to be no higher than in the middle of the 1960's and only about two-thirds higher than in the middle of the 1950's (when it was about 11 per cent of GDP)*.

7.3 There has been some increase in the rate of investment in inventories, particularly towards the middle of the 1970's when considerable stocks of foodgrain were built up in the public sector (though part of the net increase on this account was perhaps more apparent than real since, as indicated earlier, the method adopted for estimation of inventories leaves out of consideration such foodgrain stocks as might have been held previously by the producers themselves). If the years in which such large additions to public foodgrain stocks took place are excluded, the annual rate of investment in inventories appears to have averaged at around 2½ per cent of the GDP over the last decade. This is about one percentage point higher than earlier, and higher also than the rate of investment in inventories observed in industrially advanced countries, but not perceptibly higher than in other countries at about the same stage of development as India.

7.4 The allowances to be made for capital consumption (i.e., depreciation), and for capital destruction and losses, raise a number of conceptual and estimational problems that cannot be easily resolved. It is however obvious that, if they are all counted in and if they add up to between 5½ and 6 per cent of GDP (which is the present rate of provision for depreciation allowed for by the CSO), the net rate of fixed capital formation would be only around 12 to 12½ per cent of the national income (at 1970-71 prices).

*A widespread impression that there has been a much higher increase in the investment rate since the 1950's is based partly on recollection of the estimate in the First Five Year Plan (referred to on p.1 of this Report) that the rate of net investment in 1950-51 was only 5 per cent of the national income. If allowance is made in this estimate for capital consumption and non-monetised capital formation in the rural sector, gross fixed investment in 1950-51 is likely to have been around 9 per cent of GDP. When allowance is also made for the changes in the relative prices of capital goods since then, it will be evident that the actual increase in *real* terms has been only of the order indicated here.

7.5 The increase in the rate of capital formation between the middle of the 1950's and the middle of the 1960's was mainly in the public sector; there was also some increase in the private corporate sector. During this period (which coincided with the Second and Third Plans) inflows of foreign saving were considerable, ranging from 2 to 4 per cent of GDP. Since the early 1960's there has been some decline in the rate of capital formation in the private corporate sector, but this has been more than compensated for by increase in the household sector. The rate of fixed capital formation in the household sector is now about 8 per cent of GDP (at 1970-71 prices).

7.6 The household sector, as we have repeatedly emphasized, is highly heterogeneous in its composition, consisting of farm households, unincorporated enterprises in other sectors (such as manufacturing, transport and trade), and households proper. Available estimates on the rate of private capital formation in agriculture show that, while some increase may have taken place in the course of the 1960's, there is no clear evidence of increase in the rate of investment among farm households since then. On the other hand, there is some evidence of increase in investment attributable to non-agricultural households, particularly in business enterprises organized in the form of sole proprietorships and partnerships. The number of such enterprises has also grown phenomenally, as also their percentage shares in the total fixed assets, total value added and total employment in the private factory sector (for which regular estimates are available from the *Annual Survey of Industries*).

7.7 It is of course true (as will have been evident from our detailed analysis of the methodology of estimation) that, since the estimates of the household sector are essentially derived as residuals, they could be absorbing the estimational errors, such as there are, in the estimates for the public sector and private corporate sector as well as for the economy as a whole. Nevertheless, considering that the estimates of increase in aggregate fixed capital formation are based essentially on reported increases in the output of machinery and equipment and construction materials of various kinds, and taking into account other corroborative evidence of increased investment activity in the household sector, it appears to us that unincorporated enterprises in the non-farm sector are likely to have increased significantly their relative share in capital formation within the economy. The share of households proper, through increased investment in *pucca* residential housing, has also perhaps increased, though no data are available now for attempting an accurate estimate of such investment.

7.8 After the middle of the 1960's there was a sharp fall in the rate of gross fixed capital formation in the public sector, from 9 per cent of the GDP in 1965-66 to 6 per cent of the GDP in 1970-71 (evaluated in both cases at 1970-71 prices). This was a period in which there was also a sharp decline in the net inflow of saving from abroad, from around 2½ – 3¼ per cent of GDP in the years 1965-66 to 1967-68 to 1 per cent of GDP in 1970-71 (see Table 3.1). However, the rate of gross fixed capital formation in the public sector began to rise once again with larger transfers of saving from the household sector and was around 8½ per cent of the GDP by the late 1970's.

7.9 In contrast to the trends in capital formation, the rates of saving in the economy have been evidently rising at a fairly steady rate throughout the last quarter of a century, and quickening somewhat towards the closing years of this period. For reasons indicated in Chapter 6, it is appropriate to assess the trends here with reference to both saving and domestic product estimated at current prices. Judged with reference to such estimates it is clear that the gross rate of saving in the

economy has more than doubled from less than 10 per cent of GDP in the early 1950's to over 22 per cent of GDP by the end of the 1970's (see Table 5.8).

7.10 The saving rates in both the public sector and the private corporate sector have registered increases over this period, but the most sustained increases have been in the household sector. They have taken place not only in the form reflected in the direct capital formation within the sector but through net additions to financial assets (representing in effect transfers of saving for investment in the other sectors). The gross additions to financial assets in this sector have grown even more rapidly in the course of the 1970's and, though increases in financial liabilities (on account of transfers within the sector through financial intermediation) have also taken place, the rate of increase in saving in this sector through net addition has been particularly marked since the middle of this decade.

7.11 It remains only to consider the possible reasons for such sustained increase in the saving rate over the entire period and for the quickening in this rate in more recent years. This is a matter for closer investigation and analysis, and all that can be offered at this stage are reasons which appear plausible in the light of analytical studies already undertaken by various scholars and some examination of the data we have ourselves done.

7.12 Part of the increases in household saving, particularly those reflected in higher rates of capital formation (i.e., in physical assets) within the sector, can be attributed to the higher rates of profit that could be secured through investment in small-scale manufacturing enterprises, in transport and trade, as well as in real estate (particularly in urban housing). To the extent that direct taxation and various other constraints (such as those imposed by labour legislation) on the private corporate sector could have induced the enterprises within this sector to promote and develop close links with unincorporated enterprises, some of the increase in saving of the latter might be a reflection of the process of siphoning away of profits from the former. In any case, since the rates of capital formation and saving in the private corporate sector have remained stagnant (and even declining), the increases in the unincorporated enterprises have to be viewed in this wider context as part of the growth of private business enterprises within the economy.

7.13 Part of the increases in saving in the household sector can also be traced to higher rates of saving among households proper in the form of bank deposits, insurance policies, and pension and provident funds, and also on account of various schemes of compulsory deposits enforced by the government. This could be said to be, in a sense, a natural consequence of the rapid growth of financial intermediaries over this entire period and the attractions offered by them, not to mention the greater ease with which schemes of compulsory saving could be enforced following rapid growth in the number of salaried employees in the public sector.

7.14 It is also evident that there was a significant shift in the commodity terms of trade against agriculture from about the middle of the 1970's. Since agricultural output is valued at the prices prevailing in various market centres at the peak of the harvesting season, this has been reflected in a sharp decline in the share of income from agriculture in GDP at current prices, from 44.3 per cent in 1974-75 to 36.3 per cent in 1978-79 (while its share at constant 1970-71 prices fell only from 42.2 to 40.0 per cent of GDP). There is reason to believe that the marginal propensity to save is lower in agriculture than in the rest of the economy.

7.15 In the period from the middle of the 1970's there have been some other special factors that could explain the quickening in the rate of saving in the household sector. One is simply the higher rate of growth of national income in the four-year period from 1975-76 to 1978-79; during this period the average rate of increase of *real* income in the economy was as high as 6.5 per cent per annum. The other is that there has been very rapid expansion in the holdings of currency and bank deposits during this period, which is traceable partly to larger procurement in some of these years for additions to public foodgrain stocks (and therefore, for reasons indicated earlier, not perhaps truly reflective of net increases in either investment or saving in the economy as a whole), and partly to sizeable foreign inward remittances by Indian expatriates. The rate of domestic saving and even the rate of domestic capital formation, could have been perhaps still higher but for the sharp deterioration in the country's net terms of trade after 1973-74 which had the effect of bringing about a sizeable transfer of *real* resources abroad. Estimate of such loss due to terms of trade deterioration in the course of just one year i.e., between 1978-79 and 1979-80, has been placed at over Rs.2,400 crores.*

7.16 To sum up, there is no reason to doubt that there has been a substantial increase in the rate of domestic saving (at current prices) over the last quarter of a century. The sharper increase observed in recent years could however be due in part to transient factors, and it is premature to draw any other conclusion on this basis. Moreover, on account of the higher rate of increase in the prices of capital goods during this period (to which reference was made earlier), and the decline in the rate of inflow of foreign saving from the end of the 1960's, the increase in the rate of fixed capital formation that has been achieved (compared to the earlier peak) has been necessarily more modest in the 1970's.

7.17 Since the rate of gross fixed capital formation (estimated at constant 1970-71 prices) was as high as 11 per cent of GDP even in the middle of the 1950's, and had risen to no more than about 18 per cent by the end of the 1970's (after a significant downward movement from the middle of the 1960's), it is not as surprising as it may seem that the rate of growth of national income over the entire period has remained very nearly constant at about 3½ per cent per annum and shown so far no clear signs of acceleration. Inferences have some times been drawn, from the apparent increase in marginal capital-output ratios, that productivity of investment has been declining. It is important however to make allowance for some noticeable shifts in the pattern of investment that have taken place within the large-scale industrial sector, in favour of industries with relatively high capital-output ratios such as, chemical fertilizers and electricity from the middle of the 1960's and petroleum, coal, steel and non-ferrous metals in more recent years.

7.18 It is clear, for instance, that a large part of the investment in the factory sector of industries (as reflected in the *Annual Survey of Industries*) has been for energy generation and supply. Indeed, at the end of 1977-78, nearly 44 per cent of the total fixed capital in the entire factory sector (as reported by ASI) was under the head 'electricity generation, transmission and distribution'. At the same time, while it accounted for such a large part of the total fixed capital, it contributed less than 11 per cent of the total value added (and only 6 per cent of the gross output) in the factory sector, with the result that the average ratio of fixed capital to value added in this particular industry was nearly 10 in 1977-78 compared to less than 2.5 in the sector as a whole.**

*Cf. Government of India, *Economic Survey: 1981-82*, p.65.

**The possibility of capital-output ratios getting raised in this way by large investments in public utilities in some phases of development has been specifically mentioned by Professor Simon Kuznets. Cf. Kuznets, Simon, "Quantitative Aspects of the Economic Growth of Nations: VI. Long-term trends in Capital formation Proportions". *Economic Development and Cultural Change* (Vol. IX, Number 4, Part II), July 1961, pp. 45-48.

7.19 This is not to deny the possibility of the marginal capital - output ratios getting raised through mistaken choices or inefficient use of investments in fixed capital, under-utilization of capacity in some industries, and needless additions to inventory holdings. Our intention is only to point out that the rise in these ratios could also be reflecting shifts towards industries which for technological reasons happen to require large amounts of fixed capital relatively to output, and that closer analysis is required before drawing other conclusions.

CHAPTER 8

SUGGESTIONS FOR IMPROVEMENT IN ESTIMATION

8.1 As will have been noticed from various comments made in the course of the earlier chapters, the Central Statistical Organisation has been utilizing almost all available sources of information in the process of estimating capital formation and saving in the economy. The estimates relating to saving in the form of financial assets have also drawn upon most of the information available to the Reserve Bank of India. On the whole, the improvements thus achieved in the series on gross capital formation and savings over the last two decades, as a part of the more comprehensive series on national income and expenditure, have made these estimates almost as good as they can be expected to be, given the nature of the economy and the difficulties inherent in securing adequately reliable data. It is doubtful whether the estimates for any other country at a similar stage of development have a much firmer foundation.*

8.2 This does not mean that there is no scope for further improvements. We have already indicated some of them in the course of our analysis. For instance, the need to disaggregate the estimates for the household sector is both vital and urgent, not only for analytical purposes but even for policy formulation. Attempts have to be made to estimate capital formation and saving separately for farm households, for unincorporated enterprises in industry, transport, trade, etc., and for households proper; this needs to be given high priority, as these are sectors of the economy in which important (though complex) developments are taking place.

8.3 But it is more easily said than done, given the present data base. Much preparatory work will be needed before such an attempt can bear fruit. Considering however the progress that has already been made in building up detailed estimates of capital expenditure in rural households (through the surveys conducted in 1961-62 and 1971-72 by the Reserve Bank of India), not only State by State but even region by region within each State, and the considerable work that is being now done by various research institutions, such as the NCAER and others, spread over the country (with support from

* We have repeatedly drawn attention to the problems of estimation relating to unincorporated enterprises. That similar problems have been encountered even in the United States in respect of unincorporated enterprises will be evident from a report of the joint economic committee of the U.S. Congress towards the middle of the 1950's. "For the immediate future, the most important single step that could be taken to improve the accuracy of the national accounts would be to improve the data for non-farm sole proprietorships and partnerships. The inadequacy of the underlying data for this sector of the economy affects the reliability of practically every important component of the accounts; e.g., saving, capital expenditures, depreciation, sales, inventories, and many others but particularly that of profits This situation is no fault of those who are responsible for making the estimates The estimators have repeatedly called attention to the need for better data in this area, but the data-collecting agencies have not been able to comply with these requests, mainly because of the limitation of funds Unfortunately, it will not be easy to remedy this difficulty which is as old as national income statistics in the United States The small firm is typically operated as a family enterprise, and its accounts are usually intermingled with those of the proprietor's household The absence of reliable data for unincorporated business enterprises is surprising in view of the great interest frequently expressed by public and private groups in the fortunes of small business." National Bureau of Economic Research (NBER), *The National Economic Accounts of the United States: Review, Appraisal and Recommendations* (Washington, 1958), pp. 125-126.

agencies like the Indian Council of Social Science Research), it should not be difficult to build up fairly reliable series for farm households within a few years. If this is attempted State-wise and region-wise, the resulting estimates should over a period of time help greatly in formulating and implementing policies relating to agriculture and in devising appropriate measures for correcting inter-regional disparities in development.

8.4 Similarly, it should be possible to build up a separate series for unincorporated enterprises in manufacturing, transport, trade, etc. This would however require much more preparatory work over a period of time. Unlike in agriculture, where a vast amount of data have been collected systematically by a variety of agencies over a long period, very little work has been initiated so far for studying in depth either the structure or the growth of unorganized manufacturing industry, commerce, and related sectors. This is a serious lacuna today, and therefore steps need to be taken not only through official agencies for building up an adequate body of information but through more intensive studies undertaken with the help of the many research institutions that can be drawn into this work.

8.5 In this regard, even within the existing state of statistical data, some attempt at splitting of the household sector into meaningful categories could be made. While the data on household saving is not obviously emanable to such break up, those on gross capital formation in the 'unorganized' segment could be straight away separated out into the following three key functional sub-groups constituting the household sector: (i) farm households; (ii) non-farm production units; and (iii) others. The data base for such categorisation is available in the CSO's present estimates of capital formation by industry of use, which is presented for as many as twelve industrial categories. The estimation procedure is such that under each industrial category, separate data could be worked out for; (i) public sector; (ii) private corporate sector; (iii) farm households; (iv) non-farm production units consisting of unincorporated enterprises and all self-employed households engaged in production; and (v) others. To illustrate, capital formation in agriculture and allied activities would have to be all assigned to 'farm households'. For registered manufacturing, the ASI gives data separately for (i) public sector, (ii) private corporate sector, and (iii) un-incorporated enterprises. Capital formation under unregistered manufacturing could be entirely attributed to the 'non-farm production units'. Such a separation is possible in all other industrial categories such as construction, trade and transport. In this proposed disaggregation of the estimates of household capital formation, the residual category (i.e., 'others') would consist of pure households not engaged in the organization of production; their capital formation would naturally be mainly in the form of investment in 'residential' construction. Estimates of investment in 'residential' construction by farm households could be also presented separately.

8.6 Another area in which improvements in estimation can and should be made relates to the provisions for depreciation (i.e., capital consumption). As described earlier, the existing practices and the underlying criteria vary from sector to sector. There are such extremes as no provision at all being made for depreciation in the case of physical assets used for government administration; in others, the provision made is on the basis of what income-tax laws permit, as in the case of private sector companies, public corporations and companies, and even some departmental undertakings. It is important that the criteria and methods adopted are put on a more rational and uniform basis.

8.7 In this regard, the methodology now adopted for estimating capital consumption in 'agriculture'

appears in principle very logical and appropriate. Estimates of capital stock for each of the years are first built up on the basis of the perpetual inventory method; with the help of independent data on the average age-structure of assets (separately for different types of assets) the rate of consumption of fixed capital is then arrived at as a proportion of the value of stock in each case. This method needs to be extended to all other sectors. It would require building up of a comprehensive life-table of physical assets in each sector and sub-sector, based on detailed and pains taking analysis of the average life of each major group of physical assets. But such exercises alone can provide reasonably realistic estimates of the consumption of fixed capital and make the distinction drawn between gross and net capital formation more meaningful and dependable. A sharp distinction needs to be also drawn between estimates of the probable rate of physical depreciation of capital stock and estimates of the financial provisions made for the replacement of such stock.

8.8 Similarly, a beginning could perhaps be made at an early stage in allowing for capital losses and destruction. Such destruction and losses are now considerable on account of natural calamities (affecting particularly agriculture and rural housing) as well as accidents (as in the Railways).

8.9 Still another important area of estimation in which some improvements are called for is in respect of investment in inventories. The present method of estimation of inventories of agriculture and trade in the household sector, linked directly to increases in bank credit extended to this sector, is patently unsatisfactory. This is of course a sphere in which considerable errors can remain even after some improvements, since much of the holding of commodity stocks in this sector are deliberately concealed (rather like stocks of gold). All that can therefore be expected perhaps are estimates with a stronger and more plausible foundation than at present.

8.10 Some work needs to be also initiated for understanding the various dimensions of what is often loosely referred to as the 'parallel economy'. There is considerable confusion and doubt as to how far the concealed quantities are confined to stocks of highly liquid assets such as gold and currency, to what extent they are linked with the holdings of other financial assets (such as bank deposits) as well as physical assets (such as real estate), and how they are all linked up with current production activities (i.e., the 'flows' in the economy). Some light is likely to be thrown on these questions in the course of investigations into unincorporated enterprises in manufacturing industry, transport, trade, etc. However, it will be necessary to conduct also studies more sharply focussed on how production and incomes get under-reported, the extent to which under-reporting in some sectors could get offset by higher estimates for other sectors, and the forms in which the savings so generated tend to be held. An intelligence unit within the National Income Division of the CSO could be specially entrusted with this task of obtaining market intelligence on the business practices germane to this subject on an on-going basis.

8.11 Closer examination of the estimates of expenditure on public sector projects, of the terms on which government contracts are given out and revised from time to time, and of audit reports relating to them should make it possible to have firmer ideas on the extent of leakages that take place and the allowance that should on this account be made in the estimates of investment outlay through the public sector. Similar case studies could also be attempted of investment outlays in the private corporate sector, of the sector's linkages with unincorporated enterprises, of the pricing of intermediate goods purchased, and of products sold, etc. As indicated earlier, specific studies directed at identifying the consumption of electricity by industries and quantifying the unexplained residuals would also help in assessing the quantum of unreported output and incomes.

8.12 We would also propose that the Reserve Bank of India should continue its company finance studies with greater regularity, find more appropriate blowing-up factors through regular censuses covering companies of all sizes (both public and private limited companies) conducted on a quinquennial basis, and adopt better sampling procedures for companies with relatively small paid-up capital. It is also vital that studies on foreign-controlled rupee companies, of which there have been none since 1972-73, should be resumed by the Reserve Bank. Another important area in which the Reserve Bank of India could help to make available data on a more adequate and systematic basis concerns ownership of bank deposits; what is required here is above all a more detailed and accurate classification of owning categories, without lumping too many of them together (as is done now under the category of "others", which accounts for nearly 25 per cent of total bank deposits). A further weak area relates to the data on the deposits accepted by the non-banking companies. A more glaring gap in the existing knowledge relates to the various dimensions of foreign inward remittances such as their sources of origin, the regions into which they flow their initial impact on domestic savings, their deployment, and their secondary effects on the economy. In this regard, very little has been done so far and the RBI has a special responsibility for organizing more analytical studies. Several other lacunae involved in the data base for savings to which the RBI needs to pay particular attention are mentioned in details in Appendices II, IV and VI.

8.13 We have also a number of other detailed suggestions, particularly for improving the estimates relating to the public sector and minimizing the degree of discrepancy and error that can be noticed in them. In this context, we propose more systematic coverage of the accounts of local authorities and a greater degree of disaggregation of the public sector, distinguishing not only between administrative departments of the governments and departmental undertakings (separately for the Central and State Governments) but between financial and non-financial institutions among non-departmental enterprises and showing separately and saving contributed by the Reserve Bank of India (whether from its operations in the Issue Department or from those of the Banking Department). Such disaggregation would be of help in analysing the estimates of saving in the public sector and interpreting their economic implications and significance. In order to avoid cluttering up the main text of the report with these details, all such suggestions (including those for the private corporate sector and the household sector) are being given in a separate appendix (Appendix IX).

8.14 We have been required (by the terms of reference) to consider also the possibility of building up regional estimates of capital formation and saving. It appears to us that such regional estimates can be built up in respect of capital formation in the household sector, and (as indicated earlier) could serve a very useful purpose if disaggregated further in order to bring out clearly the rates of capital formation in farm households, in unincorporated enterprises in manufacturing industry, transport, trade, etc. It might also be held in policy formulation if estimates can be made region-wise of the saving of the household sector in the form of certain financial assets, particularly bank deposits; such region-wise estimates in respect of bank deposits can be made with data already available to the Reserve Bank. Following the recommendations of a Regional Accounts Committee appointed by the Government of India* in May 1972 under the chairmanship of Professor M. Mukherjee (who is also a member of the present Working Group), some progress has already been made in working out estimates of capital formation at the regional level; we need only give our strong support to the speedy implementation of these recommendations.

*Central Statistical Organisation, *The Committee on Regional Accounts: Final Report* (September, 1976)

8.15 A final thought we would like to add here concerns the publication of different estimates of investment and saving for the same years by different official agencies such as the Central Statistical Organisation, the Reserve Bank of India, and the Planning Commission. This practice has caused much needless confusion in the past, and it would help greatly if it is discontinued. Since 1975 the Planning Commission has started publishing estimates that are consistent with the official CSO estimates, but the estimates still being published by the Reserve Bank of India are slightly at variance with them. Some of the discrepancies in the estimates are inevitable, since the RBI estimates are made and published between August and November each year and the data on which they are based are necessarily different from those on which the CSO estimates published later are based. But there are also discrepancies for other reasons. We have had detailed discussions with both the agencies concerned regarding the reasons for such discrepancy, and have taken into account all the relevant considerations in making out detailed recommendations. If these recommendations are fully adopted by both the CSO and the RBI, the series published by these two official agencies should in the future show no other discrepancies than those caused by differences in the time of preparation and publication of their respective estimates.

APPENDIX I

METHOD OF ESTIMATION OF PHYSICAL ASSETS FORMATION OF THE HOUSEHOLD SECTOR

I.1 In Chapter 4, a brief description of the methodology of estimating gross capital formation by the household sector has been presented. However, the methodology is a complex one and involves such a large number of steps and procedures that it was thought desirable to present its relevant details separately. The details of the method of estimation of inventory accumulation along with concrete suggestions for improvement are contained in Appendix V. The present appendix describes the method relating to the estimation of the two other types of assets, i.e., construction, and machinery and equipment, the additions to which constitute fixed assets formation. From the estimated totals of such additions for the economy as a whole, estimates independently made for the public sector and the private corporate sector are deducted to obtain the 'residual' attributable to the household sector.

I.2 Construction undertaken in the economy is, for estimation purposes, classified into two categories: *pucca* (or accounted) and *kutchra* (or unaccounted). *Pucca* construction is that undertaken with a specified set of materials, while *kutchra* construction is of labour-intensive nature. The 'commodity flow' method is used to estimate gross capital formation through *pucca* construction, and through the installation of all types of 'machinery and equipment'. The estimates of *kutchra* construction are derived through the 'expenditure' method.

I construction

I.3 There are three key steps in the estimation of the value of *pucca* construction covered under the 'commodity flow' method. They are:

- (i) the estimation of the net availability, for construction purposes, of each of the five specified construction materials (viz., cement, iron and steel products, timber and roundwood, bricks and tiles and permanent fixtures and fittings) and their evaluation at costs borne by the builders at the site of construction based on information on the relevant commodity prices and on transport charges, dealers' margins, and indirect taxes;
- (ii) estimating the value of building materials other than the specified five; and
- (iii) the estimation of factor income payments associated with the new construction works.

I.4 The total value of construction covered by the 'commodity flow' approach is obtained as a sum of the material inputs and factor income payments.

I.5 Capital formation in the form of labour-intensive construction and estimated through the 'expenditure' method is generally confined to the household sector (except for forestry in the public sector and tea, coffee and rubber plantations in the private corporate sector, the methods of estimation of which have been described in Chapter 4). Such construction works relate to (i) residential buildings, (ii) non-residential buildings, and (iii) 'other construction works'; estimates of each of these categories are undertaken separately for rural and urban areas.

1.6 The steps involved in the estimation of different categories of labour-intensive construction could be regrouped into two very broad stages: first, the estimation of the total value of construction (both accounted and unaccounted) under each category undertaken through the 'expenditure' approach for a bench-mark year and then carried forward to other years using relevant indicators; and secondly, based on the ratio method using survey results, the proportion which labour-intensive construction forms to the total value of construction under respective categories, is derived for a bench-mark year and applied to the estimated totals for the subsequent years.

1.7 The following paragraphs describe the details of the 'commodity flow' and 'expenditure' methods in that order.

'Commodity flow' method

1.8 Under the 'commodity flow' method, the net availability of those construction materials is derived by taking the estimates of domestic production and allowing for their use in other industries, for changes in stocks, as well as for imports and exports. Cement is produced in the organized sector of industry, whereas iron and steel products are produced both in the registered and unregistered manufacturing sectors. Permanent fixtures and fittings are largely produced in the organised sector, while timber and round-wood and bricks and tiles come mainly from the unorganized sector. A brief description of the procedures involved in their estimation is presented below:

1.9 The figures of total despatches of cement by the producing units under (i) rate contract (i.e., those despatched for specified uses in the public sector at fixed prices), (ii) other than rate contract, and (iii) free sale, are adjusted for imports and intermediate consumption in other industries. The estimated quantity available for construction is then evaluated with the help of appropriate prices. Such unofficial prices as may be obtaining in the market at variance with the official prices are not taken into account. The total value of cement used in construction is marked up arbitrarily by 2 per cent to take account of the transport cost from the place of purchase to the site of construction.

1.10 In respect of iron and steel products, the value of output in money terms is obtained from the *Annual Survey of Industries* (for both census and sample sectors) and estimates of output of such commodities in the unregistered manufacturing sector. The output is then adjusted for imports, exports and 'change of stocks'. On the estimated value of iron and steel products used in construction (including import duties), adjustments for trade and transport and other charges are made at 15 per cent. In this case also, such black market prices of the controlled varieties of iron and steel products as may be prevailing are left out of account.

1.11 Data on production of timber and round-wood are not separately available. Instead, information is available on industrial wood, comprising mainly timber and round-wood. Based on information available with the Government, the latter's share was estimated at 99.8 per cent for 1964-65, which has then been used for all subsequent years. Excluding timber used as railway sleepers, 48.5 per cent of the residual is taken as having been used in construction; round-wood used in construction is placed at 38.0 per cent of the total quantity produced. These proportions were worked out on the

basis of information contained in the *Timber Trends Study for the Far East, Commodity Report* for India (The Inspector General of Forests, 1958). The estimated quantities used in construction so arrived at are valued at different prices; (i) timber at the all-India average prices issued quarterly by the National Buildings Organisation (NBO) in their publication *Prices of Building Materials and Wage Rates for Building Labour* (mimeographed); and (ii) round-wood, at the State-wise base prices for 1970-71 and the resultant all-India average price for that year being moved to later years with the help of the Economic Adviser's index of wholesale prices for log and timber. The total value thus obtained is marked up for trade and transport margins at the rate of 7 per cent on the value of timber used in construction, 5 per cent for timber used in railway sleepers, and 50 per cent on the value of round-wood used in construction, so as to obtain the value at the site of construction.

I.12 The total quantity of bricks and tiles produced in the organised sector is estimated on the basis of the despatch of coal for brick burning and the estimated average quantity of coal needed for producing one lakh of bricks and tiles. This output is valued at the all-India average prices published by NBO. Separate estimates are made for the production of bricks and tiles in the unregistered manufacturing sector, which is further inflated arbitrarily by 50 per cent to take account of the production of bricks by rural households for their own use. The total value of all of these together is marked up by 25 per cent as trade and transport charges.

I.13 Finally, data on the value of production of a large number of fixtures and fittings of a permanent nature used in construction are obtained from the *Annual Survey of Industries (ASI)* and from the Directorate General of Technical Development (DGTD). In their case, the trade and transport charges are estimated to be 35 per cent.

I.14 The total value of five construction materials so arrived at is added to the estimated value of other construction inputs and factor income payments involved in construction (compensation of employees, rent, interest, profits and dividends). Other construction materials include crude, coal, tar, hard board, PVC flexible sheetings, refractories and furnace lining bricks, hume pipes, asbestos cement sheets, paints and varnishes, sheet glass, pipes and limestone. Sufficient data are not available to enable an independent estimation of these other construction inputs as well as factor income payments. Sample surveys on urban building activities undertaken by the National Sample Survey for 1967-68, and by the Reserve Bank of India for the period 1955-56 to 1957-58, have been used to arrive at an estimate of the proportion of these five specified construction materials in the total cost of all construction materials; this proportion worked out to 65.9 per cent. For the subsequent years, this proportion is adjusted for the relative movement of prices of the five basic materials as compared with the prices of other construction materials, the respective prices being based on the Economic Adviser's index number of wholesale prices and the index number of purchase prices obtained from the Directorate General of Supplies and Disposals (DGSD).

I.15 Similarly, the proportion of factor income payments to total value of material inputs is determined for a bench-mark year 1970-71 (at 60 per cent) on the basis of information available with the Central Public Works Department (CPWD), the National Buildings Organization (NBO), and the zonal offices of the Railways, as well as on the basis of the Reserve Bank study on building activities (referred to earlier) and the results of an analysis of the balance sheets of construction companies in the corporate sector. For the subsequent years, the bench-mark proportion is adjusted for the

differential movements in the prices of construction materials and labour income. The index of wages is obtained from the index of wages of construction workers in rural and urban areas weighted according to the value of construction in the two areas in the base year (1970-71). The sectoral composition of *pucca* or accounted part of construction is derived by working out the value of construction in the public sector and the private corporate sector separately and taking the 'residual' as falling within the household sector. When the 'residual' is so derived, it actually represents the value of *pucca* construction in the household sector comprising *both* new construction as well as repairs and maintenance.

'Expenditure method' (labour intensive construction)

I.16 Estimates of labour-intensive construction, as stated earlier, are made through the data on expenditures incurred on new construction works in money terms. Such labour-intensive construction is confined to the 'unorganized' household sector, except for (i) afforestation and re-afforestation in the public sector* and (ii) tea, coffee and rubber plantations in the private corporate sector. Estimates are independently made for the public sector, the private corporate sector, and the household sector. Data on expenditures on afforestation and re-afforestation are available in the budgets of the Central and State Governments. In the case of the private corporate sector, the estimates are based on data obtained from the Tea, Coffee and Rubber Boards.

I.17 In the case of the household sector, the labour-intensive construction relates to residential and non-residential buildings and other construction works; the estimates for total construction outlays comprising both accounted and unaccounted under each of these categories are prepared first for a bench-mark year using the 'expenditure' approach, and they are then carried forward for other years through relevant indicators. At the next stage, with the help of the ratio method and using the results of different surveys conducted in rural and urban areas, the proportion of the *kutchha* or unaccounted construction forms to the total construction outlay under each category is arrived at for a bench-mark year, and this proportion is uniformly applied to the other years. A detailed account of the methods used for arriving at these proportions is presented below:

(a) Rural residential houses

I.18 *The All-India Debt and Investment Survey (AIDIS) of 1971-72* gives the total estimated expenditure on capital formation in rural residential houses (i.e., both *pucca* and *kutchha*). These are moved to subsequent years by a combined index of net annual addition in the number of rural residential buildings, as indicated by the population censuses of 1961 and 1971 and by the estimated cost of construction of rural houses. Estimates of repairs and maintenance of rural residential buildings are prepared from the ratio of repairs and maintenance to the value of capital stock as shown by *AIDIS: 1971-72*.

**Kutchha* construction in respect of the public sector relates only to forestry. Other *kutchha* construction, if any, is classified with *pucca* construction as no information on *kutchha* construction is available either in the budget documents or in the annual reports of the non-departmental undertakings.

(b) Urban residential houses

I.19 The value of construction in urban residential houses is estimated with the help of the annual growth rate in the number of urban dwellings indicated by the data on number of houses furnished by the municipalities. The starting point in this respect is the estimated value of capital stock in urban housing as of 1961-62 derived by capitalising the rental incomes independently arrived at for national income estimation. Data collected for 55 municipalities of Maharashtra gave the ratio between the annual letting value and capital value at 5.4 per cent. In the metropolitan corporations of Calcutta, Bombay, Delhi/New Delhi, and Madras, the ratio has been taken as 7.5 per cent of capital value. These two ratios have been combined in the proportion of population in urban areas (other than four cities) and in the four big cities according to the 1961 census to obtain an overall estimate, which works out to 5.7 per cent. The estimated value of urban dwellings (both *pucca* and *kutcha* together) for 1961-62 has been moved to 1970-71 with the help of the annual growth rate of urban houses, worked out on the basis of data collected from municipalities each year duly superimposed by the index of the cost of construction of urban houses to estimate the value of urban dwellings in 1970-71. For the subsequent years, the value of urban dwellings has first been prepared at 1970-71 prices to work out net capital formation at that base level price. With the assumption of 1.67 per cent of the opening wealth of urban dwellings in each year as the rate of consumption of fixed capital, the estimates of net capital formation at 1970-71 prices have then been converted to current prices with the help of the index of cost of construction of urban houses. A proportion of the value of capital stock of urban housing is taken as the expenditure on repairs and maintenance from year to year.

I.20 The above (a) and (b) give estimates of total capital formation in rural and urban housing, which are to be broken down into *pucca* and *kutcha* construction. This is done on the basis of the information contained in the *NSS-15th Round: 1959-60* (rural) and the *NSS-17th Round: 1961-62* (urban). These surveys revealed that in the case of the rural housing, the proportions of *pucca* and *kutcha* were 72 per cent and 28 per cent, respectively, and for urban housing, the same are 80 per cent and 20 per cent; these proportions are being used for all the years.

(c) Rural non-residential buildings

I.21 The estimates of rural household non-residential building construction (both *pucca* and *kutcha* together) are based on the results of *A/DIS: 1971-72*. In the absence of any other relevant indicator, the *A/DIS* estimates of capital formation in rural non-residential buildings have been moved to 1970-71 using a combined indicator of gross value added in unorganised sectors of the economy (agriculture and allied activities, unregistered manufacturing, unorganised transport and other services) at 1970-71 prices. This is then converted to current prices with the help of the index of cost of construction of rural houses. The ratio of *pucca* to *kutcha* construction in this respect is the same as that for rural residential construction.

(d) Rural and urban 'other construction'

I.22 For estimating the value of 'other construction works' — both rural and urban — a proportion of the expenditure on only one type of asset, viz. digging of wells is taken as *pucca* construction and the whole of the expenditure on other items (reclamation of land, bunding and other land improvement, development of other irrigation works, afforestation, re-afforestation, laying of new orchards

and plantations) is treated as *kutchha*. In the case of the rural household sector, 'other construction works' have been worked out separately for each item including digging of wells using the results given by *AIDIS: 1971-72*. The estimates for 'other construction work' by the urban households have been obtained for 1971-72 using the proportion of such estimates to the estimates of the rural sector in 1961-62 worked out on the basis of the *NSS, 17th Round: 1961-62* (urban) and the *AIDIS: 1961-62* (rural). The estimates in respect of rural and urban 'other construction work' for 1971-72, thus obtained, have been moved to 1970-71 using the same indicator (value added in the unorganised sector) as is used for rural non-residential buildings. The 'digging of wells' is converted into current prices with the help of the index of cost of construction of *pucca* wells and the rest with the help of the index of daily wages of rural unskilled labour.

I.23 The estimate of the construction of wells is obtained by splitting the total estimate on construction of wells into *pucca* and *kutchha* on the basis of information on masonry and non-masonry wells available in the *Season and Crop Reports* of various State Governments; the relative value of construction of such wells is determined on the basis of the estimate of the cost of wells given in a working group (Ministry of Agriculture). These data suggest that two-seventeenth of the total value of construction of wells relate to the labour-intensive type.

(e) Urban non-residential construction

I.24 What remains now to be estimated is the value of construction of non-residential houses in the urban sector. Urban non-residential housing of the *accounted* variety is estimated as a residual by deducting from total value of construction, the value of construction in the public sector, the private corporate sector, rural residential, rural non-residential, rural 'other construction works', urban residential and urban 'other construction work'. The proportion of new construction and repairs and maintenance in urban non-residential *pucca* construction is taken to be the same as that for urban residential housing. The value of urban non-residential construction of an unaccounted or *kutchha* type is estimated by assuming the same *pucca-kutchha* proportions used for urban residential construction.

I.25 To sum up, the total estimate of unaccounted (or *kutchha*) construction consists of 28 per cent of the value of private household construction in residential and non-residential structures in rural areas, 20 per cent of the value of private urban household construction in residential and non-residential structures, the whole of 'other construction works' except the construction of wells, and two-seventeenths of the construction of wells.

Basic data

I.26 The data presented in a set of four tables bring out the steps involved in the process of estimation of total construction outlays and their components. The total value of construction along with its break-up into *pucca* and *kutchha*, for the years 1970-71 and 1977-78, are given in *Table 1.1*. The proportions of the accounted and unaccounted constructions in the total value of construction from 1970-71 to 1977-78 are presented in *Table 1.2*. *Table 1.2* also shows the proportion of new constructions and repairs and maintenance in the total value of construction. *Table 1.3* depicts the distribution of the value of unaccounted or *kutchha* construction under three major heads, namely, government afforestation, plantations in private corporate sector, and household. The value of *kutchha*

construction in household sector is shown separately for new construction and repairs and maintenance. Each of them is again broken into (a) rural residential, (b) urban residential, and (c) others.

Table 1.4 gives the percentage distribution of the value of construction coming under the accounted or *pucca* category, that is, construction estimated on the basis of 'commodity flow' approach. This table shows the shares of public sector, private corporate sector and household sector, separately for new construction and repairs and maintenance. Within the public sector again the shares of Government administration and departmental enterprises, and non-developmental commercial undertakings are shown separately. The share of the household sector in *pucca* construction is given separately under: (i) new construction: (a) residential-rural, (b) residential-urban, and (c) rest. Similar break-ups are given for repairs and maintenance.

Possible sources of error

1.27 From the methodology of estimating capital formation in housing and construction in the household sector described above, it will be seen that there are several points at which errors or biases may creep in. For these estimates rely heavily on information relating to a base year which is moved forward with the help of some indicators. While the indicators seem reliable, the base year in some cases is as old as 1964-65 (e.g., the estimate of capital stock of urban residential houses). Use is also made of ratios derived from surveys carried out several years ago (e.g., the proportion of *pucca* and *kutcha* in rural residential housing). These ratios are obviously outdated and could be a source of error in the estimates.

1.28 Bias may arise also at the starting point itself, namely, the estimate of aggregate value of construction of the *pucca* variety in the economy derived by the 'commodity flow' approach. The significance of this aggregate in the context of estimates of construction in the household sector stems from the fact that although most of major components of housing and construction in the household sector, namely, rural and urban *pucca* residential houses, rural and urban *kutcha* residential houses, rural and urban *kutcha* non-residential houses, and 'other construction', are estimated independently, one element, namely, new construction of the *pucca* variety in non-residential urban buildings and 'other construction' comes out as a residual (see Table 1.1). Therefore, any error or bias in any of the elements in the entire structure of the estimates of capital formation in housing and construction ultimately has its repercussions on the estimate of investment in housing and other construction in the household sector *via* the residual. Thus any upward or downward bias in the estimate of construction in the public sector (e.g., through "leakages") would have a corresponding downward or upward bias in the estimate of household sector *via* the residual element. While this would not affect the aggregate value of *pucca* construction in the economy as a whole — only the sectoral distribution would change — such biases can have a profound influence on the estimate of physical asset formation in the household sector. Hence in considering how the estimate of housing and construction in the household sector can be improved, it is necessary to see that (i) the controlling total is estimated correctly and (ii) the other components of the aggregate are also free from any error or bias as far as possible. Otherwise any attempt to improve the individual elements in the estimate of housing and construction in the household sector will not be very fruitful as all such refinements would end up only by changing the residual.

Table I.1: Total Value of Construction
(at current prices)

(Rupees, Lakhs)

Items		1970-71	1977-78
1		2	3
1.1	Value of construction accounted in commodity flow approach ¹	3970,88	9731,22
1.1	Govt. admn + depts. enterprises — new ²	1151,30	3165,66
1.2	Govt. admn + depts. enterprises — repairs & maintenance ²	499,29	1043,65
1.3	Non-departmental commercial undertakings — new ³	386,38	1070,01
1.4	NDCU — repairs and maintenance ³	45,14	67,51
1.5	Private corporate sector — new ⁴	79,95	190,65
1.6	Private corporate sector — repairs and maintenance ⁵	32,95	99,87
1.7	Household sector (residual)	1775,87	4093,87
1.7.1	Rural residential (buildings — new ⁶)	268,71	596,34
1.7.2	Rural residential buildings — repairs and maintenance ⁷	41,57	87,52
1.7.3	Urban residential buildings — new ⁸	335,15	996,16
1.7.4	Urban residential buildings — repairs and maintenance ⁸	38,97	94,48
1.7.5	Residual household	1091,47	2319,37
1.7.5.1	New construction ⁹	1049,13	2220,25
1.7.5.2	Repairs and maintenance ^{9,10}	42,34	99,12
2.	Value of construction unaccounted	780,32	1839,64
2.1	Rural/urban non-residential building and other construction works ¹⁰	532,84	1202,34
2.1.1	new construction	467,08	1053,95
2.1.2	repairs construction	65,76	148,39
2.2	Rural residential buildings — new ⁶	104,50	231,91
2.3	Rural residential buildings — repair ⁷	16,17	34,04
2.4	Urban residential buildings — new ⁸	83,79	249,04
2.5	Urban residential buildings — repair ⁸	9,74	23,62
2.6	Plantation in private corporate sector ¹¹	24,19	79,90
2.7	Govt. plantation ¹²	9,09	18,79
3.	Total value of construction (1+2)	4751,20	11570,86
3.1	New construction	3959,27	9872,66
3.1.1	Public sector (items 1.1 + 1.3 + 2.7)	1546,77	4254,46
3.1.2	Private corporate sector (item 1.5 + 2.6)	104,14	270,55
3.1.3	Household sector (item 1.7.1 + 1.7.3 + 1.7.5.1 + 2.1.1 + 2.2 + 2.4)	2308,36	5347,65
3.2	Repairs and maintenance (item 1.2 + 1.4 + 1.6 + 1.7.2 + 1.7.4 + 1.7.5.2 + 2.1.2 + 2.3 + 2.5)	791,93	1698,20

¹ For details of methodology refer relevant paragraphs in Chapter XX, in *National Accounts Statistics — Sources and methods* (CSO, April, 1980).

Contd. . . .

- 2 Based on information provided in the budgets of Central and State Governments, local authorities and port trusts.
- 3 Based on data contained in annual accounts of non-departmental commercial undertakings (INDCU).
- 4 Based on information provided by ASI reports, *Public Electricity Supply – All India Statistics* (CEA), RBI analysis of finances of sample joint-stock companies published Annually in RBI Bulletins, *Statistical Statements Relating to Cooperative Movement in India* (RBI) and *Statistical Tables Relating to Banks in India* (RBI).
- 5 Based on RBI analysis of finances of sample joint-stock companies, *Statistical Statements Relating to Cooperative Movement in India* (RBI) and *Statistical Tables Relating to Banks in India* (RBI).
- 6 For details of methodology refer paragraphs 20.20 and 20.31 (i) of Chapter XX in *NAS – Sources and Methods*, Op. Cit.
- 7 For details of methodology refer paragraphs 20.21 and 20.31 (i) of Chapter XX in *NAS – Sources and Methods*, Op. Cit.
- 8 For details of methodology refer paragraphs 20.22, 20.23 and 20.31 (ii) of Chapter XX in *NAS – Sources and Methods*, Op. Cit.
- 9 For details of methodology refer paragraphs 20.27 to 20.30 and 20.31 (iii, iv, v) of Chapter XX in *NAS – Sources and Methods*, Op. Cit.
- 10 For details of methodology refer paragraph of 20.30 of Chapter XX in *NAS – Sources and Methods*, Op. Cit.
- 11 Based on data obtained from Tea, Coffee and Rubber Boards.
- 12 Based on data contained in Government Budgets.

Table 1.2: Total Value of Construction (at current prices) – Percentage Distribution

Item / Year	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78
1	2	3	4	5	6	7	8	9
1. Total value of construction	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
I. Proportion estimated by commodity flow approach & expenditure methods								
1.1 value of construction – accounted in commodity flow approach	83.6	83.4	84.5	80.5	81.7	82.5	83.7	84.1
1.2 value of construction – unaccounted in commodity flow approach	16.4	16.6	15.5	19.5	18.3	17.5	16.3	15.9
II. Proportion of new construction and repairs and maintenance in total value								
(a) new construction	83.3	82.8	83.4	82.4	82.9	84.0	84.8	85.3
(b) repairs and maintenance	16.7	17.2	16.6	17.6	17.1	16.0	15.2	14.7

Share of *kutchā* construction

1.29 Keeping in view the possibility that the size of *kutchā* construction can also be a source of significant error in the estimate of capital formation in construction in the household sector, the shares of *pucca* and *kutchā* construction in the total capital formation in housing and construction as a whole were examined. It was found that the share of *kutchā* construction in the total remained more or less stable at around 16 per cent during the period 1970-71 to 1977-78 (Table I.2). There was an increase in the years 1973-74 and 1974-75 but thereafter the proportion came down again to about 16 per cent. Also, within the *kutchā* construction, the distribution among different items appears fairly stable (Table I.3). Probably the myriad bits of *kutchā* construction carried on in rural and urban areas have a degree of stability in relation to the total construction activity. It could be said that the recent estimates of capital formation in physical assets, particularly construction, do not suffer from an upward bias because of any unduly large share of *kutchā* construction.

1.30 While, as noted above, the proportions of *kutchā* construction in the total also do not exhibit any unduly large increase in recent years, looking at the different components of the value of construction estimated by the 'commodity flow' approach (Table I.4), one can notice rather sharp fluctuations in the residual element described as "rest" (item 1.3.1.3). From 26.4 per cent in 1970-71 the proportion of this element went down to 2.4 per cent in 1973-74 but went up again in subsequent years and stood at 22.8 per cent in 1977-78. This gives rise to some misgivings as to the reliability of the estimates of *pucca* or accounted part of construction that accounts for over four-fifths of capital formation in construction in the economy. When the share of the residual within the *pucca* construction category is marked by such sharp fluctuations, it suggests that errors may arise from any of the quarters: from the controlling total, or from the other elements in the accounted part of construction which are estimated independently, or from all of them.

II Machinery and Equipment

1.31 A brief but self-contained description of the method of estimation of gross fixed capital formation in 'machinery and equipment' has already been presented in Chapter 4. In this section of the appendix, the key problems in estimation are raised. In doing so, however, some of the relevant details of estimation which have not been given in that chapter are presented here.

1.32 The first estimation problem arises out of the necessity to isolate 'capital formation' from the total production of 'machinery and equipment'. The final use of some machinery or equipment could either be in the form of current consumption, or durable *consumer* good, or investment. The procedure, therefore, is to classify all 'machinery and equipment' domestically produced or imported (net) into four categories: (i) capital goods, (ii) parts of capital goods, (iii) partly capital goods, and (iv) parts of partly capital goods. The total available of items in (i) are taken fully as capital formation. In the case of (ii), only 50% of the value is taken as capital formation. For category (iii), the percentage is determined item by item and can vary. For category (iv), 50% of the proportion used in category (iii) for the related item is treated as capital formation.

1.33 The second estimation problem arises from the inadequacy of data on domestic production, particularly in respect of the units falling under the *ASI* sample sector as well as those under the unregistered manufacturing sector. The *Annual Survey of Industries* (census and sample sectors) is the

Table 1.3: Value of Construction – Unaccounted in ‘Commodity Flow’ Approach (at current prices) – Percentage Distribution

Item / Year		1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78
1		2	3	4	5	6	7	8	9
99	1. Value of construction – unaccounted in commodity flow – approach	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	1.1 Government forestations	1.2	1.1	1.2	1.2	0.9	0.9	1.1	1.0
	1.2 Plantation in private corporate sector	3.1	2.9	3.8	3.8	2.2	4.5	4.8	4.3
	1.3 household	95.7	96.0	95.0	95.0	96.9	94.6	94.1	94.7
	1.3.1 new	84.0	84.4	83.2	83.7	85.2	83.2	83.1	83.4
	1.3.1.1 rural residential	13.4	13.6	14.4	13.4	14.7	13.7	13.2	12.6
	1.3.1.2 urban residential	10.7	11.9	10.1	12.7	13.1	12.4	15.4	13.5
	1.3.1.3 others	59.9	58.9	58.7	57.6	57.4	57.1	54.5	57.3
	1.3.2 repairs and maintenance	11.7	11.6	11.8	11.3	11.7	11.4	11.0	11.3
	1.3.2.1 rural residential	2.1	2.0	2.2	2.0	2.2	2.0	2.0	1.9
	1.3.2.2 urban residential	1.2	1.3	1.3	1.2	1.4	1.4	1.3	1.3
	1.3.2.3 others	8.4	8.3	8.3	8.1	8.1	8.0	7.7	8.1

Table 1.4: Value of Construction Accounted in 'Commodity Flow' Approach (at current prices) – Percentage Distribution

Item / Year		1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78
1		2	3	4	5	6	7	8	9
g	1. Value of construction accounted in commodity flow approach	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	1.1 Public sector	52.4	58.7	64.1	69.4	56.8	52.7	56.4	55.0
	1.1.1. new construction	38.7	44.3	50.6	55.0	43.4	40.1	44.3	43.6
	1.1.1.1 Govt. admn. + depts. enterprises	29.0	33.8	40.4	44.8	33.9	30.4	33.4	32.6
	1.1.1.2 Non-depts. commercial undertakings	9.7	10.5	10.2	10.2	9.5	9.7	10.9	11.0
	1.1.2 Repairs and maintenance	13.7	14.4	13.5	14.4	13.4	12.6	12.1	11.4
	1.1.2.1 Govt. admn. + Depts. enterprises	12.6	13.3	12.3	12.9	12.6	11.9	11.4	10.7
	1.1.2.2 Non-depts. commercial undertakings	1.1	1.1	1.2	1.5	0.8	0.7	0.7	0.7
	1.2 Private corporate sector	2.8	4.6	3.3	3.9	3.5	3.1	2.8	3.0
	1.2.1 new construction	2.0	3.7	2.4	2.9	2.4	2.2	1.8	2.0
	1.2.2 repairs and maintenance	0.8	0.9	0.9	1.0	1.1	0.9	1.0	1.0
	1.3 household sector	44.8	36.7	32.6	26.7	39.7	44.2	40.8	42.0
	1.3.1 new construction	41.6	33.6	29.6	23.0	35.9	40.7	37.8	39.1
	1.3.1.1 residential – rural	6.8	7.0	6.9	8.3	8.5	7.4	6.6	6.1
	1.3.1.2 residential – urban	8.4	9.5	7.5	12.3	11.7	10.6	12.1	10.2
	1.3.1.3 rest	26.4	17.1	15.2	2.4	15.7	22.7	19.1	22.8
	1.3.2 repairs and maintenance	3.2	3.1	3.0	3.7	3.8	3.5	3.0	2.9
	1.3.2.1 residential – rural	1.1	1.0	1.0	1.2	1.2	1.1	1.0	0.9
	1.3.2.2 residential – urban	1.0	1.0	1.0	1.3	1.3	1.2	1.0	1.0
	1.3.2.3 rest	1.1	1.1	1.0	1.2	1.3	1.2	1.0	1.0

basic source of data for estimating domestic production. For the years for which the *ASI* data are yet not available, the estimates are carried forward with the help of the index of industrial production for the relevant groups and the corresponding index of wholesale prices. The contribution of unregistered manufacturing of gross capital formation in 'machinery and equipment' is obtained by applying the proportions of the *ASI* sample sector to the value of output in unregistered manufacturing. In respect of the *ASI* sample sector, item-wise production data is now available only for 1973-74. For subsequent years, the 1973-74 proportions of output for each industry group at 3-digit level in the total is held constant, and applied to the total output of the sample sector to obtain item-wise figures. For the years for which only combined production data for *ASI* census and sample sectors is available, the item-wise proportions are weighted averages of the two sectors. The output value of 'machinery and equipment' produced in the unregistered sector is determined only at the 2-digit level and by assuming that the item-wise proportion of output conforms to the *ASI* sample sector of 1973-74. Even when capital formation estimates of 'machinery and equipment' are based on production in registered units covered by *ASI*, one needs to keep in mind that these production figures are also built on the assumption that item-wise composition of 'machinery and equipment' has more or less remained unchanged since 1973-74, the year for which item-wise details are at present available in full. This is an important information lag for estimating capital formation. However, this problem could only be remedied by responding to a long standing demand for curtailing the lag in the availability of the *ASI* data.

I.34 Important ratios and proportions used in the estimation of capital formation are presented in the accompanying Technical List.

TECHNICAL LIST
IMPORTANT RATIOS AND PROPORTIONS USED
IN THE ESTIMATION OF CAPITAL FORMATION
CONSTRUCTION

I. Trade, transport and other margins

1. Transport margin for cement from point of purchase to site of construction : 2 per cent of the value of cement used in construction.
2. Trade, transport and other charges for iron and steel : 15 per cent of the value of iron and steel used in construction.
3. Trade, transport and other charges for timber : 7 per cent of the value of timber used in construction.
4. Trade, transport and other charges for roundwood : 50 per cent of the value of roundwood used in construction.
5. Trade, transport and other charges for railway sleepers : 5 per cent of the value of railway sleepers.
6. Trade, transport and other charges for bricks and tiles : 25 per cent of the value of bricks and tiles.
7. Trade, transport and other charges for fixtures and fittings : 35 per cent of the value of output of fixtures and fittings.

II. Proportion of timber/round-wood used in construction

8. Proportion of timber in the production of industrial wood : 91.86 per cent of the quantity.
9. Proportion of round-wood in the production of industrial wood : 7.95 per cent of the quantity.
10. Timber used in construction : 48.5 per cent of production of timber.
11. Round-wood used in construction : 38.3 per cent of the production of round-wood.

III. Proportion of bricks to coal burnt

12. Quantity of coal burnt for production of one lakh of bricks : 16 tonnes.
13. Value of bricks produced by rural households for own use : 50 per cent of the value of output of bricks and tiles produced in the unregistered manufacturing sector.

IV. Ratios of other materials and factor incomes

14. Value of other materials : 34 per cent of the value of total materials used in construction for 1970-71.
15. Factor incomes (including consumption of fixed capital) : 60 per cent of the value of total materials used in construction for 1970-71.

V. Proportions of *kutcha/pucca* construction in household buildings

16. Value of construction in rural residential buildings accounted in 'commodity flow' approach : 72 per cent of the total value.
17. Value of construction in rural residential buildings unaccounted in 'commodity flow' approach : 28 per cent of total value.
18. Value of construction in urban residential buildings account in 'commodity flow' approach : 80 per cent of total value.
19. Value of construction in urban residential buildings unaccounted in 'commodity flow' approach : 20 per cent of total value.

MACHINERY & EQUIPMENT

20. Parts of capital goods treated as capital goods : 50 per cent of value of output of such parts.
21. The proportions of partly capital goods attributable to capital goods are given in Appendix 20.7 of *NAS – Sources and Methods*, Op. Cit.
22. Parts of partly capital goods : 50 per cent of the proportion applicable to respective partly capital goods.
23. Output of capital goods in total output of unregistered manufacturing sector : *AS*/ sample sector proportions at 2-digit level of NIC 1970.

CHANGE IN STOCKS

24. The estimates of inventories in unregistered manufacturing are based on the proportion of inventories to gross value added for 1974-75.
25. Estimates of change in stocks in the overall road and water transport activities are based on the ratio of change in stocks to gross value added for each year observed in the public road and water transport corporations.
26. Stocks of foodgrains with private traders : 25 per cent of marketable surplus disposed of to private traders.

AGRICULTURE

27. The bench-mark estimate of expenditure in construction in farm business for 1971-72 has been moved to other years with the help of the gross value added in unorganised sectors of the economy.

UNREGISTERED MANUFACTURING

28. The bench-mark estimates of construction and machinery and equipment for 1970-71 have been moved to later years with the help of gross value added in unregistered manufacturing and indices of production for machinery except electrical machinery, respectively.

TRANSPORT

29. Estimates of fixed assets in non-mechanised road transport and unorganised water transport are obtained by projecting the estimates of capital stock in 1970-71 with the help of value added at constant prices in non-mechanised road and unorganised water transport.

TRADE

30. The estimates of fixed assets in trade in the household sector for the bench-mark year 1965-66 have been moved to later years with the help of working force in trade sector.

APPENDIX II

PRIVATE CORPORATE SECTOR: SOME ESTIMATIONAL ISSUES

II. 1 Private corporate sector comprises non-Government non-financial corporate enterprises, non-Government financial institutions and co-operatives. Non-financial corporate enterprises cover all non-Government non-financial public and private limited companies (inclusive of foreign-controlled rupee companies) registered under the Indian Joint Stock Companies Act, 1956. Non-Government financial institutions constitute all scheduled and non-scheduled commercial banks in the private sector (i.e., excluding state co-operative banks, the State Bank of India and its subsidiaries, and the nationalised banks) and other private financial and investment companies engaged in activities such as financing of hire-purchase, transactions in shares and financing of loans or investing in securities. Co-operative institutions comprise co-operative banks and the credit and non-credit societies. The non-credit societies includes all marketing societies, sugarcane supply societies and processing societies, agricultural non-credit societies, industrial societies such as handloom weavers' societies and spinning mills, housing societies, consumers' stores, and co-operative unions and institutions and general insurance societies.

II. 2. The gross saving of the non-Government non-financial corporate enterprises is taken as equivalent to their retained profits *plus* increase in taxation reserves net of increase in taxation advances *plus* depreciation provisions made in their appropriation accounts. The basic data for these enterprises are available from the results of the analysis of balance sheets and profit and loss accounts of selected samples of these companies including foreign controlled rupee companies undertaken annually by the RBI. The analysis is undertaken separately for (i) medium and large public limited companies, (ii) large public limited companies, (iii) small public limited companies, (iv) medium and large private limited companies, and (v) small private limited companies. There are certain crucial aspects of the estimation of saving and capital formation for non-government corporate enterprises which are noted in the following paragraphs.

(i) Sampling technique followed by the RBI

II. 3. At present, the estimates of saving for the private corporate sector (and even of fixed capital formation for joint-stock companies other than those engaged in manufacturing and electricity, gas and water supply) are based on the analysis of the sample joint-stock companies undertaken by the RBI. The 'population' estimates are obtained by blowing up the sample results on the basis of the ratio of paid-up capital of the sample companies to the paid-up capital of all companies. Though the private corporate sector is one of the organised segments of the economy, the accuracy of the above results has come to be questioned.

II. 4. First, in the sample surveys which give the basic information, the selection of companies is undertaken on the consideration of the availability of their annual accounts. In respect of the medium and large public limited companies which form the bulk of the private corporate sector, it may be argued that the adequacy of the size and the representative character of the sample cannot be doubted as the sample consists of companies which account for 80 to 90 per cent of the paid-up capital of all companies. But even in respect of this bulk group, the sample excludes non-operating companies and companies under construction. Besides, a census study on the public limited companies

undertaken by RBI shows that there are many lacunae in the statistical base of even these companies*. Though the 'census frame' initially consisted of a list of 6,711 companies, the audited annual accounts were available only for 4,592 companies (4,243 non-financial and 349 financial). Thus, accounts of a number of companies could not be obtained from the Department of Company Affairs (DCA) or from the Registrars of Companies. In respect of 705 companies, letters posted were returned undelivered as the addressees were not traceable. There were three categories in the final list of non-financial companies (4,243) for which audited annual accounts became available: operating companies (3,452); companies under construction (276); and non-operating companies (515). The relative importance of the latter two categories in terms of paid-up capital was much less significant than that indicated by their number: companies under construction formed 6.5 per cent in terms of number and 3.4 per cent in terms of paid-up capital and non-operating companies 12.1 per cent and 1.0 per cent, respectively. However, a recent study by RBI shows that a significant quantum of fixed assets formation is taking place through the companies under construction**.

II. 5. The question of the size and representative character of the sample is much more serious in the case of the private limited companies as also the small size group in the public limited category. As shown in Table II.1, there has been a massive increase in the number of private limited companies in recent years. In the absence of samples from non-operating companies and companies under construction and in the absence of the use of probability sampling technique, one is not sure if a reasonably accurate statistical picture gets captured through the existing sample studies.

Table II.1: Number of Private Limited and Public Limited Companies (non-Government)

<u>Fiscal</u> <u>Year</u>	<u>Total number of companies</u> <u>(year-end)*</u>		<u>Medium</u> <u>& large</u> <u>public</u> <u>limited</u>	<u>RBI sample size</u>		
	<u>Public</u>	<u>Private</u>		<u>Small</u>	<u>Medium</u>	<u>Small</u>
	<u>Limited</u>	<u>limited</u>		<u>public</u> <u>limited</u>	<u>& large</u> <u>private</u> <u>limited</u>	<u>private</u> <u>limited</u>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1970-71	6,599	23,409	1,650	750	1,001	1,125
1974-75	7,275	32,736	1,650	750	1,001	1,125
1975-76	7,465	35,149	1,720	750	1,001	1,125
1976-77	7,585	37,346	1,720	n.a.	1,011	n.a.
1977-78	7,725	39,485	1,720	n.a.	1,011	n.a.
1978-79	7,893	42,376	n.a.	n.a.	n.a.	n.a.
1979-80	8,225	46,730	n.a.	n.a.	n.a.	n.a.

* These include financial companies

* See 'Census of Public Limited Companies, 1971-72' *Reserve Bank of India Bulletin*, June 1978, pp. 402-448.
 ** See 'Finances of Companies Under Construction and Time Lags in Commencement of Production, 1971-72 to 1975-76, *Reserve Bank of India Bulletin*, February 1981, pp. 86-157.

(ii) Use of paid-up capital as blowing-up factor

11.6. The use of paid-up capital as the blowing-up factor obviously carries the assumption — not easily tenable — that the ratio of retained earnings and other aggregates to paid-up capital in the sample companies would hold good for all companies. It further implies that this relationship between balance sheet aggregates and paid-up capital holds irrespective of the industry (say, trading as distinguished from manufacturing), irrespective of the item concerned in the balance sheet and accounts (say, retained earnings as against gross fixed assets), and irrespective of whether the companies are operating companies or non-operating companies.

(iii) Absence of a satisfactory paid-up capital series

11.7. Even the position in regard to the available series of paid-up capital does not appear to be satisfactory. Estimates of the paid-up capital of all companies are published by the Controller of Capital Issues (CCI) and the Company Law Board (CLB). The two estimates often differ widely. The CSO prefers to use the CLB estimates because it finds several weaknesses in the CCI estimates. As it is, both the series are built up for the latest years on the basis of the data on fresh paid-up capital raised by the companies; these data are only partially available as the same pertain to the initial calls made on the share subscriptions. An expert group has been appointed by the CSO to help build a dependable global paid-up capital series.

(iv) Delays in the finalisation of sample studies

11.8. The Working Group has also observed that the time-lag in the finalisation of full sample studies is considerable. For some groups of companies, this extends upto four years. Now in December 1981, we have the sample study of (i) large public limited companies for 1978-79; (ii) medium and large public limited companies and medium and large private limited companies for 1977-78; and (iii) small public limited and small private limited companies for 1975-76. The studies on foreign-controlled rupee companies and branches of foreign companies belong to a decade ago (1972-73). It seems rather clear that no substantial improvement in the estimates for the private corporate sector can be achieved without (a) undertaking census studies of the non-Government public limited and private limited companies at least on a quinquennium basis, (b) adopting a more satisfactory sampling technique for non-census years, and (c) speeding up the sample studies. The purpose of the census studies would be : (i) to get estimates for the 'population' directly every five years; (ii) to evolve more appropriate blowing-up factors for different aggregates; and (iii) to keep track of the changing relationships between the aggregates treated as blowing-up factors and other aggregates.

Co-operative Banks and societies

11.9. Among the banking institutions, the data base is somewhat weak in respect of the co-operative institutions. As the relevant data on income and expenditure accounts of these institutions are not available in the *Statistical Statements Relating to Co-operative Movement in India (RBI)*, saving in respect of them is estimated on the basis of the data on assets and liabilities. For co-operative banks and credit societies, data on statutory reserves, bad and doubtful debt reserves and other reserves are available and the gross saving is taken as the increase in statutory and other reserves. Consumption of fixed capital is not shown separately. It is assumed that half of 'other reserves' forms the consumption of fixed capital. This is deducted from the estimates of gross saving to work-out the figures for net saving. In the case of non-credit societies also, gross saving is estimated as the increase in

statutory and other reserves. In the absence of separate data on 'other reserves', 50 per cent of gross fixed assets is taken as consumption of fixed capital. This proportion is based on the ratio which was obtained for small public limited companies and co-operative banks and credit societies in 1970-71.

APPENDIX III

PUBLIC SECTOR SAVING: PROBLEMS OF ESTIMATION **INCLUDING TREATMENT OF RBI**

III.1 Public Sector comprises Government administrative departments (or general government) as well as government departmental and non-departmental enterprises. (i) Government administrative departments include all agencies of the Central, State or local government whose function is to organise for the community, but not normally to sell to the community, those common services which cannot be otherwise conveniently or economically provided. (ii) Departmental enterprises are non-incorporated enterprises owned and controlled by the public authorities like the railways, the post and telegraphs, ports and pilotage, and civil aviation. These enterprises normally do not hold or manage financial assets nor incur financial liabilities outside the Government administration. (iii) Non-departmental enterprises cover government companies, wholly or mainly owned and/or controlled by the public authorities and public corporations. Among the non-departmental enterprises, the RBI's is a special case. The RBI is split into two departments: the Issue Department and the Banking Department. The Issue Department is treated as a part of the administrative departments as it is considered to be undertaking sovereign functions like note issue; the Banking Department is treated as a non-departmental financial enterprise.

III.2 Estimates of saving of the entire public sector covering the Central and State Governments, departmental and non-departmental commercial undertakings and a substantial segment of the local authorities are prepared and presented by both CSO and RBI; the savings of the public sector at the Central level alone are also estimated by the Ministry of Finance, Government of India.

a. General Government saving.

III.3 General Government saving is derived as the difference between current revenues and current expenditures. Thus the estimate of saving depends upon what is included in revenues and how current expenditure is defined. For this purpose there are well-accepted guidelines and the conventions adopted by national income statisticians. Nevertheless, there are differences between the estimates of saving of the general government at the Central level prepared by the Ministry of Finance and the CSO. In order to trace the sources of the difference, the treatment by the organisations of both the expenditure and the revenue figures was examined.

III.4 On the expenditure side, in order to make a comparison of the methods of classification of different items of expenditure into current and capital, case studies of the Demands for Grants of the Ministry of Agriculture and Irrigation and the Ministry of Education and Culture were taken up; and the allocation of each item of the two Demands for the year 1978-79 to current or non-current expenditure by the Ministry of Finance and the CSO was compared by their representatives.

III.5 Table III.1 gives the results of the exercise showing the differences in the estimates of current expenditure of the two Ministries made by the Ministry of Finance and the CSO. It is seen that the difference between the estimates of the two organisations is negligible (Rs.0.8 crore) in the case of the Ministry of Education and Culture. In respect of the Ministry of Agriculture and Irrigation, the

estimate by the Ministry of Finance is higher by Rs.5.2 crores. Even though this was small in relation to the total, it was found that there were considerable variations in the individual components of current expenditure. These differences in the estimates relating to the Ministry of Agriculture and Irrigation were further examined, as discussed below.

(i) Consumption expenditure

III.6 The difference in the estimates of consumption expenditure was mainly due to the difference in the treatment of expenditure on (i) minor irrigation (A/c. head 306) and (ii) forest (A/c head 313). The CSO treats this expenditure as intermediate consumption of commercial enterprises – irrigation and forestry.

**Table III.1: Differences in the Estimates of Current Expenditure
by Ministry of Finance and CSO – Selected Ministries**

(i) Ministry of Education and Culture

(Rupees, crores)

Item	CSO	Ministry of Finance	Difference
1	2	3	4
1. Consumption expenditure	15.9	17.2	(-)1.3
2. <u>Transfer payments</u>	208.5	208.0	+0.5
2.1 Grants			
(a) States	35.1	35.2	(-)0.1
(b) Others	172.7	168.9	+3.8
2.2 Other current transfers	0.7	3.9	(-)3.2
3. Total current expenditure (1 + 2)	224.4	225.2	+0.8

(ii) Ministry of Agriculture and Irrigation

1. Consumption expenditure	22.0	32.0	(-)10.0
2. <u>Transfer payments</u>	1,001.9	997.1	+4.8
2.1 Grants			
(a) States	86.9	71.6	+15.3
(b) Others	72.6	93.8	(-)21.2
2.2 Other current transfers			
(a) Subsidies	841.8	831.7	+10.1
(b) Others	0.6	—	+0.6
3. Total current expenditure (1 + 2)	1,023.9	1,029.1	(-)5.2

On the other hand, the Ministry of Finance classifies this expenditure as final consumption expenditure of general government on the plea that the expenditure is in the nature of education, training and research (The difference in treatment does not affect the saving of general government and departmental enterprises *taken together*).

III.7. It may however, be added that international guidelines have recommended that all current expenditure on education, training and research in a commercial enterprise should be treated as intermediate consumption.

(ii) Transfer payments

III.8 The difference mainly arises as some of the grants and other transfers are treated as current transfers by the Ministry of Finance but as capital transfers by the CSO. To the extent that these grants and transfers are made to the State Governments and Union Territories, this difference will not affect the saving of the entire government sector. As regards grants made to other sectors, it was found that a difference of Rs.10 crores was mainly on account of the treatment of the grants given for dairy development. This was treated as current transfer by the Ministry of Finance as against CSO's classification of this item as capital grant. There is also a small difference in the figures of subsidies. This was due to the treatment of some items by the Ministry of Finance as grants rather than as subsidies.

III.9 On the basis of the above two case studies, it was not possible to assert categorically that the difference in the overall estimates (for all Ministries) of the items of current expenditure by the two organisations would be relatively small or negligible; but one could say that probably the differences would not be large. Nevertheless, it is desirable that the Ministry of Finance and the CSO should study the details of each other's mode of classification and arrive at identical estimates of current expenditure.

III.10 A good part of the difference between the estimates of saving of the general government at the Central level by the Ministry of Finance and the CSO arises on the revenue side. The CSO treats the Issue Department of the Reserve Bank of India as a Central government (administrative) Department. Hence the CSO includes the profits of RBI attributable to the Issue Department in Central government revenues. The RBI and the Ministry of Finance, however, treat the RBI as a non-departmental financial undertaking. However, although Central government revenues and expenditures would be higher as a result of the integration of the transactions of the Issue Department with the Income and Outlay Account of the Administrative Departments of the Central government, the total general government savings figure should not be higher than the estimate by the Ministry of Finance, if "the savings of the Issue Department" taken as part of the Central Government saving is equal to "the surplus payable to the Central government" by the RBI, because such transferred surplus would become part of the Central Government income anyhow. The arrangement regarding the bifurcation, as described above, could be altered in the future. Hence the question arises whether it is proper to treat the Issue Department as part of general government.

III.11 It is clear, first of all, that the distinction between the Issue Department and the Banking Department is artificial. The two sections of the RBI should be taken together. One view is that since the RBI is owned by the Central government and functions not as an ordinary financial intermediary

but as an authority in charge of monetary management in conjunction with the Finance Ministry, it should be treated as part of general government*. However, both the *UN System of National Accounts (SNA)* (p. 78) and the IMF's *Draft Manual on Government Finance Statistics* (p.32) clearly stipulate that the Central Bank of a country should be shown separately as a financial undertaking within the financial sector. Also, it must be borne in mind that if the RBI is taken as part of the general government, then (i) salaries paid to the RBI staff will be shown as wages and salaries expenditure of the Central government, (ii) what is now treated as intermediate consumption expenditure (on goods and services) by the RBI would become final expenditures by the government, and (iii) consequently the receipts of the RBI would not be reflective of private or non-government expenditure, but would become "tax" payments.

III.12 The RBI does not transfer all of its surplus to the Central government. Its retained profits amount to accruals to (i) National Agricultural Credit (Long-Term Operations) Fund, (ii) the National Agricultural Credit (Stabilisation) Fund and (iii) the National Industrial Credit (Long-Term Operations) Fund. If the entire RBI operations are integrated with the general government accounts, these accruals will have to be first treated as part of general government savings and then as capital transfers although the amounts of these accruals from year to year do not depend on discretionary actions on the part of the Government.

III.13 In view of these reasons and in the light of the practice recommended by SNA and IMF and followed by other countries, the majority members of the Working Group have preferred to classify the entire activities of RBI as part of non-departmental financial undertakings. Of course, profits transferred to the Government would, in this case, be shown as Central Government income. The Working group as a whole, however, felt that according to its terms of reference, it was not required to recommend on the industrial and institutional classificatory criteria adopted in the Indian National Accounts. It, however, felt that the Advisory Committee on Compilation and Analysis of National Accounts should carefully examine this view and take necessary action.

b. Saving of departmental enterprises

III.14 It is seen that there are differences between the estimates of savings of the Railways made by the Ministry of Finance and the CSO. The CSO takes expenditure on "Improvement of Assets Replaced" out of the appropriation from depreciation reserve fund as expenditure on new outlay, where as the Ministry of Finance takes the entire expenditure to be depreciation. The Finance Ministry's calculations have the effect of reducing the profits and saving of the Railways.

III.15 The Railways incur expenditure under the headings "education" and "medical". This expenditure is taken as final expenditure of the administrative departments by the CSO, whereas the Ministry of Finance treats this as part of the working expenses of the Railways. According to international convention, current expenditure on education should be treated as intermediate consumption, if it is related to training, etc. If the expenditure on education by the Railways refers to educational expenditure unrelated to the working of the Railways, then the procedure followed by the CSO would be the correct one. This matter must be sorted out between the two organisations,

* This is the view expressed by a member of the Working Group, Dr. A.K. Ghosh.

because although the difference in procedure will not affect the total saving of the public sector it would not be proper to inflate the current expenditure of general government.

c. Rise in public sector saving

III.16 It was observed that there was a sudden increase in the saving of general government in 1975-76 and 1976-77. The higher level was maintained during 1977-78 and 1978-79 also. As regards the first two years, it seems that a good part of the increase was due to the extra normal receipts derived from the Voluntary Disclosure Scheme. Strictly speaking, these receipts represented part payment of taxes that ought to have been paid in earlier years. Hence the increase in savings of the general government during these two years would have to be taken to be ephemeral.

III.17 It has been stated above that the higher level of saving was maintained during the years 1977-78 and 1978-79. In fact, however, CSO's estimate of Central government saving for these years is biased upwards because of some errors. There seems to have been some mix-up in the figures supplied by the RBI to the CSO relating to the accounts of the Issue Department. This led to the CSO making estimates of saving of the Issue Department which were higher than the actual by Rs.137 crores in 1977-78 and Rs.258 crores in 1978-79. This error should be rectified in the future editions of *National Accounts Statistics*.

d. Inter-Government Adjustment Account'

III.18 The Central Government lends funds to the State Governments and local bodies and charges interest. Similarly, the State Governments render financial assistance to the local bodies. It has, however, been observed that the figure of interest receipt by one level of Government does not tally with the aggregate payments of interest by the other levels of Government; many a time the differences are very large; the differences also fluctuate widely year to year. Even the sign of the difference changes, i.e., in some years receipt of interest by one level of Government is more than the aggregate of payments by the other level, while in other years the former is less than the latter. Because of these differences, the inter-government flow of interest does not cancel in the consolidated income and outlay account of the administrative departments. The problem is circumvented by CSO by making an entry of 'inter-government account adjustment' equal to the difference in inter-government receipt and payment of interest and other current transfers, on the expenditure side of the consolidated income and outlay account. In the process, the saving of the administrative departments is under estimated if the payment of interest is more than receipt and *vice-versa*.

III.19 It was incidentally discovered that the CSO was showing interest payments by general government to the non-government sector net of payments received from non-departmental undertakings. While this procedure does not affect the saving by general government, it tends to give a wrong picture of the actual magnitude of interest payment by general government. It would, therefore, be advisable to show these transactions on a gross basis.

e. 'Suspense' Account

III. 20. The items of receipts and expenditure which the Accountant General is unable to classify immediately, are first booked under the head 'Suspense' and as and when the necessary classification

becomes available, a *contra* entry is made in this account. At the end of the fiscal year, the net transactions under this item are shown as a part of the miscellaneous capital receipts.

III. 21. Table III.2 presents data regarding the net receipts under Suspense Account for the period 1970-71 to 1979-80, separately for Budget Estimates, Revised Estimates, and Accounts. The Accounts figures show that except for 1976-77, in all the years from 1971-72 to 1978-79, there was a net outgo under this head. In 1974-75, the amount involved was as high as Rs.688-74 crores.

Table III.2: Net Receipts under 'Suspense' Account in the Central Government Budget

(Rupees, crores)			
Year	Budget Estimate	Revised Estimate	Accounts*
1	1	2	4
1970-71	+ 33.47	+ 76.00	(-) 53.44
1971-72	+ 50.00	+ 3.56	(-) 97.29
1972-73	+ 42.79	+ 26.64	(-) 164.13
1973-74	(-) 38.96	(-) 45.95	(-) 86.76
1974-75	+ 59.12	(-) 68.10	(-) 688.74
1975-76	+ 40.90	+ 122.98	(-) 53.48
1976-77	(-) 67.34	+ 82.74	+ 431.60
1977-78	(-) 56.33	+ 96.00	(-) 320.87
1978-79	(-) 15.26	+ 34.62	(-) 140.79
1979-80	—	(-) 133.99	(-) 279.12

* These actuals are preliminary and may differ from the final actuals shown in Table III.3.

The Suspense Account inherently includes entries of a transitory nature. Items recorded in the Account may belong to either revenue head or capital heads of account. To the extent the items belong to revenue receipts or expenditure and as the same are not booked under the appropriate revenue heads of accounts, there would be an understatement of current expenditure or current receipts. As a result, the Government saving gets overstated or understated.

III. 22. However, a detailed study of the Sub-Accounts constituting the Suspense Account, as presented in Table III.3, revealed that the net amounts affecting saving estimates would be marginal. First, some of the components of the Suspense Account in fact do not constitute amounts compilable to final Heads of Accounts (Receipts and Expenditure). The entries in these Suspense Accounts affect only the cash balances of the Government of India and not any of the receipts or expenditure heads. These include transactions in the Reserve Bank Suspense Accounts, remittances between England and India through RBI, Additional DA deposit Suspense Account, Public Sector banks Suspense Account and other banks Suspense Account. In this context, it is crucial to note that sizeable entries under Suspense Account are noticed even in the Budget Estimates (BE) and the Revised Estimates (RE). Secondly, some of the transactions may include items compilable under capital heads of account. The important Sub-Accounts where such transactions could occur include Pay and Account Office, Civil, P & T, Railways and Defence. Thirdly, some of the entries in the Central Suspense Account may have

corresponding *contra* entries in the States Suspense Account. Finally, since 1979-80, the Controllers of Accounts have to certify at the time of finalising the accounts that all expenditures have been adjusted to proper heads and no amount has been left under 'Suspense'.

III. 23. Nevertheless, it is necessary that the treatment of this item is closely looked into by the CSO and the Ministry of Finance so that even small errors on this count are avoided.

f. Discrepancy between "Accounts" figures and figures in the Combined Finance and Revenue Accounts.

III. 24. Differences are seen to exist between the "Accounts" figures given against various items of receipts and expenditure in the "Financial Statement" of the budget document and those later on published in Combined Finance and Revenue Account (CFRA) by the Comptroller and Auditor General of India. The CSO should study these differences, because the latter which are published after a time-lag contain the more accurate figures. Hence, some adjustments in the saving figures might become necessary.

III.25 Incidentally, the vast divergences that exist in the budgetary data as between their Revised Estimates (RE) and Accounts (Table III.4) result in serious revisions of saving and capital formation estimates for the latest two years or so after their *quick* and initial provisional estimates. The Working Group is aware that this issue is not merely one of undertaking an accurate budgetary forecast; it is rather related to wider issues such as increasing dependence on *ad hoc* economic policy decisions. The agencies dealing with National Accounts Statistics can do nothing about it. Even so, the Group has felt it necessary to emphasize the fluctuating nature of the estimates due to such vast revisions so that the users of data are sufficiently cautioned.

g. Finances of local bodies and non-departmental undertakings of State Governments

III.26 At present the CSO is the only organisation which collects data in respect of urban and rural local bodies. The data position in respect of urban local bodies is quite satisfactory though not complete. The data available in respect of rural local bodies are deficient. A Working Group on the Statistics of Local Bodies and Non-Departmental Undertakings of the State Governments has already submitted its report with recommendations to involve the State Statistical Bureaus (SSBs) in collecting and processing of data on local bodies and non-departmental undertakings of the State Governments. The recommendations of this Group are of great importance and should be implemented at the earliest, as explained in Appendix IX.

Table III.4: Saving of Central Government Administration

(Rupees, crores)			
Year	Budget Estimates	Revised Estimates	Accounts
1	2	3	4
1975-76	822	894	849
1976-77	685	135	457
1977-78	463	338	537
1978-79	405	237	696
1979-80	230	(-) 482	(-) 214
1980-81	(-) 434	(-) 309	n.a.

Source : Department of Economic Affairs (Government of India), *An Economic and Functional Classification of the Central Government Budget (Annual Issues)*

**Table III.3: Statement Showing Transactions (Net) for the Years
1975-76 to 1979-80 under Suspense/Remittances Heads**

(Rupees, crores)

Head of Account	1975-76		1976-77		1977-78		1978-79		1979-80	
	Receipt	Disburse- ment	Receipt	Disburse- ment	Receipt	Disburse- ment	Receipt	Disburse- ment	Receipt	Disburse- ment
1	2	3	4	5	6	7	8	9	10	11
858 Suspense Account										
1. Departmental Adjusting Account	57.37	—	13.78	—	15.16	—	—	19.76	—	9.19
2. Cash Settlement Suspense Account	—	0.25	—	3.57	—	2.81	—	3.47	—	10.99
3. P.A.O. Suspense	1,391.98	—	148.32	—	—	184.54	—	40.82	—	39.77
4. R.B. Suspense H. Qrs.	—	1,224.37	289.46	—	27.00	—	—	1.87	10.04	—
5. C.A.O. R.B. Suspense	—	18.34	15.76	—	112.18	—	—	42.98	—	2.03
6. Telecommunication Accounts										
Office Suspense	1.84	—	6.09	—	—	—	—	—	—	—
7. Suspense Account (Civil)	—	244.50	50.03	—	82.92	—	114.08	—	17.97	—
8. Suspense Account (P. & T.)	13.92	—	15.04	—	—	16.54	—	91.76	—	38.20
9. Suspense Account (Def.)	—	56.52	—	22.12	14.89	—	—	15.17	—	69.36
10. Suspense Account (Rly.)	—	22.18	11.58	—	12.93	—	1.37	—	14.97	—
11. Remittance between England and India through Reserve Bank of India	23.25	—	—	27.13	2.03	—	—	3.77	—	8.07
12. Transactions on behalf of Reserve Bank	5.10	—	—	8.45	—	—	—	10.10	1.66	—
13. Broadcasting Receiver Licence Fee Suspense	2.18	—	2.25	—	0.36	—	1.18	—	—	3.30
14. Additional D.A. Deposit Suspense Account (New)	—	—	6.14	—	—	2.51	—	12.62	—	5.30
15. Additional D.A. Deposit Suspense Account	—	14.57	—	21.13	—	13.73	—	18.27	—	2.72
16. Suspense Account for purchase etc. abroad	—	—	—	51.56	—	50.95	26.69	—	—	17.15
17. External Assistance Suspense	—	—	—	—	0.08	—	—	0.01	—	2.96
18. Public Sector Bank Suspense	—	—	—	—	—	218.86	—	10.45	—	104.98
19. Others	0.02	1.61	1.34	0.12	—	0.33	0.09	0.35	—	1.10
TOTAL SUSPENSE	1,495.66	1,582.34	559.79	134.08	267.55	490.27	143.41	271.40	44.64	315.12
870-Cheques and Bills	58.52	21.72	90.19	161.02	152.33	67.77	158.40	1.63	275.78	0.07
M-REMITTANCES	371.31	372.32	169.81	165.80	64.42	161.98	60.36	191.90	112.00	118.20

Source: Ministry of Finance, Government of India.

APPENDIX IV

ESTIMATION OF HOUSEHOLD SAVING IN FINANCIAL ASSETS

IV.1 The household sector saving in the form of financial assets is estimated instrument-wise. The instruments of financial saving are: currency, net deposits, investment in shares and debentures issued by the corporate sector, net claims on Government in the form of small savings, Central and State Government securities, and net increase in the claims of households in life insurance and provident funds. In respect of all of these, the basic information on year-end totals is obtained from the accounts of the financial institutions and Government Budgets (supplemented with special returns) and the estimated holdings of the private corporate sector and the public sector are deducted to arrive at the holdings of the household sector. Some of the instruments are presented in net form by making adjustments for the liabilities incurred by the household sector against the institutions in which those financial assets are held.

IV.2 It was generally agreed that the data base for the estimation of financial saving was comparatively firm. There could be certain margins of error arising from the aggregation of financial accounts of diverse sets of financial corporations, co-operatives and banks with differing accounting years which cannot be avoided. However, the series of steps in estimation, particularly those concerning the derivation of the "residual" attributable to the household sector by deducting the estimates for the public sector and the private corporate sector from the totals, involve the use of a number of ratios and proportions emerging from diverse sources and these may introduce estimational biases at various stages unless extra care is taken to ensure the accuracy of those ratios and to update them regularly. Though these biases may individually appear to be of a minor nature, all of them put together might result in a noticeable degree of error. In any case, from the point of view of achieving as much of accuracy as possible in the estimation of household saving in the form of financial assets, it is necessary that the estimational procedures are tightened.

Netting of liabilities

IV.3 Before coming to the individual issues, an observation of a general nature relating to the CSO's method of presenting the data on household financial saving deserves to be made. That is, the data of household saving in individual financial instruments is presented in net terms, *net* of liabilities incurred by the sector. This method adopted by the CSO tends to under-estimate the size of financial saving. Analytically in respect of each instrument of saving and institution against which the claims are held, it is possible to visualise a distinction between the classes of financial savers and those of debtors within the household sector. Therefore, it would be preferable to present a disaggregated picture of each instrument, as also totals for all instruments thus: (a) saving in financial assets in gross terms; (b) increase in financial liabilities; and (c) net saving in financial assets.

Financial Assets – Individual Instruments

1. Currency

IV.4 From the total currency in circulation, currency held by private corporate business, cooperative institutions, Government undertakings and Government treasuries and local authorities

(including port trusts) are taken out to estimate the currency held by the households. In the case of private corporate business, the estimate of currency held by the sample companies studied by the RBI is blown up on the basis of the ratio of paid-up capital of the sample companies to all the companies. As the companies selected by the RBI are generally of big size, at least in the case of currency, the blown-up estimate may turn out to be smaller than the actual if worked out on the basis of the analysis of all the companies. It is likely to be so because in the case of smaller companies, the ratio of currency to paid-up capital would be relatively larger. With the rapid growth of smaller companies in recent years, errors between the estimate and the actuals would be growing. This is likely to give an upward bias in the estimates of currency held by the households. As the number of companies expand, the ratios based on paid up capital may give an unrealistic picture. In this context, the Working Group's recommendation to have census studies of the corporate sector at least once in five years on a regular basis assumes significance. This is equally true of Government companies, particularly at the States' level.

IV.5 In the case of currency holdings of the cooperative sector, as separate figures of currency and bank balances for the primary and central land development banks are not available, the proportion of currency holding to total of cash and bank balances obtained for the central cooperative banks is applied to the total of cash and bank balances of the primary and central land development banks. Here again, the ratios obtained for the higher bodies are applied to the small bodies. In respect of bigger societies, the ratio of currency to total of cash and bank balances must be smaller than in the case of smaller cooperative societies. Thus, there is a built-in bias in favour of smaller cash holding of the primary credit societies which are scattered throughout and command the largest number. This situation is likely to give an upward bias in the estimation of household saving in the form of currency.

2. Deposits with commercial banks

IV.6 The current estimates of the increase in bank deposit holdings of unincorporated enterprises and individuals are based on their ratio to total bank deposits as revealed by the surveys of ownership of deposits (BSR-4) undertaken by the RBI now on a biennial basis. Apart from expediting the survey results, the RBI needs to attempt a classification of the 'ownership of deposits' in a manner that would enable us to get a fairly disaggregated picture of the sub-categories owning deposits under the category of 'individuals'. The data show that the sub-category called "others (including unclassified)" owned as much as 40.7 per cent and 32.1 per cent of commercial bank deposits, in March 1976 and March 1978, respectively. A meaningful classification of such deposits is necessary, particularly in the context of this Working Group's recommendations on the need to provide a more detailed classification of the household sector into farm households, unincorporated enterprises, and households proper in the non-farm sector.

3. Deposits with non-banking companies

IV.7 Estimates of household deposits with non-banking companies are made by the CSO on the basis of the RBI surveys on 'Growth of Deposits with Non-banking Companies'. Serious doubts have been expressed regarding the adequacy of the coverage of non-banking companies, particularly in the non-financial category, which accept deposits from the public. Studies in the RBI have shown that in respect of the non-financial companies, the total public deposits even for the sample companies

turned out to be higher than the total deposits for all companies revealed in the above surveys. This is an important area of household saving, particularly in the context of assessing household preferences for financial assets with higher yield. Therefore, it is imperative that steps are taken in the RBI to ensure adequate coverage of the non-banking companies in the survey of their deposits.

IV.8 Also, recently the fully Government-owned public sector undertakings began accepting deposits from the public. Arrangements may be made in the RBI to cover them also in the above surveys.

4. Security deposits

IV.9 Security deposits kept by households with various improvement trusts, housing boards and electricity boards should be treated as household saving in the form of deposits and should be accounted for as such in the estimation.

5. Provident fund deposits in non-government educational institutions

IV.10 In the estimation of saving of the household sector in net financial assets, the loans and advances taken by the employees of the non-government educational institutions are not taken into account; only their contribution to provident funds is estimated. This tends to inflate saving in this medium. To obviate this and to arrive at net accretions to provident funds, it is necessary that the ratio of the deposits to loans and advances to the employees applicable for the Government institutions, should be applied to the provident funds of the educational institutions of the private sector.

IV.11 In the case of some private institutions, the provident funds of the employees are deposited with the Post Offices in the form of small savings. Care should be taken to avoid any duplication in this regard.

6. Bonus shares

IV.12 In the estimation of household savings in the form of shares, care should be taken to ensure that the estimates in regard to bonus shares are not duplicated at any stage.

Financial liabilities

(i) Loans from local authorities

IV.13 In the present estimation of net claims on Government, the loans taken by the households from local authorities are not taken into account due to non-availability of data. However, with the acceptance of the recommendation of the working Group suggesting that the State Statistical Bureaux should consolidate statistics of local bodies on a complete enumeration basis (see Appendix IX), it should be possible to obtain the data on loans also.

(ii) Loans from co-operatives

IV.14 There is considerable time-lag in the consolidation of data on loans and advances to households extended by the primary credit and non-credit co-operative societies. The RBI may be requested to expedite such consolidation so that appropriate data for the latest year are included in the CSO's *quick* estimates.

APPENDIX V

MEASUREMENT OF INVENTORIES IN THE 'UNORGANIZED' SEGMENT

V.1 The estimates of annual variations in inventories held by the household sector are generally prepared through the use of indirect methods which are admittedly unsatisfactory. Section 1 of this appendix describes the existing methods of estimation in respect of important economic activities, while Section 2 presents suggestions aimed at improving these methods.

Section 1 : Methodology of Existing Estimates

Agriculture

Private agriculture (excluding plantations and livestock):

V.2 The estimates of stocks under this economic activity are being prepared on the basis of data on bank advances classified according to *occupation* and *organisation* in the *Basic Statistical Returns* (BSR) of the RBI. In cases where margins are not prescribed, it is assumed that banks keep a margin of 25 per cent between the value of the commodity and the bank credit outstanding. For details of calculating inventories in private agriculture see Table V.1

Manufacturing

(i) Registered manufacturing:

V.3 Estimates of inventories in the registered manufacturing sector are prepared at the aggregate level on the basis of data available from *ASI*. The estimates for registered manufacturing in household sector are not prepared separately from the *ASI* results but are derived at the aggregate level by deducting from the total, the estimates for public sector and private corporate sector.

(ii) Unregistered manufacturing:

V.4 Estimates of 'change in stocks' in unregistered manufacturing sector are based on the proportion of inventories to gross value added. This proportion for 1974-75 has been prepared utilising the data available from (a) NSS Report No.280/6, *Tables with Notes on Survey of Self-employed in Non-agricultural Enterprises – Detailed Results for All India, 29th Round: 1974-75* National Sample Survey Organisation, 1978). (b) *Survey of Small Scale Industries in the Un-organised Sector in Urban Areas, 1971-72* – mimeographed (CSO, 1975), and (c) *Special Tables on Census of Small Scale Industries* undertaken by the Development Commissioner of Small Scale Industries (DCSSI) in 1977. Estimates for other years are obtained by applying this proportion to estimates on gross value added prepared by CSO for national income purposes.

3. Trade

V.5 Estimates for (i) trade in foodgrain and (ii) trade in other commodities, have been prepared separately for registered and unregistered trade.

(i) **Registered trade**

V.6 As in the case of agriculture, the estimates of stocks in registered trade are prepared on the basis of data on bank advances to household trading establishments and bank margins available annually from RBI. The break-up of bank advances of scheduled commercial banks by *occupation* and *organisation* is available only for advances each with credit limit over Rs.10,000. For advances with lower credit limits, data are available only by *occupation*. The proportion of household trade in total advances for trade in the first category is applied to the second category. The details of estimation are available in Table V.2.

(ii) **Non-registered trade**

V.7 In the case of non-registered trade, the point estimate of stocks (excluding foodgrain) has been prepared for 1969-70 on the basis of data contained in NSS Report No.221, *Tables with Notes on some Features of Household Non-Registered Trade, 1969-70* (NSSO, 1975). This estimate has been moved to later years with the help of an indicator of advances to partnerships, proprietary concerns, etc., engaged in trading. Sample calculations are given in Tables V.3 and V.4.

(iii) **Stocks of foodgrains with trade**

V.8 Estimates of stocks of foodgrains with private traders are being prepared on the basis of information on marketable surplus (defined as equivalent to market arrivals). From the estimated marketable surplus of foodgrains, the quantity procured by the Government is deducted to arrive at the quantity disposed off to private traders. It has been assumed that private traders keep 25 per cent of their purchases as stocks. The change in quantity of stocks has been evaluated at the average price of foodgrains. The procedure is illustrated in Table V.5 for rice for the year 1977-78; it is similar for other foodgrains including pulses.

V.9 Each one of these methods except registered manufacturing has serious limitations. In particular, the estimates based on bank advances and bank margins should be highly suspect. *A priori* there is no reason to believe that total stocks lie within the quantum implied in such bank credit and bank margins.

Section 2: Alternative Methods of Estimation: Trade and Manufacturing

Need for census study

V.10 The alternative methods proposed here are essentially based on an important piece of credit control data which has remained unused for any analytical purposes; this refers to the monthly stock statements to be filed with commercial banks by all parties who obtain bank credit for working capital purposes on hypothecation basis and the stock register maintained by the bank branches in respect of the parties who borrow on a pledge basis. These methods are relevant to the estimation of inventories only with (a) unregistered manufacturing, and (b) registered and unregistered trade holding stocks of commodities other than foodgrains. In respect of the other two unorganised economic activities, namely, private agriculture and trading in foodgrains, the suggestions made at the end of this section are essentially in the nature of a change in form rather than substance. Even so, such a change is necessary with a view to minimising the possible errors in estimation.

V.11 Under the RBI regulations, the monthly stock statements or the stock register maintained by the bank branches are expected to contain — and in reality they do by and large contain — the full picture of total stocks held by a borrowing party. The stock statements are expected to be periodically inspected by the bank staff. This is true of even urban cooperative banks which grant non-agricultural advances.

V.12 In using the stock statements for estimating the levels of inventories, the processes involved are the following:

(i) conducting a bench-mark census study of all non-corporate enterprises in manufacturing and trading; (ii) conducting for the same year a bench-mark census study of the monthly stock statements in respect of all the parties having borrowal accounts with the banks (commercial as well as co-operative); (iii) working out for the bench-mark year the ratio of inventories held by enterprises enjoying bank credit facilities to those held by all non-corporate enterprises; and (iv) making a sample study of the relevant monthly stock statements at least on a quinquennium basis so as to carry forward the bench-mark estimates for the subsequent years.

V. 13 The census studies of the type (i) above are not new; they have been undertaken in the past by the National Sample Survey Organisation (NSSO) in respect of certain non-agricultural enterprises. The census study of monthly stock statements with commercial banks once in five years or so should be easier as the data have to be culled out from the files and registers maintained with the bank branches. According to the Reserve Bank of India's *Basic Statistical Returns* (BSR), as at the end of June 1980, there were 2.80 lakhs of borrowal accounts under the manufacturing group held by 'partnerships, proprietary concerns, joint families, associations, clubs, societies and groups' and individuals.' There were also 15.0 lakhs of accounts under trading. These estimates include even smaller accounts with Rs.10,000 and less of credit limits. With a view to facilitating the use of such census results for wider purposes, the quinquennium study of monthly stock statements could focus on the following three characteristics:

- i) value of stocks as declared in the monthly stock statements;
- ii) credit limits sanctioned; and
- iii) credit outstanding at the end of the month.

V.14 With a view to examining the feasibility of utilising this source of monthly stock statements with commercial banks for estimating stocks with traders (registered and un-registered) and un-registered manufacturing, a pilot study has been undertaken in respect of a sample of 300 borrowal parties belonging to partnerships and proprietary concerns randomly chosen in a few bank branches in the city of Bombay. The following paragraphs explain the results of the study and their relevance for estimation of stocks.

V.15 As may be noted from Table V.6, value of stocks held by traders went up by 4.7 per cent between March 1979 and March 1980 and by 7.6 per cent between March 1980 and March 1981. Likewise, the stocks with the manufacturing units expanded by 4.6 per cent in the first period and by 9.5 per cent in the second period. Given the representativeness of the sample chosen for the sample study, these percentage changes could be applied to the bench-mark estimate for deriving the values of inventories in the subsequent years.

An Interim Method: Use of sample stock statements

V.16 The undertaking of census studies as proposed above would be obviously time-consuming and may take some years before the results could be used for the purpose in view. In the intervening period, the sample study of stock statements could alone be used for estimating the inventories held in the unorganised segment of the manufacturing and trading sectors. The methodology could be as follows:

V.17 First, in respect of the sample accounts, we work out the proportion (or multiple) of inventories to bank credit for the manufacturing and trading sectors separately. Secondly, we estimate independently the amount of bank credit outstanding against those sectors on the basis of the RBI's *Banking Statistics – Basic Statistical Returns* (BSR). Then, we apply the proportion derived under the first step to the outstanding bank credit estimated in the second step and thus arrive at the size of inventories at current prices.

V.18 The BSR system does not give the break-up of bank credit for registered manufacturing and unregistered manufacturing. Hence, the above estimate of bank credit based on BSR data would have to be worked out for total manufacturing in the household sector and the estimate of inventories in the registered manufacturing based on ASI data would have to be deducted to arrive at the estimate of inventories in the household unregistered manufacturing.

V.19 In the case of trade, the estimate by this method would be for both registered trade and unregistered trade. However, the figures for trade would include the bank credit given against the security of foodgrains. As separate data are available on bank credit against the security of foodgrains for trading concerns and for mills/factories, it should be possible to make an estimate of the stock of foodgrains kept by the traders with the help of bank credit. The study of a separate sub-sample of traders dealing in foodgrains should facilitate the norm of inventory – credit ratio to be applied in this respect.

V.20 Table V.7 presents data on the ratio of stocks to bank credit as at the end of March 1980 and March 1981 as revealed by the sample in respect of 196 parties in trading and manufacturing sectors. The ratios work out to 3.52 at the end of March 1980 and 2.39 at the end of March 1981 in respect of the trading sector and 1.90 and 1.82, respectively, in the case of manufacturing sector. It may also be seen therefrom that the trading companies, as expected, have a substantially higher multiple of credit as inventories and that inventory-credit ratio is probably also more volatile than the case with the manufacturing firms.

V.21 An illustrative example of using these results for estimating inventories in unregistered manufacturing and registered and unregistered trading (other than in foodgrains) is presented in Table V.8. The only drawback in this interim method is that it would not capture the stocks held with parties who do not have borrowing arrangements with any banks. It must be made distinctly clear that the data presented in Tables V.7 and V.8 are purely of an illustrative character and cannot at all be used for drawing any firm inferences on the nature of credit-inventory relationships.

Section 3: Private Agriculture and Foodgrains Stock with Trade

V.22 In the case of inventories held in the 'private agriculture', the existing method of relying on bank advances and bank margin needs to be replaced. An alternative way out would be to use a bench-mark ratio of inventories in agriculture to value added by agriculture. This was the method initially adopted by the RBI for estimating inventories in agriculture (see *Estimates of Saving and Investment in the Indian Economy: 1950-51 to 1962-63 (RBI Bulletin, March 1965, pp 3-4)*). It is also suggested that attempts may be made to get a direct estimate of inventories with cultivators in the next round of AIDIS, 1981-82 so that the bench-mark ratio of inventories to value added could be put on a firmer basis.

V.23 As for foodgrain stocks with trade, the assumption that these stocks constituted 25 per cent of net marketed surplus (net of Government procurement) held by the private trade is without any firm basis. A specially designed field survey alone would determine the nature of relationships between private trading stocks and market arrivals. Such a survey could also establish a base figure for private stocks.

Table V.1: Change in Stocks – Agriculture

(Rupees, lakhs)

	1976-77	1977-78
1	2	3
1. Scheduled Banks advances to agriculture (with credit limit over Rs.10,000) ¹		1129,62
2. Advances to public sector ¹		327,20
2.1 Central Government owned undertakings		149,17
2.2 State Government		18,84
2.3 State Government owned undertakings		85,71
2.4 Quasi-Government bodies		73,48
3. Advances to agriculture (private) (1–2)		802,42
4. Proportion of 3 to 1 (percentage)		71.03
5. Scheduled banks advances to agriculture (with all credit limits) ²		1726,00
6. Scheduled banks advances to agriculture (private sector) (5 x 4/100)	1062,42	1225,98
7. Scheduled banks advances to plantations (private)	145,64 ³	168,06 ⁴
8. Scheduled banks advances to agriculture excluding plantations (private) (6 – 7)		1057,92
9. Non-scheduled banks advances ⁵ (1.5% of 8)		15,87
10. Total advances (8 + 9)		1073,79
11. Bank margin (per cent) ⁶		25
12. Total stocks (private) [item 10 x (100/100-25)]	1240,71	1431,72
13. Change in stocks (private) (Col. 2–Col. 1) in row 12		191,01
14. Change in stocks (coffee) ⁷		2,87
15. Change in stocks (rubber) ⁷		(–) 1,39
16. Total change in stocks (13 + 14 + 15)		192,49

¹ *Banking Statistics – Basic Statistical Returns (BSR), June 1978* (RBI) Table No.16. See therein distribution of outstanding credit of scheduled commercial banks according to organisation and occupation (Col. 10, items 1, 2, 3 and 4).

² *Report on Currency & Finance, Vol. I, 1978-79* (RBI). Table No. VI:12 on sectoral deployment of gross bank credit (Col. 2).

³ Basic data from *BSR, June 1977* (RBI). Residual obtained by deducting outstanding credit of central and state government undertakings, state government and quasi-government bodies (Table 4.6) from total (Table 4.4, Col. 9).

⁴ In the absence of data, it has been estimated, using the proportion of item No. 7 to item 6 in 1976-77.

⁵ In the absence of more recent data, worked out using the ratio of 1.5 p.c. estimated for the year 1965-66 on the basis of data given in *Statistical Tables Relating to Banks in India 1966*, Table No. B (iii) (Items 25, 38, 39 & 40).

⁶ Circulars issued by RBI from time to time and published in *Report on Currency & Finance* (Section on selective credit control).

⁷ Data obtained from respective Boards.

Table V.2: Change in Stocks — Registered Trade

1	(Rupees, lakhs)	
	1976-77	1977-78
2	3	
1. Advances for trade to partnerships, proprietary concerns, joint families etc. (with credit limit over Rs.10,000) ¹	744,83	940,37
2. Advances for trade to individuals (with credit limit over Rs.10,000) ¹	30,22	44,75
3. Total advances for household trade (1 + 2)	775,05	985,12
4. Total advances for trade (with credit limit over Rs.10,000) ²	3718,90	4036,78
5. Proportion of 3 to 4 (per cent)	20.84	24.40
6. Total advances for trade (with all credit limits) ³	3828,10	4197,69
7. Advances to households for trade (with all credit limits) [(5 x 6) ÷ 100]	797,78	1024,24
8. Total advances (excluding intra-banks and food procurement advances) ⁴	10852,59	13363,81
9. Proportion on 7 to 8 (per cent)	7.35	7.66
10. Bank advances (aggregate)	11322,44	12961,80
i) Scheduled commercial banks (as on 31st March)	11309,53 ⁵	12955,00 ⁵
ii) Non-scheduled commercial banks (as on last Friday of March)	12,91 ⁶	6,80 ⁷
11. Total advances for household trade (as on March) [(10 x 9) ÷ 100]	832,20	992,87
12. Bank margin (per cent) ⁸	46	42
13. Total stocks — household registered trade	1541,11	1711,84
14. Change in stocks — household registered trade		170,73

Source:

- | | |
|--|---|
| <p>¹ <i>Banking Statistics — Basic Statistical Returns (BSR)</i></p> <p>² <i>Banking Statistics — Basic Statistical Returns (BSR)</i></p> <p>³ <i>Banking Statistics — Basic Statistical Returns (BSR)</i></p> <p>⁴ For 1976-77</p> <p>For 1977-78</p> <p>⁵ <i>RBI Bulletin, November 1978</i></p> <p>⁶ <i>RBI Bulletin, January 1979</i></p> <p>⁷ <i>RBI Bulletin, December 1979</i></p> <p>⁸ Circulars issued by RBI from time to time and published in <i>Report on Currency and Finance</i> (Section on selective credit control)</p> | <p>i) June 1975, 1976, 1977, Table 4.6, Col. 9, page 180</p> <p>ii) June 1978, Table 16, Col. 8, page 20.</p> <p>i) June 1975, 1976, 1977, Table 4.6, Col. 9 page 182.</p> <p>ii) June 1978, Table 16, Col. 9, page 20.</p> <p>i) June 1975, 1976, 1977, Table 1.5, Col. 9, p. 7</p> <p>ii) June 1978, Table 10, Col. 7, page 1</p> <p>i) BSR, June 1975, 1976, 1977, Table 1.5, page 7, Col. 9</p> <p>ii) <i>RBI Bulletin, Nov. 1977</i>, page S-642.</p> <p>i) BSR, June 1978, Table 10, Col. 7, Page 11.</p> <p>ii) <i>RBI Bulletin, October 1978</i>, Page S-558.</p> <p>(P. S-655 & S-618).</p> <p>(P. S-64).</p> <p>(P. S-608).</p> |
|--|---|

NOTE: The data relating to items 1 to 8 are the BSR data of scheduled bank advances outstanding as at end — June.

Table V.3: Estimates of Stocks for Non-Registered Trade for 1969-70

Item	Rural	Urban	Total
1	2	3	4
1. Estimated average value of stocks per trading household (Rs.0.00) ¹			
i) Total	357.79	1,322.10	
ii) Livestock	2.61	2.57	
iii) Total (excluding livestock)	3 55.18	1,319.53	
2. Total number of trade households ¹	26,46,861	14,02,697	
3. Total stocks (Rs. lakhs) (2 x 1 (iii))	94,01	185,09	279,10

¹ Based on NSS Report No. 221: *Tables with Notes on Some Features on Household Non-registered Trade – 1969-70*, Table 9 Pages 18 and 24.

Table V.4: Change in Stocks – Unregistered Trade

(Rupees, lakhs)

Item	1969-70	1976-77	1977-78
1	2	3	4
1. Total advances of scheduled commercial banks ¹		10,852,59	13,363,81
2. Advances to partnership and others ²		744,83	940,37
3. Ratio (Item 2 ÷ Item 1)		0.0686,32	0.0703,67
4. Total advances of scheduled & non-scheduled banks ³		11,322,44	12,961,80
5. Total advances to partnerships	287,18	777,12	911,97
6. Stocks	279,10 ⁴	755,26 ⁵	886,31 ⁵
7. Change in stocks			131,05

¹ For details refer to item 8 of Table V.2 on Registered Trade

² Banking Statistics –
i) June 1975, 1976, 1977, Table no. 4.6, Page 180, Col. 9

Basic Statistical Returns (BSR)

ii) June 1978 Table 16, P. 28, Col. 8

³ For details refer to item 10 of Table V.2 on Registered Trade

⁴ Refer Table V.3

⁵ Estimates of stocks for 1969-70 moved to later years with the help of item 5.

Table V.5: Estimation of Change in Stocks of Foodgrains During 1977-78

Operational steps	Quantity ('000 tonnes)
1	2
1. Production	52,729
2. Marketable surplus (25.8% of 1)	13,604
3. Wastage in disposal of 2 (0.68% of 2)	92
4. Net marketable surplus (2 – 3)	13,512
5. Procurement by Government	4,853
6. Net marketable surplus less procurement (4 – 5)	8,659
7. Stock (with private traders) (25% of 6)	2,165
8. Stock with Government (Central & State)	6,653
9. Total stock (7 + 8)	8,818
10. Total stock in 1976-77	7,862
11. Change in stock (9–10)	956
12. Producers' price (Rs. per tonne)	1,647.58
13. Value of change in stocks (Rs. lakhs)	15,751

- Sources:**
- 1 Directorate of Economics & Statistics, Ministry of Agriculture
 - 2 Based on data on market arrivals released by Directorate of Economics & Statistics, Ministry of Agriculture.
 - 3 As a fixed percentage of marketable surplus based on information obtained in marketing reports published by Directorate of Marketing and Inspection, Ministry of Agriculture.
 - 4 Ministry of Agriculture
 - 5 Assumed
 - 6 *Bulletin on Food Statistics.*

Table V.6: Value of Stocks held by the Proprietorship/Partnership Concerns

<i>(Rupees in '000s)</i>				
Nature of activity	No. of parties	March 1979	March 1980	March 1981
1	2	3	4	5
Trading	127	3,56,96	373,76 (+4.7)	402,27 (+7.6)
Manufacturing	69	3,72,37	389,67 (+4.6)	426,50 (+9.5)
Dealing:				
(i) Textiles	111	2,97,63	3,21,21	3,16,34
(ii) Chemicals	32	2,56,52	2,44,85	2,57,88
(iii) Engineering	21	57,29	68,48	92,62
(iv) Others	32	1,17,90	1,28,89	1,61,92
Total	196	7,29,33	7,63,43 (+4.7)	8,28,77 (+8.6)

Note: 1) These data could be obtained in respect of only 196 borrowing parties for all the three consecutive years.

2) Figures in brackets represent percentage increases over the previous year.

Source: *Special Pilot Survey conducted by RBI*

Table V.7: Sample Survey of 160 Borrowal Accounts of
Proprietary and Partnership concerns

(Rupees in '000s)

Nature of activity	No. of parties	March 1980				March 1981			
		Value of stocks	Limits sanctioned	Credit outstanding	Percentage of stocks to outstanding	Value of stocks	Limits sanctioned	Credit outstanding	Percentage of stocks to outstanding
		(Rupees)	(Rupees)	(Rupees)		(Rupees)	(Rupees)	(Rupees)	
1	2	3	4	5	6	7	8	9	10
Trading	96	5,23,17	2,27,38	1,48,56	3.522	5,41,85	2,63,34	2,27,07	2.386
Manufacturing	64	4,13,68	2,39,55	2,18,32	1.895	3,82,87	2,25,92	2,10,36	1.820
Total	160	9,36,85	4,66,93	3,66,88	2.553	9,24,72	4,89,26	4,37,43	2.114

Source: Special Pilot Survey conducted by RBI

**Table V.8: Steps Involved in Estimation of Inventories with
Unregistered Manufacturing and Trading Concerns**

Steps in estimation	Manufacturing		Trade	
	March 1980	March 1981	March 1980	March 1981
1	2	3	4	5
1. Results of Sample Stock Statements				
(a) Value of stocks (Rupees in '000s)	4,13,68	3,82,87	5,23,17	5,41,85
(b) Bank credit outstanding (Rupees in '000s)	2,81,32	2,10,36	1,48,56	2,27,07
(c) Ratio of stocks to bank credit (a ÷ b)	<u>1.470</u>	<u>1.820</u>	<u>3.522</u>	<u>2.386</u>
2. Estimated bank credit $\angle^1$ (Rupees, crores) (Based on RBI's <u>BSR</u> data)	2,590	3,660	1,544	1,800
3. Estimate of stocks [2 x 1 (c)]	3,807	6,661	5,438	4,295
4. Estimate of stocks with registered manufacturing in the household sector (Rupees, Crores) $\angle^2$	1,000	1,300	...	...
5. Estimate of stocks with unregistered manufacturing (3-4) (Rupees, Crores)	2,807	5,361	...	...
6. Estimate of stock of foodgrains with trade (Rupees, Crores) $\angle^3$	...	...	120	160
7. Estimate of total stocks with trade (other than in foodgrains) (Rupees, Crores (3-6))	...	...	5,318	4,135
8. Estimated 'change in stocks' in 1980-81 (Rupees, Crores)		<u>+ 1,453</u>		(-) 1,183

$\angle^1$. Estimated on the basis of BSR and sector deployment data.

$\angle^2$. Based on ASI data (for the present, hypothetical).

$\angle^3$. Based on RBI data on credit against sensitive commodities and estimated norms for inventory-credit ratio.

... Means not relevant.

APPENDIX VI

FOREIGN PRIVATE INWARD REMITTANCES AND THEIR IMPLICATIONS FOR DOMESTIC SAVING

Nature and Size of the Remittances

VI.1 One of the special factors identified in the context of the high saving phase of the Indian economy during the second half of the 1970's relates to foreign private inward remittances, or what is called 'private transfer receipts'. 'Private transfer receipts', as booked in balance of payments statistics, comprise mainly the following: (1) receipts for family maintenance; (2) personal gifts and donations to religious organizations and charitable institutions in India; (3) repatriation of savings by Indians residents abroad; (4) migrants' transfers by Indian nationals; (5) migrants' transfers by foreign nationals; (6) personal income-tax and income tax refunds; and (7) reimbursement of money order drawings, etc.

VI.2 The data for the above mentioned purposes are culled out from the Returns submitted by the Authorised dealers to the Exchange Control Department of the Reserve Bank of India (RBI). Under the present Exchange Control Regulations, Authorised dealers are, however, required to report the purpose-wise details only in respect of remittances in amounts individually equivalent of Rs.10,000 and above. Details of 'private transfer receipts' are booked under the *current account* of the Balance of Payments data.

VI.3 As regards remittances in amounts individually equivalent of less than Rs.10,000, for which purpose-wise details are not required to be reported, they are reallocated to different purpose heads on the basis of the *Survey of Unclassified Receipts* conducted in the Department of Economic Analysis and Policy of the RBI. The results of the Survey so conducted during 1976-77 show that out of the total unclassified receipts, the share of 'private transfer receipts' was 49.4 per cent.

Table VI.1: Size of Foreign Private Inward Remittances

(Rupees, Crores)

Fiscal year (April–March)	Total private transfer receipts as booked in BOP Statistics	P.L.480 Title II transfers	Private transfer receipts excluding P.L.480 Title II transfers
1	2	3	4
1970-71	136.4	55.8	80.6
1971-72	174.5	62.7	111.8
1972-73	165.3	61.1	104.2
1973-74	203.3	60.8	142.5
1974-75	279.9	59.7	220.2
1975-76	541.2	117.6	423.6
1976-77	745.6	121.8	623.8
1977-78	1,029.3	112.0	917.3
1978-79	1,059.3	115.5	943.8

(Source: Reserve Bank of India)

VI.4 Of the gross receipts of Rs.1,059 crores in 1978-79, Rs.275 crores were received individually in amounts of Rs.10,000 and above, and Rs.659 crores individually in amounts below Rs.10,000 (unclassified receipts). Receipts through P.L.480 are separately coded and given in the statement; these receipts under P.L.480 Title II transactions represent a matching contra entry for the imports of agricultural commodities received as donations for distribution through voluntary agencies. Table VI.1 presents the relevant data.

2. Impact on Household Saving in Financial Assets

VI.5 *A priori* it is obvious that these foreign inward remittances would get reflected, as an initial impact, almost entirely in an increase in the household sector's saving in the form of currency and bank deposits. During the four-year period 1975-76 to 1978-79 for which firm data are available, it is found that foreign inward remittances on an average formed over 18 per cent of the expansion in currency and bank deposit holdings of the household sector or about 10 per cent of the gross financial savings of the sector (Table VI. 2).

Table VI. 2: Foreign Private Inward Remittances and Household Financial Saving

(Rupees, Crores)							
Year	Household Sector's Saving in			Foreign Inward Remit- tances@	Saving in Gross Financial Assets	(5) as	(5) as
	Currency	Bank Deposits	Total (2+3)			% of (4)	% of (6)
1	2	3	4	5	6	7	8
1973-74	838	1,570	2,408	142	3,632	5.9	3.9
1974-75	17	1,750	1,767	220	3,402	12.5	6.5
1975-76	342	2,064	2,406	424	4,994	17.6	8.5
1976-77	1,140	3,065	4,205	624	6,905	14.8	9.0
1977-78	703	3,500	4,203	917	7,113	21.8	12.9
1978-79	1,525	4,017	5,542	944	9,286	17.0	10.2
1979-80	1,498	3,980	5,478	n.a.	9,559	n.a.	n.a.

@These do not include increases in the balances of two non-resident external accounts. (Source: Reserve Bank of India).

3. Non-Resident External Accounts

VI.6 The above foreign inward remittances effected on a unilateral basis have to be distinguished from the funds remitted by the Indian expatriates under two external accounts permitted to be maintained with banks in India. The non-resident Indians and also foreign nationals of Indian origin were initially permitted in 1970 to maintain with banks in India external accounts designated in

rupees. Effective from November 1975, such Indian expatriates were permitted to open and maintain foreign currency (non-resident) accounts designated in pound sterling and U.S. dollar. Under both the schemes, the capital and interest are repatriable and hence the balances held in them are considered as foreign capital liabilities of India and booked as such in the balance of payments statistics. Accordingly, the net annual variations in these balances are treated as forming part of 'foreign inflow' for estimation of saving and investment purposes. The relevant data from the inception of the schemes are presented in Table VI. 3.

Table VI.3: Annual Variations and Outstanding Balances in Non-Resident External Accounts

Fiscal Year	Rupee Accounts			Foreign Currency Accounts (Annual Variations)		
	Annual Variations	Balance outstanding		Reserve Bank's Net Purchase (+ or Sale (–) of Sterling & Dollar		
				Pound Sterling	U.S. Dollar	Total
(Rupees, Crores)			(Rupee equivalent in crores)			
1	2	3	4	5	6	7
1970-71*		(6.1)				
1971-72*	(+6.4)	(12.5)				
1972-73*	(+8.8)	(21.3)				
1973-74*	(+6.9)	(28.2)				
1974-75*	(+29.4)	(57.6)	30.9			
1975-76	+33.0		63.9	(+) 0.90	(+) 6.60	(+) 7.50
1976-77	+125.6		189.5	(+) 2.98	(+) 47.16	(+) 50.14
1977-78	+135.2		324.7	(+) 15.20	(+) 73.81	(+) 89.01
1978-79	+167.2		491.9	(+) 6.44	(+) 11.25	(+) 17.69
1979-80	+208.8		700.7	(+) 2.85	(–) 7.86	(–) 5.01
1980-81	+201.5		902.2	(+) 3.72	(–) 7.40	(–) 3.68

* Data for 1970-71 to 1974-75, presented within brackets, relate to December each year.

Source: Reserve Bank of India

4. Foreign Inward Remittances and Growth in Bank Deposits: **December 1975 – December 1980.**

VI. 7. The fact that there has been a large scale migration of labour from India, particularly from the States of Kerala, Andhra Pradesh, Punjab and Gujarat to the countries in West Asia is fairly well known. As a result, the inward remittances from migrants have considerably increased. The main object of this section is to examine whether the available data on bank deposits subdivided in terms of states/districts do bring out the impact of such remittances on the deposit growth witnessed in

selected districts or even centres of location of offices of scheduled commercial banks. Data used for this purpose have been drawn from the tabulations based on the *Basic Statistical Returns* and on the monthly return on aggregate deposits and gross bank credit in respect of all offices of scheduled commercial banks including regional rural banks, both received by the Reserve Bank of India.

VI. 8. The latest available data on deposits outstanding along with the state-wise and district-wise break-up, though provisional, relate to the last Friday of December 1980. Considering the fact that the inward remittances began from around the middle of the 1970's, similar set of data available for December 1975 have been taken as the base for comparison. The deposits in a region normally depend on the level of income and the extent of banking habit of the people apart from many other factors, of which inward remittances may be a significant explanatory factor.

VI. 9. In view of the non-availability of all the required information, a short-cut approach is followed in identifying the states/districts in which growth of deposits with the banks have been perceptibly higher. However, to eliminate the effect of opening of new offices on the increase in deposits in the region, the figures of 'per office deposit' as on the last Friday of December 1975 and 1980 have also been considered.

VI. 10. The All-India and the state-wise data on the number of offices, deposits and per office deposits as on the last Friday of December 1975 and 1980 alongwith the percentage increases in these data during this period are given in Table VI.4. Between December 1975 to December 1980, total bank deposits grew by 170 per cent at the all-India level. As against this, at the state level, while many states registered high percentage increases, the states of Jammu & Kashmir, Rajasthan, Andhra Pradesh and Kerala registered significantly higher percentage increases than the corresponding increase for All-India. Among these four states, it is known that large-scale migration has taken place from Kerala and Andhra Pradesh. In the case of the other two states, viz., Jammu & Kashmir and Rajasthan, however, an overall improvement in economic conditions coupled with the increased income from tourism might have contributed to the higher increase in total bank deposits during the period under consideration.

VI.11. District-wise details of deposits in respect of Andhra Pradesh and Kerala are given in Tables VI.5 and VI.6 respectively.

Andhra Pradesh and Kerala

VI.12. In the case of the six districts of Andhra Pradesh, viz., Adilabad, Anantapur, Cuddapah, Karimnagar, Mahbubnagar and Nizamabad, the percentage increases in bank deposits are higher than the figures for the state as a whole. Of these districts, Karimnagar and Mahbubnagar experienced increases of 395 per cent and 402 per cent, respectively, as against 212 per cent for the State as a whole (Table VI.5). Since there is no evidence to show that a disproportionately large increase in the economic activities took place in these districts during the period, it is possible that the inward remittances from non-residents could have contributed considerably to the increase in deposits. The percentage increases in the case of Alleppey, Cannanore, Kottayam, Malappuram, Quilon and Trichur (ranging from 238 per cent to 350 per cent) are substantially higher than the average of 229 per cent, for the Kerala State as a whole (Table VI.6). Again, in the case of Malappuram district, which is industrially backward, the percentage increase in bank deposit during the period was the highest of – 350 per

cent. Viewed against the background of relative backwardness of the district, this indicates the impact of foreign remittances on deposits growth in the district* Unlike in Andhra Pradesh where the substantial increase in deposits are confined only to some districts, in the case of Kerala the increase is noticed in almost all the districts, with Malappuram district showing the highest increase.

VI.13. The increase in deposits of some selected centres, mostly from Malappuram, Trichur and Alleppey districts of Kerala state, has been probed further. The centres are those from where it is generally known that large-scale migration of labour took place to West Asia. The data for these selected centres are given in Table VI.7. The centres, viz., Kuttippuram, Malappuram, Perintalman, Tanur and Tirur in Malappuram district and Chavakkad, Guruvayur and Kunnamkulam in Trichur district showed substantial increases in bank deposits, ranging from 210 per cent to 515 per cent, despite the fact that the levels of economic activity did not undergo any basic transformation during the period. Thus, the available data do show some evidence about the effect of inward remittances on increase in bank deposits at these centres during the period.

VI.14. Similar migration of labour has reportedly taken place from other states such as, Gujarat, Punjab and Haryana. However, there is difficulty in segregating their areas with pronounced incidence of migration or in segregating the observed increase in deposits due to general explanatory variables.

5. Need for More Analytical Study by RBI

VI.15. As is evident from the data and review presented above, the foreign inward remittances have played a significant role in the growth of saving in the form of financial assets in recent years and are expected to do so for some years to come. However, as at present, there is hardly any study on the nature of these remittances, their sources of origin, the regions into which they flow, their initial impact on domestic saving, their deployment, and their secondary effects on the economy in general. In this respect, there is the urgent need for the RBI to collect and disseminate more analytical information through specially designed surveys.

* See also "A Case Study of the Increase in Inward Foreign Remittance through Banking Channels Consequent on MISA Measures in Malappuram District (Kerala)", *Reserve Bank of India Bulletin*, February 1975, pp. 152-154.

Table VI.4: State-wise Data on Outstanding Bank Deposits

Name of the State	Deposits		No. of offices		Per Office Deposits	
	December 1980 (Rupees, lakhs)	% increase over December 1975	December 1980	% increase over December 1975	December 1980 Rupees, lakhs)	% increase over December 1975
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Haryana	65 3,62	232.3	777	60.9	84.1	106.6
Himachal Pradesh	20 6,03	186.4	360	82.7	57.2	56.8
Jammu & Kashmir	37 7,44	285.0	425	88.0	88.8	104.7
Punjab	1,95 2,21	191.6	1,556	48.5	125.5	96.4
Rajasthan	84 2,52	222.0	1,566	86.2	53.8	72.9
Assam	339,97	174.7	488	102.5	69.7	35.6
Manipur	1 5,53	271.5	35	218.2	44.4	16.8
Meghalaya	4 9,65	165.1	56	100.0	88.7	32.6
Nagaland	19,63	251.2	37	208.3	53.0	13.9
Sikkim	4,97	165.8	1	0.0	497.0	165.8
Tripura	3 5,05	187.3	78	271.4	44.9	Neg.
Bihar	1,55,5,62	146.6	2,154	147.3	72.2	Neg.
Orissa	43 0,34	236.7	893	155.1	48.2	32.0
West Bengal	4,13 6,03	126.8	2,135	77.3	193.7	27.9
Madhya Pradesh	1,17 2,41	197.4	2,009	104.0	58.4	45.8
Uttar Pradesh	3,58 1,85	189.9	3,887	89.7	92.2	52.8
Gujarat	2,56 4,50	160.7	2,274	38.3	112.8	88.4
Maharashtra	6,95 6,73	142.1	3,489	51.8	199.4	59.5
Andhra Pradesh	1,86 2,07	212.1	2,643	77.5	70.4	75.8
Karnataka	1,93 3,28	188.2	2,741	48.4	70.5	94.2
Kerala	1,454,97	289.0	2,303	76.3	63.2	86.5
Tamil Nadu	2,52 3,37	165.6	2,950	44.0	85.5	84.5
ALL-INDIA	36,995,18	169.8	34,131	70.2	108.4	58.5
(including Union Territories)	36,995,18		34,131			

Source: For December 1975 data see RBI, *Basic Statistical Returns*

For December 1980, RBI, *the Monthly return on Aggregate Deposits and Gross Bank Credit (Mimeograph)*.

Table VI.5: District-wise Data on Outstanding Deposits — Andhra Pradesh

Name of the District	Deposits		No. of offices		Per office deposits	
	Dec. '80 (Rupees, lakhs)	% increase over Dec. '75	Dec. '80	% increase over Dec. '75	Dec. '80 (Rupees, lakhs)	% increase over Dec. '75
	2	3	4	5	6	7
Adilabad	20,16	278.2	45	114.3	44.8	76.5
Anantpur	49,78	277.4	111	94.7	44.8	93.8
Chittoor	75,83	204.9	121	68.1	62.7	-81.4
Cuddapa	37,07	385.8	91	93.6	40.7	151.0
East Godavari	138,08	198.2	192	57.4	71.9	89.5
Guntur	129,54	200.5	181	57.4	71.6	90.9
Hyderabad	568,91	161.6	360	53.8	158.0	70.1
Karimnagar	37,99	394.7	85	112.5	44.7	132.8
Khamman	29,06	275.0	100	300.0	29.1	Neg.
Krishna	143,67	231.2	180	40.6	79.8	135.5
Kurnool	58,68	274.2	127	69.3	46.2	121.0
Mahbub-nagar	27,33	402.4	88	137.8	31.1	111.3
Medak	18,21	256.4	63	133.3	28.9	52.7
Nalgonda	24,76	285.1	100	170.3	24.8	42.5
Nellore	60,15	263.0	97	76.4	62.0	105.8
Nizamabad	31,77	239.4	71	82.0	44.7	86.5
Prakasam	67,42	331.6	100	56.2	67.4	176.2
Srikakulam						
Vishakhapatnam	206,34	246.6	298	102.7	69.2	71.0
Warangal	38,87	224.5	87	117.5	44.7	49.2
West Godavari	98,45	188.0	146	36.4	67.4	111.0
State Total	1,862,07	212.1	2,643	77.5	70.4	75.8
ALL INDIA	36,995,18	169.8	34,131	70.2	108.4	58.5

Source: Same as Table VI.4

Table VI.6: District-wise Data on Outstanding Deposits – Kerala

Name of the District	Deposits		No. of Offices		Per office deposits	
	December 1980 (Rupees, lakhs)	% increase over December 1975	December 1980	% increase over December 1975	December 1980 (Rupees, lakhs)	% increase over December 1975
	2	3	4	5	6	7
1						
Alleppey	168.50	277.6	241	94.4	69.9	94.3
Cannanore	105.40	238.2	234	85.7	45.0	82.0
Erankulam	292.99	183.0	365	68.2	80.3	68.2
Iddiki	16.93	230.0	72	89.5	23.5	74.2
Kottayam	115.91	212.4	200	75.4	58.0	78.1
Kozhikode	91.00	229.6	192	74.6	47.4	88.8
Malappuram	42.69	349.8	136	112.5	31.4	111.7
Palghat	89.25	167.1	177	60.9	50.4	66.0
Quilon	129.47	247.9	190	74.3	68.1	99.6
Trichur	183.32	254.2	276	71.4	66.4	106.7
Trivandrum	219.51	258.4	220	65.4	99.8	116.7
State Total	1,454.97	229.0	2,303	76.3	63.2	86.5
ALL INDIA	36,995.18	169.8	34,131	70.2	108.4	58.4

Source: Same as Table VI.4

Table VI.7: Data on Outstanding Deposits in Selected Centres in Kerala

	Deposits		No. of offices		Per Office Deposits	
	Dec. '80 (Rupees, lakhs)	% increase over Dec. '75	Dec. '80	% increase over Dec. '75	Dec. '80 (Rupees, lakhs)	% increase over Dec. '75
	2	3	4	5	6	7
Malappuram District	42,69	349.8	136	112.5	31.4	111.7
Kuttippuram	69	331.2	2	—	34.5	331.2
Malappuram	3,27	348.0	8	33.3	40.9	235.8
Manjeri	2,99	179.4	5	—	59.8	179.4
Perinatalmanna	3,50	209.7	4	—	87.5	209.7
Ponnani	2,77	168.9	5	—	53.4	168.9
Tanur	56	366.7	3	50.0	18.7	211.2
Trichur District	183,32	254.2	276	71.4	66.4	106.7
Chevakkad	6,73	490.4	5	23.0	134.6	372.3
Guruvayur	6,75	275.0	5	23.0	135.0	200.0
Kunnamkulam	11,20	261.3	7	16.7	160.0	209.6
Trichur	65,21	195.7	40	48.2	163.0	99.6
Cranganore	5,12	190.9	7	—	73.1	190.9
Irinjalakuda	14,23	261.2	10	42.9	142.3	152.8
Alleppey District	168,50	277.6	241	94.4	69.9	94.3
Alleppey	22,30	145.9	27	28.6	82.6	91.2
Chengannur	14,17	320.5	9	200.0	157.4	40.2
Kayamkulam	8,07	221.5	7	16.7	115.3	175.6
Mavelikkara	12,31	327.4	9	125.0	136.8	90.0
Pandalam	4,11	287.7	5	150.0	82.2	55.1
Shertallai	4,42	190.8	8	14.3	55.2	154.5
Tiruvalla	27,28	307.8	11	83.3	248.0	122.4
Quilon District	129,47	247.9	190	74.3	68.1	99.6
Pathanamthitta	8,65	352.9	6	50.0	144.2	201.9
Quilon	40,99	170.4	33	43.5	124.2	88.4
Kottayam District	115,91	212.4	200	75.4	58.0	78.1
Changanacherry	14,72	259.0	14	55.6	105.1	130.8
Kottayam	50,54	190.5	23	35.3	219.7	114.7
Palai	5,77	163.5	7	75.0	82.4	150.6
Kerala: State Total	1,454,97	229.0	2,303	76.3	63.2	86.5
ALL INDIA	36,995,18	169.8	34,131	70.2	108.4	58.5

Source: As in Table VI.4

APPENDIX VII

MEASUREMENT OF CAPITAL CONSUMPTION AND CAPITAL DESTRUCTION

VII.1 Important conceptual and estimational issues regarding allowance for capital consumption as well as for capital destruction and losses have been highlighted in Chapter 6 of the Report. A brief summary of the existing system of estimating capital consumption has also been provided therein. Besides, while proposing suggestions for improvement in the estimation of saving and investment in Chapter 8, specific suggestions have been indicated in these respects also. The present appendix deals with the details of important issues and suggestions.

1. Consumption of fixed capital as used in National Accounts Statistics in India

VII.2 The concept of consumption of fixed capital and related concepts of repair and maintenance and capital gain or loss as used in National Accounts Statistics in India are the same as recommended in the U.N. *System of National Accounts (SNA)*. However, the approach followed for measurement of consumption of fixed capital is not always the same as recommended and the estimation of consumption of fixed capital in respect of various sectors or sub-sectors of the economy is guided primarily by the availability of data. Thus, in the case of mining, registered manufacturing, electricity, gas and water supply, mechanised transport (other than Railways), storage, and banking and insurance, the annual data available on the consumption of fixed capital are entries for depreciation allowance which the producers make in their accounts. Data on depreciation allowance for these sectors are obtained from *Annual Survey of Industries (ASI)*, RBI's sample analysis of public and private joint-stock companies in India and annual reports of public and private sector undertakings. This depreciation allowance generally depends on the income-tax rules and regulations in force from time to time for the calculation of maximum annual provisions for depreciation. In the case of the Railways and the Overseas Communications Service (departmental undertakings), the consumption of fixed capital is assumed to be equivalent to works expenditure met from depreciation reserve fund *less* expenditure on 'Improvements of Assets Replaced' as available from the budget documents. In the case of 'communication', consumption of fixed capital is obtained from the budget documents and is assumed to be on historical cost.

VII.3 Consumption of fixed capital in the case of construction industries is based on the analysis of actual accounts of construction companies in public and private sector enterprises undertaking *pucca* construction. For all labour-intensive *kutcha* construction, this is assumed to be negligible.

VII.4 In respect of trade, hotels and restaurants, the depreciation allowances for registered trade as reflected in the accounts of these enterprises are available from the distributive trade surveys in respect of some of the states. The proportion of depreciation allowance available from these surveys to the gross domestic product is used to estimate consumption of fixed capital both for the registered and unregistered trade as well as for hotels and restaurants.

VII.5 Regarding 'other services', the estimates of consumption of fixed capital are based on the proportion of depreciation allowance to gross domestic product in respect of laundry, job-dyeing, cinema industries, etc., available from *ASI* reports.

VII.6 In regard to public administration and defence (as per *SNA*), the consumption of fixed capital is assumed to be *nil* and the outlays on repairs and maintenance are taken to be sufficient to maintain the assets in their original condition.

VII.7 In keeping with the suggestions in the U.N. Handbook, the estimates of consumption of fixed capital for agriculture and ownership of dwellings, non-mechanised road transport and unorganised inland water transport are prepared using the value of capital stock. The value of capital stock for the bench-mark year 1971-72 for the sectors of agriculture and ownership of dwellings is available from the RBI's *All India Debt and Investment Survey, 1971-72 (AIDIS)*. The estimates of value of capital stock for other years are prepared by adding annual estimates of net capital formation at constant prices and the price changes are superimposed. *AIDIS (1971-72)* collected data on capital stock and capital expenditure on repairs and replacements. Expenditure on repairs and replacements was taken to include secondary expenditure incurred to maintain the existing assets in good condition and therefore include major components of capital expenditure in the form of replacements. Accordingly, two-thirds of expenditure on repairs and replacements is taken to be capital consumption expenditure and the remaining one-third is expenditure on repairs and maintenance. In respect of agricultural machinery and implements, 11 per cent of the value of capital stock is taken as consumption of fixed capital, whereas in the case of ownership of dwellings, it is assumed to be 2 per cent and 1.67 per cent of the value of capital stock of household property in rural and urban areas, respectively. In case of construction works relating to bunding and other land improvements, wells and other irrigation resources, the value of capital stock is not known and two-thirds of the expenditure on repairs and replacements available from *AIDIS* has been treated as consumption of fixed capital. For non-mechanised road transport and unorganised inland water transport, 10 per cent of value of capital stock on transport equipment is assumed to be consumption of fixed capital. The value of capital stock for the bench-mark year 1959-60 is based on the NSS Survey on *Household Non-Mechanised Transport and Utilisation of Working Animals, 1959-60*.

VII. 8. Regarding the rest of the sectors of the economy, annual data on consumption of fixed capital are not available. The NSS surveys also do not provide any estimates of consumption of fixed capital in respect of these sectors. As such, the estimates of consumption of fixed capital in these sectors are estimated as proportion of value of output or as a proportion of gross domestic product based on various source material. In the case of forestry and fishing, it is estimated as proportion of value of output. These proportions are based on the discussions held with the State Statistical Bureaus and Chief Conservators of Forests.

VII. 9. In case of unregistered manufacturing, the estimates of depreciation allowance are available in the surveys/censuses conducted under the Centrally-Sponsored Scheme on *Survey of Small Scale Industries (CSSI), 1970-71, and Census of Small Scale Industries Units, 1972 (DGSSI)*. Depreciation allowances as a proportion of gross value added as available from these results are used as consumption of fixed capital for all the years. Depreciation allowances collected under these surveys are generally as reflected in the accounts of these enterprises.

Conceptual Problems

VII.10. Some of the general conceptual problems may be briefly indicated at this stage, before going into the problems of estimation in India. The conceptual problems are:

- (i) There is, apart from normal wear and tear of machinery and equipment (and the physical life of assets), the problem of 'obsolescence' in the technical sense. Obsolescence can be only partly foreseen; and depending on technological innovation, some assets can become obsolescent long before the expected life of the equipment is over. Unforeseen obsolescence is not (and naturally cannot be) provided for, and is thus in a way similar in effect to the unforeseen destruction of capital through calamities like fire, earthquake or flood. The NSA does not provide for such unforeseen capital loss on the ground that such capital loss affects capital stock; but it cannot be taken care of as part of the *flow*, that is, of capital formation, as the loss of capital is an event outside of the flow of income-consumption-saving-investment. Assuming a reconciliation of the income and capital accounts on an annual basis, the non-inclusion of unforeseen obsolescence/destruction of capital poses a problem within the SNA.
- (ii) The second conceptual problem stems from the fact that depreciation (or provision for capital consumption) is always provided at historical cost, whereas the replacement cost of capital assets being considerably higher — as a result of price inflation — the total amount provided for depreciation is hardly enough even for total replacement (of like for like). In this connection, two complicating factors arise, only one of which has so far attracted attention. First, since technology is always changing, replacement is hardly ever of like for like. Where new equipment was higher productivity, the moot point that arises is, to what extent should the difference between replacement cost and historical cost be deemed to be the cost of better equipment. There is no satisfactory or acceptable way this problem can be resolved. A second complicating factor that arises is that the funds available for depreciation carry an interest. Whether or not the depreciation provision is separately funded (or used in business), the provision for depreciation does provide businesses with fungible funds. Thus, assuming a life of 15 years for a given fixed asset, the depreciation provision — where calculated on the straight line method — accumulates compound interest on the depreciation provision year by year, so that the funds technically available for replacement should be considerably higher — and depending on the rate of interest, even a multiple of the historical value of the fixed asset. The need to make provision for replacement cost may thus to an extent be taken care of except where price inflation is steeper than can be adjusted by the cumulative interest on depreciation provision *plus* the salvage value of the asset depreciated. From the social view point, it is also necessary to note that those funds are tax free.

VII.11. There is, of course, a quite different reason why some countries adopt the concept of gross rather than of net national product and of capital formation, namely, the desire to avoid errors of estimation arising from the lack of precision attaching to the estimates of true depreciation. But as Kuznets and others have demonstrated, the concept of gross national product must remain fuzzy, and the same fuzziness would apply equally to the concept of gross capital formation, since the latter does not obviously add to the stock of capital in an economy. Hence, the figure of gross capital formation is not really a meaningful economic magnitude, since, for the economy as a whole, this magnitude cannot explain the generation of incremental output. Most countries, therefore attempt to work out estimates of both gross and net capital formation. This helps *inter alia* to continually improve the net national product (NNP) series also.

Problems of Estimation in India

VII.12. The SNA essentially relies on the 'replacement cost' concept. It even suggests that adjustments should be made in cases where the accounting figure of depreciation allowance is used to arrive, as closely as possible, to the concept of consumption of fixed capital in national accounts. The suggested adjustments require information about (i) value of existing stock of fixed assets, cross-classified by type of goods and age, and (ii) the price changes which have taken place since the fixed assets were acquired. This virtually means a complete new calculation of the consumption of fixed capital. For want of requisite data, such a calculation is not feasible. Even the approximate adjustments for the differences between the estimated average actual life time of use, and the life time assumed in the producers accounting and for replacement value are not resorted to for want of background information.

VII.13. Thus, the above conceptually neat framework poses estimation problems which are not peculiar to India. Apart from the limitations of data, there are also well-known inherent difficulties mainly arising out of changes in the price horizon and changes in the productivity of assets over time. However, these difficulties have remained almost intractable in reality and hence need not concern us overmuch. It would be sufficient if the estimates of saving (and of capital formation) were to be improved and tightened up to the extent possible.

VII.14. In order to test the validity of the present estimates of capital consumption in the economy, the following procedure has been adopted:—

- (a) An attempt has been made to prepare estimates of the Reproducible Tangible Wealth (RTW) in India, separately for each sector, using the perpetual inventory method. These figures have been worked out separately for fixed capital and inventories. Time series data on net fixed capital formation at 1970-71 prices have been used along with estimates of RTW as of March, 1950 as bench-mark estimates, to obtain the annual capital stock figures. Certain minor adjustments have been made to the figures of fixed assets and inventories, as given in a paper by M. Mukherjee and N.S.R. Sastry : "An Estimate of the Reproducible Tangible Wealth of India" (*Review of Income and Wealth Series VII, 1957*). Incidentally, starting from 1950, the figures of RTW by 1980 should *by and large* correspond to estimates obtained by using the perpetual inventory method.
- (b) An attempt has been made to compare the net output of each sector with its capital stock, and also to work out the implicit age of assets in each sector by comparing the RTW and the actual depreciation provision in the national income estimates.

VII.15. The results of this exercise are given in two tables (Tables VII.1 and VII.2) presenting figures of the gross value added, net value added, gross domestic fixed capital formation, net domestic fixed capital formation, depreciation, the stock of fixed capital (RTW)*, depreciation as percentage of the stock of fixed capital, and the implicit average age of assets, for each sector, in terms of 1970-71 prices, for two years 1970-71 and 1978-79.

VII.16. The last column in the above table is a pointer to the need for a careful second look at the various estimates in order to refine the available estimates. To cite only one example, the figure of 105 (or 127 years) as the average age of the Railway assets immediately points to the need for improv-

* These tentative estimates of the stock of fixed capital were specially attempted by the CSO for the use of the Working Group based on the work of the individual research workers. No official estimates of the stock of fixed capital have been prepared so far.

ing the estimate in this sector. Since the figure of depreciation provision for the Railways corresponds to the estimate of actual renewal and replacement expenditure undertaken by the Railways, the need for a systematic improvement in the estimate for this sector becomes apparent from the exercise carried out.

VII.17. Any improvement in these data, however, is likely to take careful, painstaking effort and is likely to be quite time consuming. To pursue the same example, it would be necessary to take the annual investments undertaken by the Railways, say from 1950, to take the average life of each type of asset (separately for locomotives, wagons, permanent way, bridges, buildings, signalling and other equipment, etc.), and to slowly build up the estimates of gross and net capital formation. This type of detailed painstaking enquiry would need to be conducted in respect of each sector of the national economy. The Working Group feels that this is a task that has to be taken up by the CSO, *for each sector* (and not merely for the Railways which merely highlights the nature of the problem). It is obviously not possible for the Working Group to undertake detailed computation in this regard.

2. The Concept of Capital Destruction

VII.18. The *SNA* recommends that in the estimate of 'consumption of fixed capital', allowance should be made for predictable accidental damage to fixed assets. To quote from the *SNA*, "The estimate of the expected economic lifetime of fixed capital should take account of the average (normally expected) amount of accidental damage to fixed assets which will not be made good by repair or replacement of parts, for example, damage arising from fire or flood."* The *SNA* suggests that one method of estimation may be by reference to the net premium (i.e., premiums reduced by the service charge) of the appropriate type of accident insurance.

VII.19. Thus, the *SNA* recognises that 'accidental damage' to fixed assets — to the extent that such accidental damage can be predicted in a macro sense — should be as much a part of the 'consumption of fixed capital' as the wear and tear of equipment derived from a theoretical set of life-tables of assets of different types.

VII.20. 'Capital Consumption' may, therefore, be deemed to consist of three elements, insofar as the treatment of capital formation in national accounts is concerned. These need to be derived from:

- (a) the expected physical life of assets;
- (b) the anticipated economic 'obsolescence' of equipment as different from the physical life of assets which may vary widely in different situations; and
- (c) the periodic (but generally predictable) accidental damage to or loss of capital.

VII.21. It is worth noting that in the Indian system of national accounts, the concept of 'depreciation' which is used to derive estimates of net capital formation from estimates of gross capital

* United Nations: *A System of National Accounts*, (Studies in Methods Series F, No. 2, Rev. 3), UN Publication Sales No. E69, XVII 3, New York, 1968, p. 122.

formation covers (in theory) (a) and (b) above, but not (c). However, it would easily be seen that while (a) and (c) are generally predictable, (b) is subject to considerable uncertainty. Since the idea of allowing the destruction of capital as an element of depreciation is new (and somewhat alien) to the Indian system of national accounts, this section attempts to bring out several different types of destruction or erosion of capital for which it is both necessary and possible to frame estimates of annual magnitudes, which could be a deduction on the available estimates of gross capital formation.

VII.22. The erosion of capital assets occurs in numerous ways through accident, neglect, improvident use of national resources, and inadequate attention to maintenance of national assets — a point recognised by scientists, sociologists and experts on environment and ecology, but not reflected in available national income estimates. For instance, in India, the systematic denudation of forests has led, increasingly, to recurrent floods. Recurrent floods have in turn led to the destruction of life and property — of the destruction of livestock, of house property and of the tools of trade of people in areas affected by floods, and even of damage to farm land which may require fresh investment (and input of labour) to restore it to a productive state. Cyclonic storms in coastal areas have also led to the extensive destruction of property on a fairly recurrent basis, in one part of the coastline or the other. Damage from floods, cyclones and the like are not covered by insurance in India, and the SNA procedure of taking the insurance premium minus the 'service charge' element in the insurance premium for such accidental damage is unlikely to provide a reasonable basis for estimating this element of capital consumption in India. There is also the problem that such accidental damage also extends to infrastructure facilities like roads, bridges, railway track, telecommunications and power cables and transmission lines, etc., which are not covered by insurance. It is only in respect of fire and accident insurance — mainly in respect of private urban property — that the SNA procedure can be applied in India, though even in regard to urban property, since Government properties are not insured in India, accidental fire and other damage to assets owned by Government cannot be measured *via* the insurance procedure.

VII.23. Yet the fact remains that while accidental damage occurs in different parts of the country at different times, for the economy as a whole, there is a fair degree of regularity (and predictability of the extent of damage) of such recurrent natural calamities. There are, of course, variations in the extent of damage from year to year; also, there is the problem that no complete tally of such damage can be found, and there are only piecemeal and periodic records of such accidental damage to assets. For example, the RBI's *All India Debt and Investment Survey : 1971-72* (AIDIS) has given an estimate of the loss caused to physical assets in rural areas as a result of such natural calamities at Rs.423 crores over July 1971 — June 1972. This includes a loss of Rs.130 crores worth of livestock, and damage worth Rs.181 crores to residential buildings. (Incidentally, since the estimates of capital formation by way of accretions to livestock are obtained from quinquennial Livestock Censuses, one may assume that the accidental loss of livestock would have been already covered in the estimate of the annual increment to livestock. Likewise, it could be argued that the estimate of rural house property is based on periodic estimates of house property, in which event, accidental damage would in theory have got reflected in the estimates of capital formation in rural housing). Estimates similar to those given by the *AIDIS* are not available on an annual basis. Also, the *AIDIS* estimates would

apply only to rural households. Damage to public property, to roads, dams, canals, bridges, railway track, power and telecommunication transmission lines, and public buildings would not be covered by these estimates.

VII.24. Apart from the *AIDIS*, there are other estimates, e.g., by the Central Water Commission, of the loss of property year after year through floods. Estimates in regard to accidental damage from fire, etc., to commercial buildings and industrial equipment and other industrial property can be built up from insurance data. There are other sporadic sources, but they all point to regular annual losses which have been increasing over time but which have nonetheless remained a reasonably stable percentage of the GNP. It is possible to build up annual estimates of damage from natural calamities from reports sent by State Governments to the CWC and the Planning Commission. Where estimates of such damage to or loss of assets are available even on a rough basis, an adjustment to the estimate of gross capital formation would appear to be called for, to allow for such loss of capital (which may be deemed to be predictable) for deriving estimates of net capital formation in the economy, since such accidental damage would reduce the physical assets of the community.

VII.25. The difficulty of finding suitable empirical correlates to fit our concepts is, therefore, neither relevant nor an adequate reason for rejecting the approach suggested since it is possible to either frame estimates or to find reasonable surrogates for the desired variable in this connection. However, the objection to deducting 'capital erosion' or capital destruction has, in India, arisen from the belief that accidental loss of capital should not, or cannot be, a deduction on the annual flow of savings for capital formation since the accidental destruction of capital is a loss from the existing stock of capital and not a deduction from the annual flow of capital. But the objection is not, in fact, based on a proper appreciation of the nature of 'capital consumption' which is quite different from 'depreciation provision' allowed by business firms. As indicated earlier, 'obsolescence' in the economic sense is difficult to measure. Nor can it be said that even the life expectancy of an asset is an inviolate measure of 'wear and tear'; much depends on how the asset is maintained, and the same asset may give a useful life of, say, double the normally expected life if maintained and operated carefully. The concept of 'depreciation' must, therefore, remain an approximate one. For the economy as a whole, accidental loss of capital is more clearly a reduction in physical assets than the consumption of capital through wear and tear; and the sum of both would indicate the actual reduction in the capital assets of a community for future use. It is for this reason that the SNA provides for the 'average (normally expected) amount of accidental damage to fixed assets' as an element in the annual estimate of capital consumption.

VII.26. It is, therefore, recommended that the available estimates of capital formation in India be adjusted for the 'average' accidental annual loss to physical assets. For this purpose, a full enumeration of capital erosion, be it by way of flood or cyclone or fire, or by way of desertification of the land, either man-made or through repeated drought, or by way of chemical and other damage caused by environmental pollution by industries or by mining – should be attempted by the national income estimator. In fact, the last point is frequently overlooked : when capital formation in, and increased output from, mining is reported in national accounts, the damage to resources through environmental pollution and ecological imbalance is not recorded anywhere, and this leads to heavy future costs of environmental restoration which are again treated as capital outlay in subsequent periods. The cost of such restoration should be a deduction on capital formation.

Table VII.1: Estimates of Stock of Fixed Capital and Implicit Average Age of Assets – Industry-wise 1970-71

(at 1970-71 prices)

(Rupees, crores)

Industry	Gross value added	Net value added	Gross domestic fixed capital formation*	Net domestic fixed formation*	Depreciation	Stock of fixed capital as on March 31, 1971	Depreciation as percentage of stock of fixed capital (Col. 6 ÷ Col. 7)	Average age of assets (years)
	(Rupees)	(Rupees)	(Rupees)	(Rupees)	(Rupees)	(Rupees)		
1	2	3	4	5	6	7	8	9
i. Agriculture	16,778	16,354	1,102	678	424	18,997	2.23	45
2. Forestry & logging	401	397	23	19	4	207	1.93	52
3. Fishing	245	229	36	20	16	619	3.03	32
4. Mining & quarrying	378	327	88	37	51	1,132	4.51	22
5. Manufacturing	5,223	4,619	1,204	600	604	13,221	.	.
5.1 Registered	3,406	2,874	856	324	532	10,529	5.05	20
5.2 Unregistered	1,817	1,745	348	276	72	2,596 [©]	2.77	36
6. Construction	1,952	1,853	111	12	99	1,171 [©]	8.45	12
7. Electricity, gas & water supply	419	318	593	492	101	5,452	1.85	64
8. Transport, storage & communication	1,869	1,574	721	426	295	13,118	.	.
8.1 Railways	597	522	228	153	75	7,929	0.95	105
8.2 Transport by other means and storage	1,034	834	438	238	200	4,309	4.64	22
8.3 Communication	238	218	55	35	20	880	2.27	44
9. Trade, hotels & restaurants	4,043	3,880	291	128	163	928 [©]	17.56	6
10. Banking & Insurance	656	644	28	16	12	378	3.17	32
11. Real estate, ownership of dwellings & business services	1,458	1,039	828	409	419	22,140	1.89	53
12. Public administration	1,635	1,635	487	487	—	9,112	.	.
13. Other services	1,679	1,650	90	61	29	1,900 [©]	1.53	65
14. Total	36,736	34,519	5,602	3,385	2,217	88,179	.	.

* Estimates of capital formation by industry of use and by type of assets are prepared independently and, therefore, do not always tally. This difference is adjusted for total capital formation at industry level. Allocation of the same between fixed capital and increase in stocks is not feasible. The estimates are, therefore, not adjusted for this difference.

© Estimates for the bench-mark year (1950) are not separately available and have been estimated using limited information.

Note: The estimates of stock of fixed capital have been prepared by CSO on the basis of the work of individual research workers specially for the use of the Working Group. These are not official estimates.

Table V|1.2: Estimates of Stock of Fixed Capital and Implicit Average Age of Assets – Industry-wise 1978-79

(at 1970-71 prices)

(Rupees, crores)

Industry	Gross value added	Net value added	Gross domestic fixed capital formation*	Net domestic fixed capital formation*	Depreciation	Stock of fixed capital as on March 31, 1971	Depreciation as percentage of stock of fixed capital (Col. 6 ÷ Col. 7)	Average age of assets (years)
	(Rupees)	(Rupees)	(Rupees)	(Rupees)	(Rupees)	(Rupees)		
1	2	3	4	5	6	7	8	9
1. Agriculture	19,874	19,244	1,874	1,244	630	25,738	2.45	41
2. Forestry & logging	507	502	36	31	5	381	1.31	76
3. Fishing	329	308	62	41	21	765	2.75	36
4. Mining & quarrying	521	442	335	256	79	2,576	3.07	33
5. Manufacturing	8,141	7,329	2,248	1,436	812	20,886	.	.
5.1 Registered	5,345	4,649	1,686	990	696	15,260	4.56	22
5.2 Unregistered	2,796	2,680	562	446	116	5,626 [Ⓢ]	2.06	49
6. Construction	2,541	2,412	167	38	129	1,325 [Ⓢ]	9.74	10
7. Electricity, gas & water supply	737	612	1,032	911	125	10,821	1.18	85
8. Transport, storage & communication	2,929	2,527	993	591	402	17,402	.	.
8.1 Railways	805	731	270	196	74	9,350	0.79	127
8.2 Transport by other means and storage	1,733	1,436	585	288	297	6,512	4.56	22
8.3 Communication	391	360	138	107	31	1,540	2.01	50
9. Trade, hotels & restaurants	6,208	5,956	288	36	252	1,615 [Ⓢ]	15.60	6
10. Banking & Insurance	1,316	1,290	64	28	26	567	4.59	22
11. Real estate, ownership of dwellings & business services	1,825	1,331	1,224	730	494	26,270	1.88	53
12. Public Administration	2,753	2,753	649	649	.	13,962	.	.
13. Other Services	2,042	2,007	198	163	35	2,791 [Ⓢ]	1.25	80
14. Total	49,723	46,713	9,164	6,154	3,010	124,899	.	.

* Estimates of capital formation by industry of use and by type of assets are prepared independently and therefore, do not always tally. This difference is adjusted for total capital formation at industry level. Allocation of the same between fixed capital formation and increase in stocks is not feasible. The estimates are therefore not adjusted for this difference.

Ⓢ Estimates for the bench-mark year (1960) are not separately available and have been estimated using limited information.

Note: The estimates of stock of fixed capital have been prepared by CSO on the basis of the work of individual research workers specially for the use of the Working Group. These are not official estimates.

APPENDIX VIII

DIFFERENCES IN THE ESTIMATION OF SAVING AND INVESTMENT BY CSO AND RBI

VIII.1 The Working Group was greatly concerned about the differences in the estimation of saving and investment put out by the two official agencies, the Central Statistical Organisation (CSO) and the Reserve Bank of India (RBI). Discussions with both the agencies revealed that a large measure of agreement had been reached between them to bring about uniformity in regard to the concepts adopted, the estimational procedures and the sources of data deployed in the preparation of their respective estimates of domestic saving. However, it is noticed that some of the differences still persist.

Timing of estimates

VIII.2 One of the major sources of the differences, which is of a general nature, relates to the timing of the annual series brought out by the two agencies. The RBI makes tentative annual estimates within five months of the closing of a financial year i.e., before the next August so as to take a view in its *Annual Report* and completes its regular provisional estimates before October for publication in its *Report on Currency and Finance*. The CSO comes out with its *quick* estimates by the next January, taking cognizance of fresh data available upto mid-December. The Working Group concedes that because of the timing differences in the release of the estimates by the two agencies, some degree of difference as between their estimates for the latest two years or so cannot be ruled out. This difference is akin to the difference between the *quick* and revised estimates of either of the individual agencies.

VIII.3 However, differences have been identified with regard to certain specific areas and Working Group believes that with the necessary coordination between the two institutions, these differences could be totally eliminated. After discussions with the two institutions, the Working Group has proposed specific action programmes with this end in view, which are indicated in the accompanying statement (Statement VIII.I). Of the six areas so identified, the two, namely, household deposits with non-banking companies and household investment in Government debt, require better coverage and quicker completion of the relevant surveys in the RBI. The Group was assured that the RBI was seized of these matters. On household investment in shares and debentures of the private corporate sector, an expert committee appointed by the CSO (with representatives from the RBI) is looking into the ways of bringing out an agreed series of paid-up capital and capital raised annually by the non-Government companies. Likewise, on savings of the local authorities and non-departmental State Government Undertakings, another working group appointed by the CSO has suggested the involvement of the State Statistical Bureaux (SSBs) for processing the data on a full enumeration basis. In respect of this item as well as the next, viz., the economic classification of the State budgets, the RBI's data requirements are also related to its studies on *flow of funds*. Hence, the RBI may also have to undertake studies of Centrally-administered local authorities and bigger corporations and municipalities as well as the economic classification of the State budgets. However, while using their respective results for the estimation of saving and investment, the RBI and the CSO should exchange notes with each other every year so that the discrepancies are avoided. As for the data in respect of

the smaller local bodies and *panchayati raj* institutions, the CSO may supply the required information to the RBI as and when the SSBs make available such information. On the derivation of the Life Fund of the LIC, the differences are indeed negligible and these differences and the differences on the final item, viz., the direct lendings of the Central and State Governments to the household sector, may be sorted out through discussions between the CSO and the RBI.

VIII.4 Considering the dimensions of the problem involved in estimating saving and investment, some division of labour between the two agencies would be both desirable and necessary. For instance, on financial assets of the household sector and the accounts of the joint-stock companies, the CSO could depend on the RBI for the processed data. On the other hand, the RBI should rely on the CSO for the estimates of household sector saving in the form of physical assets. This implies that there should be closer coordination between the two agencies and that the relevant data processed and compiled by either of them should be shared with other. If the CSO could thus provide to the RBI some estimates, however tentative, of household saving in the form of physical assets for the latest year by the next September or so each year, the latter could avoid attempting independent estimates and its provisional estimates would also have some basis.

VIII.5 Incidentally, the Planning Commission has been preparing estimates of saving for the different sectors of the economy mainly for purposes of projecting saving for Plan formulation. These estimates are prepared by a Working Group consisting of representatives of the CSO, the RBI, the Ministry of Finance, and the Planning Commission. The Planning Commission was preparing sectoral estimates of saving independently till the Fourth Plan period since the *White Paper* did not provide such details. The CSO started the disaggregated tables in 1975 and since then, the Planning Commission has been adopting the saving estimates of the CSO. However, the Financial Resources Division in the Planning Commission makes detailed estimates of public sector saving annually for purposes of assessment of resources for the Annual Plans.

STATEMENT VIII.1

List of Items on which CSO and RBI Have to Sort Out Their Differences

Item	Nature of the Difference	Working Group's Recommendation
1. Household Deposits with Non-Banking Companies	The RBI is drawing on the data from two sources, namely, its joint-stock company studies for estimating deposits accepted by non-financial companies and the annual surveys undertaken by its own Department of Non-Banking Companies (DNBC) for deposits with financial companies. The CSO relies on the DNBC surveys for deposits with	An analysis of the data for non-financial companies shows that in respect of public deposits, the aggregated balance sheet data for sample companies alone gives a better coverage than the DNBC survey. Therefore, the RBI has to ensure that its survey of public deposits accepted by the non-financial companies is sufficiently compre-

Item	Nature of the Difference	Working Group's Recommendation
	both financial and non-financial companies.	hensive for analytical (as well as policy) purposes. Until such a comprehensive survey is undertaken, the RBI should make available to the CSO the relevant estimates of public deposits accepted (a) by non-Government financial as well as non-financial companies; and (b) by Government non-financial companies.
2. Household Investment in Government Securities	The estimates of household investment in Government securities differed very widely as between the RBI and the CSO. The RBI's estimate is based on the provisional results of its Survey of Ownership of Government Debt for 1974, 1977 and 1978, while the CSO is following the 'residual' approach, i.e., deducting from the total debt, the institutional holdings, and working out the annual variations. It has been pointed out that because of the differences in valuation, accounting period, etc., the 'residual' method cannot give a correct picture. The CSO had got negative figures of Rs.142 crores for 1976-77 and over Rs.300 crores for 1977-78, whereas the RBI estimates had placed the net disinvestment of Government securities by the household sector for those two years at Rs.8 crores and Rs.1 crore, respectively. The available survey results indicated that such large disinvestments are not possible as the holdings of households themselves had not been so large historically.	It is more appropriate to rely on the survey results. The CSO has not disputed this. It wants to be assured of the regular availability of the survey results. The RBI has said that it is endeavouring to expedite the relevant survey. The RBI may make available the results of its survey to the CSO, by November every year, to facilitate the latter's <i>quick</i> estimates.

Item	Nature of the Difference	Working Group's Recommendation
3. Household Investment in Shares and Debentures of Joint Stock Companies	Substantial differences are noticed in regard to the figures of capital raised by non-Government non-financial companies. It is learnt that the CSO is obtaining the data from the Department of Company Affairs (DCA) and the Controller of Capital Issues (CCI). The RBI relies on the quarterly returns from the CCI for the latest years. The CSO has also agreed that a satisfactory series on capital raised is not available with any of the Govt. agencies. The CSO has appointed sometime ago an expert committee to look into the issues regarding the preparation of an acceptable series of paid-up capital and capital raised annually.	An expert committee appointed by the CSO is exploring the possibility of constructing an annual series of paid-up capital and capital raised annually, with requisite coverage. It should be possible to achieve uniformity in the estimation of this item in the light of the committee's recommendations. For estimating the household share in the total paid-up capital of joint-stock companies, the RBI's survey of ownership of corporate securities requires to be expedited.
4. Savings of the Local Authorities and Non-Departmental State Govt. Undertakings	The CSO is estimating the saving of the local authorities by analysing the annual accounts of the port trusts, the corporations and the bigger municipalities. Earlier, the CSO was relying on the RBI studies on the <i>Finances of Local Authorities</i> which however are not available beyond 1968-69. Using this base level information, the RBI continues to carry the estimates forward based on past trends. In regard to the finances of non-departmental State Government undertakings, while the CSO carries out independent analysis based on available audited accounts, the RBI relies on its own sample studies of the finances of Government companies.	In regard to this item also, with the acceptance of the recommendations of the CSO's Working Group on <i>Statistics of Local Bodies and Non-Departmental Undertakings of the State Governments</i> , it should be possible to achieve uniformity in estimation by the two agencies. From the view point of its own need for <i>flow of funds</i> studies, the RBI may continue its studies of port trusts and bigger size municipal corporations, as also of non-departmental State Government undertakings, but obtain the requisite data in respect of the smaller municipalities and <i>panchayati raj</i> institutions from the CSO.

Item	Nature of the Difference	Working Group's Recommendation
5. Saving of State Governments	The CSO is undertaking a full-scale economic classification of the State budgets, whereas in the RBI estimates, the saving of the State Government Administration is derived as the excess of Revenue Receipts over the estimated consumption expenditure, the latter being conceived as a proportion of the expenditure under Current Account.	In the context of the annual <i>flow of funds</i> account, the RBI may also undertake an economic analysis of the State budgets, but at the same ensure uniformity with the analysis made by the CSO.
6. Life Fund of the Life Insurance Corporation of India (LIC) which is assumed to be the saving of the policy holders	The estimate of RBI is based on the balance sheet data of LIC, whereas the CSO derives the same on the basis of incomes and expenditure account and the particulars available in bi-ennial valuation accounts of LIC with adjustments for net capital gains. The RBI argues that such adjustment for capital gains in respect of only one sector without such adjustments being made in the domestic product accounts of other sectors would be improper.	This involves a very minor discrepancy which may be sorted out between the two agencies.
7. Borrowings of Households from the Central and State Governments.	The CSO is including a larger number of budgetary items than the RBI in estimating the total Government lendings to the household sector.	The Working Group understands that the CSO has submitted a list of items which is being examined in the RBI. The difference may be sorted out after the RBI provides its reactions.

APPENDIX IX

PROPOSED IMPROVEMENTS IN ESTIMATION

IX.1 Many of the substantive suggestions for improving the data base and the method of estimation of saving and investment have been highlighted in Chapter 8 of the main report. The need to disaggregate the estimates for the household sector, adoption of a more rational and uniform system of estimating capital consumption for different groups of economic activities, changes in the method of estimating inventory accumulation in the unorganized segment, the imperatives of initiating in-depth studies on the nature and size of unreported GNP, and the scope for improving the 'population' estimates based on sample studies of the private corporate sector, have all been indicated in the course of our analysis in various chapters and appendices and focussed in Chapter 8 as a set of important suggestions for action. But there are a large number of other suggestions, also arising from our review and analysis in the main report and appendices, all of which add up to a significant package for improvement. The purpose of this appendix is to enumerate this package of recommendations for improving the data sources and the methodology of measurement with respect to individual sectors. As the rationale for many of these recommendations has already been provided in the course of our analysis, the same are not being repeated here.

1. Public Sector

IX.2 The recommendations under this section relate to: (i) classification of expenditure items of the Central Government into 'current' and 'capital'; (ii) similar classificatory questions relating to certain expenditure items of the Railways; (iii) the question of treating replacement expenditure as depreciation in departmental enterprises; (iv) need to study the nature and size of 'suspense' account that may affect the estimate of Government savings; (v) inter-government adjustment in respect of interest and other current transfers; (vi) discrepancies as between the 'Accounts' given in the budget documents and those in the Combined Finance and Revenue Accounts; (vii) treatment of the profits of RBI; and (viii) finances of local authorities and non-departmental undertakings of the State Governments.

IX.3 As highlighted in Appendix III, in respect of the Central Government administrative departments, economic accounts are compiled on an annual basis both by the CSO and the Ministry of Finance. Detailed comparison of the estimates of consumption expenditure, transfer payments, etc., as prepared by the two organisations reveals some differences in concepts and presentation. Similar differences are noticed with regard to the classification of the expenditures by the Railways on 'improvements of assets replaced' incurred out of depreciation reserve fund and on 'education' and 'medical'. It is desirable that the Ministry of Finance and the CSO study the details of each other's mode of classification and arrive at identical estimates of current expenditure based on known conventions and guidelines in that respect. Also, as indicated in Chapter 8 as well as in Appendix VII, the entire question of an appropriate estimate of depreciation in relation to the capital stock of the Railways and other departmental enterprises needs to be considered carefully. It is clear that depreciation should not be taken as equivalent to the actual expenditure on replacement, as is done now with respect to some departmental enterprises.

IX.4 The Working Group has made a study of the 'suspense account' in the Public Account of the Central and State Governments and found that a substantial part of it would have already been classified under proper heads. Hence, the unclassified amount within 'suspense account' affecting estimates of saving would be negligible. However, even this possibility deserves to be eliminated and hence this is an area which needs looking into by the CSO in collaboration with the appropriate authorities. So is the case with the present practice in CSO of circumventing the differences in inter-governmental receipt and payment of interest and other current transfers by treating them as 'inter-government account adjustment' on the expenditure side of consolidated income and outlay account of administrative departments. Incidentally, it is advisable to present the figures of interest payment by Central Government on a gross basis rather than net of interest received from non-departmental undertakings, as is done at present.

IX.5 It is suggested that the CSO should attempt a study of the differences as seen to exist between the 'Account' figures given against various items of receipts and expenditure in the 'Financial Statement' of the budget documents and those later published in the Combined Finance and Revenue Account (CFRA) by the Comptroller and Auditor General of India.

IX.6 In regard to the treatment of the profits of the Reserve Bank of India (RBI), the majority members of the Working Group consider that the existing practice adopted by the CSO of apportioning the profits between the Issue and the Banking Departments of the RBI and treating the former as a part of the Central Government (administrative) department is arbitrary as well as contrary to the guideline prescribed in the *UN System of National Accounts (SNA)*. Hence a majority of the members felt that for national accounts purposes the entire RBI be treated as part of non-departmental financial undertakings.* Of course, profits transferred to the Government would, in this case, be shown as Central Government income. The Working group as a whole, however, felt that according to its terms of reference, it was not required to recommend on the industrial and institutional classificatory criteria adopted in the Indian National Accounts. It, however, felt that the Advisory Committee on Compilation and Analysis of National Accounts should carefully examine this view and take necessary action.

IX.7 With a view to improving the quality of data on urban and rural local bodies and on the non-departmental undertakings of the State Governments, a Working Group appointed by the CSO on *Statistics of Local Bodies and Non-Departmental Undertakings of the State Governments* has made a series of very useful and practical suggestions which the present Working Group would commend for implementation. Briefly, the suggestions are: (i) all the State Statistical Bureaux (SSBs) should make arrangements on a priority basis for consolidation of statistics from the annual statements of receipts and expenditure for different groups of local bodies; (ii) this consolidation should be undertaken on a complete enumeration basis; (iii) in respect of local bodies like port trusts set up under Central statutes, the processing of statistics will however be undertaken by the CSO; (iv) the SSBs should also collect and process the financial statistics pertaining to the non-departmental undertakings of the State Governments; and (v) in view of the utmost need for implementing the programme for strengthening the data base for development planning particularly at the local and district level, the

* A member of the Working Group, Dr. A.K. Ghosh, does not subscribe to this proposition.

State Governments should include development of statistics on local bodies as well as on their non-departmental undertakings as their Plan schemes. The present Working Group believes that is of great importance to speedily implement these recommendations and hence strongly urges CSO to persuade the State Governments to do so on a priority basis.

IX.8 Finally, it is urged that the CSO should publish in the *National Accounts Statistics* (a) the accounts of different levels of government separately, in addition to the set of consolidated accounts, and (b) separate data on savings of non-departmental financial undertakings and non-financial undertakings. The latter distinction is necessary with a view to highlighting the extent of surpluses getting generated in the economy through financial intermediation. In this context, it would also be useful to present the savings of RBI separately under the figures for non-departmental financial undertakings.

2. Private corporate sector

IX.9. In the case of the private corporate sector, suggestions for improvement relate to the following: (i) adoption of proper sampling technique for the study of company finances; (ii) undertaking of separate estimates for companies under construction; (iii) undertaking of census studies on all segments of private corporate sector on a quinquennial frequency; (iv) substitution of paid-up capital by other characteristics such as gross fixed assets or sales or gross output for blowing-up purposes depending upon the variable being estimated; (v) resumption of the studies on the finances of foreign-controlled rupee companies and branches of foreign companies; and (vi) finally, speeding up of the regular studies on company finances.

IX.10. The RBI's studies themselves have shown that even in respect of the medium and large public limited companies, the exclusion of non-operating companies and companies under construction from their sample, is likely to introduce biases in the 'population' estimates at the aggregative level. It is suggested that the RBI should, on the basis of periodical studies, introduce correction factors so as to take cognizance of the operations of the non-operating companies. It is interesting that the 'population' estimates prepared by the RBI for 1971-72 on the basis of the sample studies of operating companies were found to be higher than the magnitude thrown up by the 'Census' study for the same year.* It is also imperative that the annual series, particularly of capital formation in the private corporate sector, as estimated at present, are supplemented by separate studies on a regular basis on companies under construction. The Working Group is aware that the RBI has already undertaken corporate finance studies of a 'Census' type, as also on the finances of companies under construction. The Group strongly urges that these studies be placed on a regular and permanent footing so that the estimates for the private corporate sector could be further refined.

IX.11. It is also necessary that in respect of (i) small public limited companies, and (ii) all sizes of private limited companies where the sample coverage is limited, more representative samples are drawn so that the 'population' estimates have some scientific basis. Attempts also should be made in the RBI, the CSO and the Department of Company Affairs to replace paid-up capital as the blowing-up factor

* A part of the explanation could be found in the non-representative character of the samples for small-size public limited companies.

wherever necessary by more appropriate estimators which could be different for different characteristics depending upon the statistical relationships obtained. For the present, even the global paid-up series appears to be unsatisfactory and an expert group appointed by the CSO has been looking into the problem since 1979. It is hoped that the labours of the expert group would provide a dependable time-series of paid-up capital for the private corporate sector.

IX.12. Finally, delays in the finalisation of full sample studies result in estimation for the latest years on a weak statistical base. In respect of some segments, the time-lag extends upto four years. It is nearly a decade since the studies on foreign-controlled rupee companies and branches of foreign companies had been undertaken. The Group reiterates what it has emphasized in Chapter 8, that for refining the estimates of domestic saving, foreign inflow and domestic investment, it is of utmost importance to minimise the time-lag in the finalisation of the above studies.

3. Household sector physical assets formation:

XI.13. The estimates of physical assets formation in the household sector are subject to limitations of varying magnitudes arising essentially from the fragmentary nature of primary data. As explained earlier, these estimates are prepared separately for new construction, for addition to machinery and equipment and for change in inventories. Considering the heterogeneous character of various types of construction taking place in the economy (e.g., housing, roads, irrigation and other works), estimates of construction derived through the aggregative 'commodity flow' method may probably be subject to large and unknown margins of error. It is, however, not possible to give up the 'commodity-flow' method because of insuperable data problems. Besides, the 'commodity flow' method provides a good idea of the broad dimensions of capital formation in construction of the *pucca* category which can serve as the controlling total. Nevertheless, it is necessary to have an independent estimate of capital formation in *pucca* construction by the 'expenditure method' also, at least for purposes of cross checking. At present, the 'expenditure method' is used to derive the sectoral distribution of construction in the economy and also for estimating the value of construction in the household sector for certain major categories, namely, rural and urban residential housing, rural non-residential construction and other construction works. It is in the case of urban non-residential housing (*pucca*) that difficulties are encountered and estimates for the same are derived as a residual from the controlling total.

IX.14. It does not stand to reason why direct estimates of investment in construction in non-residential housing in the urban areas cannot be made when most of the towns having a sizeable population are covered by municipal administration and the municipal by-laws generally require prior sanction of plans for construction and notices of completion when a construction is completed. The data problems encountered in this area are due almost entirely to the laxity of the municipal administration in enforcing the basic laws relating to construction. It is, therefore, suggested that State governments should be urged to give some attention to this matter and persuade the municipalities to enforce the building regulations and arrange for regular flow of information regarding construction in municipal areas. Where the existing municipal laws are deficient, suitable changes should be made in the law soon. If the data on the physical dimensions of new construction, that is, floor space, are available, it should be possible to estimate the investment figures on the basis of norms which can be evolved by agencies like the National Buildings Organisation (NBO). The norms can provide for appropriate variations in the cost of construction in different parts of the country.

IX.15. Another source of data on investment in construction from the expenditure side are the surveys conducted by the National Sample Survey Organisation (NSSO). The Working Group understands that a pilot enquiry on construction activity covering both building and other constructions undertaken by households and private un-incorporated enterprises is being conducted by the NSSO in its 35th round (1980-81). This survey should be followed up by a comprehensive enquiry on construction activity on the lines suggested by the *ad hoc* Working Group on Housing and Construction Statistics constituted by the CSO and the Advisory Group on Housing Statistics set up by the Ministry of Works and Housing in 1975. If the capital formation estimates for housing and construction in the economy are to be obtained independently of the 'commodity flow' approach, a full-fledged survey of construction activity covering both building and non-building construction undertaken by household and private un-incorporated enterprises in rural and urban areas should be undertaken by NSSO. An important element of the residual part of construction is the construction undertaken by non-profit organisations like public trusts. Information regarding investment made by these trusts is not compiled regularly and there is need for a comprehensive survey in this connection also.

IX.16. Since the 'commodity flow' approach cannot be dispensed with and will continue to play a key role in the estimates of saving/investment in *pucca* construction, attempts should be made to improve the 'commodity flow' estimate itself. First, the margin of error can be reduced if the estimates are made as far as possible on a disaggregated basis. For this purpose, the possibility of segregating the quantity of major inputs for *pucca* construction for at least some of the main categories of construction may be explored. It should be possible to obtain some idea of the input structure for building construction from the NBO, the Central Public Works Department and the Central Buildings Research Institute, and work out, on that basis, the quantity of basic building materials used in the construction of buildings. Secondly, while preparing the estimates of total new construction, the ratios of various factor and non-factor inputs are kept constant over time. It is essential to work out fresh ratios as frequently as possible so that the changes in the composition of construction are taken care of over a period of time. Special efforts in the form of regular or *ad-hoc* surveys are necessary in order to evaluate such ratios over time. This is also true of the ratio of *pucca* or *kutcha* construction. The Group felt strongly on the neglect of appropriate field surveys; it recommends that immediate attention be paid to this so that the myriad ratios used in the estimation of household construction get updated from time to time.

IX.17. As it is, there is room for improving the estimates of *kutcha* construction in the light of information regarding the relative proportion of cash and non-cash components of investment in construction brought out by the *AIDIS* of 1971-72. The proportion of non-cash expenditure to total expenditure on construction of residential buildings (excluding expenditure on purchase of residential plots) by rural households based on the data available in the monograph on *Capital Expenditure and Capital Formation of Rural Households: AIDIS — 1971-72* (RBI, 1978) should be worked out. As non-cash expenditure forms a substantial proportion of the total expenditure on *kutcha* construction, the changes in these proportions over time can be usefully utilised to work out the changes in the proportion of *kutcha* construction in residential buildings and construction in non-farm business.

IX.18. Some of the important segments of the estimates of investment in housing are based on bench-marks derived from the surveys of 1971-72 or earlier years. Data on household investment in housing and construction and the value of capital stock of housing available from the decennial 'debt

and investment' surveys may be utilised to check the reliability of the indicators used and for moving the bench-mark estimates to later years.

IX.19. The major problem in the estimation of capital formation in machinery and equipment for the household sector arises from the non-availability of regular direct information either of production from unregistered manufacturing units or of use in the household sector. The result is reliance on out-of-date survey data.

IX.20. Given the circumstances under which the production of machinery and equipment in un-registered factory manufacturing units takes place as well as the highly dispersed and varied nature of the use of these items in households, there is no simple way of arriving at reliable quantities without surveys conducted periodically to ascertain both the levels of production, in one case, and the levels of use, in the other. It would seem to us that without such periodic surveys there are really no short-cut methods by which estimates could be obtained on which one would have a reasonable degree of confidence.

IX.21. As regards inventory accumulation in the household sector, the Working Group has made specific suggestions to replace the existing methods of estimation in Appendix II. Broadly, in respect of stocks with unregistered manufacturing and trade (registered and unregistered) dealing in commodities other than foodgrains, it has been proposed that sample studies on the monthly stock statements/stock registers maintained with commercial bank branches may be used as a primary source to begin with. Subsequently, these may be supported by bench-mark surveys on stocks with the various constituents of the unorganized segment and also bench-mark surveys on the monthly stock statement themselves. In the case of foodgrain stocks with trade, specially designed field surveys alone could determine the nature of the relationship between private trading stocks and market arrivals. For private agriculture, an estimate of the ratio of inventories to gross value added be used for this purpose and the ratio updated with the help of the periodic surveys of the *A/DIS* type.

4. Capital formation by industry of use

IX.22. As regards the estimates of capital formation by industry of use — particularly in the un-organised sectors — the Working Group examined the method of estimation in two of the economic activities, viz., unorganised manufacturing and household sector trading activities. The methods of estimation followed by CSO in both the cases are very unsatisfactory.

IX.23. In order to eliminate these limitations, it is necessary to have periodic surveys, at least once in five years, to collect information on capital formation and output in detail relating to unregistered manufacturing sector. It was felt that even during the *interim* period, corrections may be needed in the investment-income ratios and these can be done with the help of data thrown up by surveys carried out by various organisations. In this connection, the results that would become available from the follow-up surveys of the Economic Census were mentioned as a major source of additional information that will become available in the near future.

IX.24. In the case of machinery prices, it was felt that the items of machinery included in the calculation of index of prices are not representative of the tools and machinery generally used in a

large component of the unregistered sector. It was, therefore, suggested that in this case, efforts may be made to collect prices relating to the more commonly used machines and implements in household manufacturing. Some of these are identified as lathes, handtools, handlooms and simple machine tools.

IX.25. In the case of trade sector, practically no data exist which give an indication of the current levels of capital formation. In order to improve the estimates, detailed data based on sample surveys are necessary at least at an interval of five years covering the whole sector, both household and non-household. In the *interim* period, a small study could be taken for the registered trade sector. It was also noted that the results of the follow-up surveys of the Economic Census would be extremely useful when available. The limitations of the price index can be solved just as in the case of unregistered manufacturing.

5. Financial assets

IX.26. Suggestions in this area of estimation essentially relate to (a) the need for quicker flow of current data, and (b) the revival of periodic statistical surveys which were once being regularly undertaken. Falling in the first category are: (i) ownership pattern of commercial bank deposits (which is now available upto March 1978); and (ii) deposits accepted by the non-banking financial and non-financial companies (the latest of which pertains to March 1979). Even in respect of these surveys, it is noticed that there are certain imperfections which deserve to be looked into so as to make meaningful use of them. In the results obtained on the ownership pattern of bank deposits, a significant proportion of deposits (over 40 per cent in March 1976 and 32 per cent in March 1978) is classified under 'Others' category. A disaggregation of this item should be more meaningful, particularly in the context of the need to obtain estimates for different constituents of the household sector. Likewise, in the case of deposits accepted by non-banking companies, it is found that the coverage is inadequate. The surveys which were being undertaken in the past and which need to be revived pertain to: (i) ownership of shares and debentures of the private corporate sector; and (ii) ownership of Government debt. The Working Group wishes to emphasize the need to improve the quality of these statistical surveys and to ensure their quicker and more regular flow.

IX.27. As regards the loans and advances taken by employees of non-government educational institutions, it was suggested that the ratio of deposits to loans and advances to employees applicable for the government institutions may be applied to the provident funds of the educational institutions of the private sector. It is further noticed that in case of some private institutions, the provident funds of the employees are deposited with the Post Offices in the form of small savings. It is essential that care is taken to avoid any duplication in this regard.

IX.28. It was felt that in the estimation of household saving in the form of shares, care should be taken to ensure that the estimates in regard to bonus shares are not duplicated at any stage.

IX.29. Regarding the security deposits of the household with various important trusts, housing boards and electricity boards, it was felt that they have to be treated as household saving in the form of deposits and they should be accounted for in the estimation as far as possible.

6. Treatment of 'errors and omissions' as 'statistical discrepancy'

IX.30. The Working Group felt it necessary to dilate a great deal on the nature of the 'errors and omissions' now emerging in the process of reconciling the CSO's estimates of domestic saving, foreign inflow and capital formation arrived at with the help of divergent methods and disparate sources of data (See Chapter 2). The Working Group considers that the present method of treating 'errors and omissions' as though they take care of all of the estimational errors and as though they are related to all sectors is somewhat erroneous. Besides, the present method has created a serious analytical problem in the sense that no consistent sectoral shares in gross or net capital formation could be worked out. This is so because while the adjustment for 'errors and omissions' is made at the aggregative level, no such adjustment is made at the sectoral level. An alternative which the Working Group recommends is that the 'errors and omissions' be treated as 'statistical discrepancy' and that no adjustment whatever be made to any of the independent estimates.

ATTACHMENT 1

NOTE OF DISSENT ON 'TREATMENT OF THE RESERVE BANK OF INDIA IN THE INDIAN SYSTEM OF NATIONAL ACCOUNTS'

**by
Dr. A. K. Ghosh**

A1.1 The treatment of the Reserve Bank of India in the Indian System of National Accounts has been discussed by the Committee, and the consensus of view which seems to have emerged centres around the idea that the entire RBI should be treated as part of 'non-departmental' financial undertakings.

A1.2 I sympathise with these views, but I regret I cannot share them. I indicate below briefly why the logical approach would be to reclassify the operations of the Reserve Bank of India together with Government Administration.

A1.3 As of today, the Indian System of National Accounts divides the Reserve Bank of India and its accounts into those pertaining to the Issue Department and those pertaining to the Banking Department. The activities of the Issue Department are classified with Government (Administration), while those of the Banking Department are merged with the accounts of banks, insurance companies and other financial institutions. In other words, the existing system of Indian National Accounts does not adopt the UN *System of National Accounts (SNA)*.

A1.4 The separation of the Issue Department from the Banking Department of the Reserve Bank of India, in a sense, follows the Bank of England Act, which draws a distinction between these two departments. This distinction is not drawn by the central banks of other countries. To that extent, it has been argued, with justification, that the distinction drawn in India between the two departments is somewhat artificial.

A1.5 The justification given in the *SNA* for imputing a service charge for banks (and other commercially oriented financial institutions) is that "A key service performed by banks and similar institutions is to channel the savings of other economic agents into loans to industries". Because of this 'service', financial institutions are deemed as a separate productive sector; but since their earnings are of the nature of interest – already counted as part of net output of other productive sectors – an 'imputed service charge' for banking (and similar) services is "equated to the excess of property income received by the banks and similar intermediaries on loans and other investments made from the deposits they hold, over the interest they pay out on these deposits. The property income they received as a result of investing their own funds should not be taken into account in calculating the imputed service charge".*

* United Nations: *A System of National Accounts* (Studies in Method Series F, No.2, Rev.3), UN Publication Sales No. E 69.XVIII.3, New York, 1968, p. 78.

A1.6 *The intermediation activity of commercial banks is clearly different from the activity of the central bank of a country which was recognised by the SNA as a 'monetary authority'.*

A1.7 Consider, in this context, the SNA scope of government administration in the national accounts. General government, in the SNA, covers:

"All agencies of the public authorities not classified elsewhere (iii) social security arrangements for large sections of the community imposed, controlled or financed by the government; (iv) government enterprises (unincorporated public units) which mainly produce goods and services for government itself or which primarily sell goods and services to the public, but do not operate on a large scale; and (v) public saving and lending bodies which are financially integrated with a government or which lack the authority to acquire financial assets or incur liabilities, respectively, in the capital market".*

A1.8 Clearly, there are some very serious compromises here. However, the SNA classifies unincorporated government enterprises with Government Administration. The present proposal is to classify the RBI as part of 'non-departmental financial undertakings' — in essence as part of the 'financial intermediaries' sector. One can easily see the anomaly in treating the central bank as a part of the financial institutions sector — when the central bank is actually engaged in 'the promotion of economic growth and welfare', in accordance with certain norms through monetary and credit policies — even as the operations of social security funds which are possibly playing a part in financial intermediation in much the same manner as insurance companies, are treated as a part of General Government by the SNA.

A1.9 It is in the above context that one has to consider the treatment of the Reserve Bank of India in the Indian system of national accounts. As already indicated, in India a distinction is drawn between the Issue Department and the Banking Department of the Reserve Bank of India, the latter being treated as part of the 'banking' sector. Admittedly, the distinction between the two Departments is artificial, particularly when in the modern world, 'money' consists less of currency and more of credit. No economist is today concerned with the behaviour of M_1 ; all are concerned with M_3 . It is the control over total money supply that concerns the Reserve Bank of India; and the so-called 'profits' of the Reserve Bank arising through not only the issue of currency against Government securities but also through the operation of restraints over credit — through central bank lending at penal rates to commercial banks — are not profits in the normal sense of the term.

A1.10 Indeed, the penal rates of interest charged by the central bank — or even the normal Bank Rate announced from time to time — *are not motivated by the commercial motive of financial intermediation but with the objective of making the system function smoothly*, in the interest of orderly economic growth. All activities of the Reserve Bank of India, as of any other central bank, are a part of over-all monetary policy of the authorities. In fact, there are many instances where the central bank deliberately makes a loss in its transactions in foreign currencies, when it undertakes to protect the rate of exchange through massive foreign exchange deals. Any profits made by the Reserve Bank of India, through 'forward' cover of exchange transactions, cannot be regarded as a commercial deal, just as foreign exchange loans by the IMF cannot be deemed to be motivated by commercial profit-taking considerations.

* U.N. : *A System of National Accounts*, op. cit. p.79.

A1.11 The distinction between the Issue and the Banking Departments of the RBI is therefore admittedly artificial, inasmuch as both Departments are merely instruments for overall monetary policy management. By the same token, the Reserve Bank of India in its entirety should be deemed to be part of Government Administration.

A1.12 If the above logical construct is accepted, the treatment of the Reserve Bank of India in the system of India's national accounts would undergo a fundamental change. Only the wages and salaries paid by the RBI would then be deemed to be part of the national income – in the same manner as the wages and salaries earned by Government administrative personnel. The surplus of the RBI would no longer be deemed to be a 'profit' but saving of Government administration. The national product would go down, and so would profits of commercial undertakings of Government.

A1.13 The proposal that "the surplus of RBI profit transferred to the Central Government would have to be treated as revenue receipt for the Government and the RBI saving as the equivalent to the annual transfers to the funds" merely obfuscates the issue. I maintain that the RBI surplus is essentially – or very largely – a myth; it is not a surplus arising out of a commercial activity. It is, for most part, of the same nature as the so-called surplus of Government arising from the creation of new money.

A1.14 One of the arguments put forward in defence of the proposal of the majority is that part of the RBI's profits is given as grants to the Agricultural Refinance and Development Corporation (ARDC) and other organisations, and merging the RBI profits into the surplus of Government Administration would require reclassification of these activities. The point is not clear. The activities of agencies financed by the RBI remain undisturbed. As to whether they are financed out of the so-called profits of the RBI or by a transfer of funds from Government – from the accounting angle – makes no difference to either their operations or the accounting thereof. There would, of course, arise some difference in the RBI accounts; RBI current expenditures, other than wages and salaries, would become final consumption of Government rather than intermediate expenditures of an undertaking.

A1.15 It is important to recognise that few of the functions of the RBI are really functions of a commercial nature; they are mostly *administrative* or *policy* functions. The Reserve Bank does, it is true, perform a limited amount of financial intermediation in the strict sense of the term, as for instance, by way of re-discounting of Bills. But the *overwhelming part of RBI functions is related to the task of monetary management*, in accordance with certain given policy guidelines. There is little that can be deemed to be of a commercial nature in the discharge of these functions. The Reserve Bank of India is not primarily engaged in 'financial intermediation' activity of the type that concerns a commercial bank – be they a part of the public sector as the nationalised banks in India are, or a part of the private sector – but in overall monetary management, which is the joint endeavour of the Ministry of Finance of the Government of India and the Reserve Bank of India.

A1.16 To conclude, I would disagree with my colleagues on the treatment of the Reserve Bank of India in the system of national accounts, and object to the treatment of the surplus of the RBI as an element of 'profit' (from a commercial activity), which is what it would be treated as in the system of national accounts under the proposed system.

ATTACHMENT 2

NOTE OF DISSENT ON **'TRENDS IN CAPITAL FORMATION AND SAVINGS'***

by

Dr. S.P. Gupta and Dr. Mahfooz Ahmed

A2.1 The thrust of the Working Group's description of the trends and interpretation in Chapters 5 and 7 is that the rate of fixed capital formation increased until the middle of 1960's and thereafter the increase in the rate of gross capital formation is smaller and in *real* terms the rate at the end of 1970's is not higher than that in the mid sixties. We do not agree with this assessment of the Group.

A2.2 The Working Group's assessment of the trends is evident from the following statements:

"The picture that emerges — namely of a smaller increase in the rate of gross capital formation in the economy after the middle of the 1960's than before is not altered when we allow for investment in inventories and take into account only the rates of gross fixed capital formation"; and

"when the changes in the relative prices of fixed capital goods and of all other commodities and services are allowed for, the rate of gross fixed capital formation as a proportion of GDP was only about as high towards the end of the 1970's as it was in the middle of the 1960's"

(Chapter 5, paragraphs 5.8 and 5.11).

These statements of the Working Group cannot be supported by information given in Tables 5.1, 5.5 and 5.7, where the rate of growth in the capital formation is presented at current and constant prices.

A2.3 This conclusion of the Group is based on taking the peak in mid-sixties as a point of reference. In our view three years moving average has not brought out the trend but might have removed the "Kitchin" cycle.

We observe three clear peaks in the capital formation series over this period. They are 1956-57, 1966-67 and 1978-79. Between the peaks both in the sixties and seventies the percentage increase is the same. The two phases when gross capital formation shows a clear downward trend are between 1957-58 to 1960-61 and 1966-67 to 1970-71. In both these phases the rate of fixed capital formation declines by as much as 2 points. It is interesting to observe that both the growth phases and the phases when the rate of gross capital formation has come down can be explained by plausible factors.

A2.4 Our second reservation is regarding the capital formation in the farm sector. The Group states that the

"Available estimates on the rate of private capital formation in agriculture show that, while some increase may have taken place in the course of the 1960's, there is no clear evidence of increase in the rate of investment among farm households since then." (Chapter 7, paragraph 7.6).

* Shri D.R. Gupta, a member of the Working Group, informed that he was in agreement with this note of dissent of Dr. S.P. Gupta and Dr. Mahfooz Ahmed.

A2.5 This statement is not supported by the table given on page 16 of the report. This table clearly shows that capital formation in the farm sector expressed as a percentage of rural income increased by 0.4 per cent over 1962-70 and by 0.9 per cent over 1970-78, i.e., at a higher rate in the later period.

A2.6 The interpretation in Chapter 7 therefore overshadows the notable effort which was made to raise the rate of capital formation in the country in the difficult period of the 1970's. The rate of capital formation at current prices increased from about 18 per cent in 1970-71 to about 23 per cent in 1978-79. In *real* terms also the rate of fixed capital formation increased from about 15 per cent in 1970-71 to 18 per cent in 1978-79.

A2.7 In our view the capital formation performance in the 1970's was notable because despite constraints caused by the slow down in external assistance, impact of war and drought, the slide down in the rate of capital formation was reversed from the beginning of 1971-72. During this period the country had also to face the major external shock which led to the substantial deterioration in the balance of payments.

A2.8 We agree with the contention that at constant prices the fixed capital formation by the end of the 1970's was very close to what was reached by the mid-sixties mainly because of a faster rise in the relative prices of investment goods to the GDP deflator in the seventies. However, the price deflator may not have reflected the quality changes in the composition of the capital. We should not overlook the higher base from which this increase took place in the rate of fixed capital formation.

A2.9 As regards gross saving, the Group has found that:

" there has been substantial increase in the rate of gross saving at current prices within the economy" (Chapter 5, paragraph 5.12); and

" the rates of saving in the economy have been evidently rising at a fairly steady rate throughout the last quarter of the century and quickening somewhat towards the closing years of this period" (Chapter 7, paragraph 7.9).

Yet while interpreting the trend the Group qualifies this statement by overstating the importance of the transient factors. The group states that:

"The sharper increase observed in recent years could however be due in part to transient factors, and it is premature to draw any other conclusion on this basis" (Chapter 7, paragraph 7.16).

We do not deny that to a certain extent the spurt in gross saving may have been due to the transient factors, but will not agree to the later part of the sentence. There is no doubt that the positive effect of the inflow of remittances from abroad and the step up in the accumulation of foodgrains buffer stocks during 1975-76 to 1978-79 on savings are not expected to continue. However, it should be noted that even in the 'sixties there are increases in savings which could not be explained by any trend or permanent factors. We would therefore be reluctant to over-emphasise the impact of transient factors as the Group seems to do on the growth in the rate of gross saving and to belittle the fact of its buoyancy. In our view the continued buoyancy in the gross saving rate was due, among other factors, to the progressively increasing role of financial intermediation during this period. This is reflected in the increase in the financial savings of the "households" in this period.

ATTACHEMENT 3

A NOTE ON THE TRENDS IN DISSAVING

by

Dr. I. Z. Bhattu

A3.1 The Group has tended to overemphasise the importance of transient factors in interpreting the trend in the rate of gross savings. Whereas the rate of increase in the remittances of mid 70s may not be repeated there is no *prima facie* case to regard the factors which have sustained the present level of remittances as necessarily transient. The importance of the expanding role of financial intermediation in influencing the rate of financial savings cannot be denied, but it is not easy to unscramble its effect on raising the saving rate from its influence on increasing the share of financial saving in the total. In any case expansion of financial intermediation or the savers' response to it cannot be viewed as having a transient character.

A3.2 But it is not for these comments that I have chosen to write this note. I think that one major reason for the rise in the rate of gross savings has been the declining trend in the rate of dissaving in the household sector and I do not see evidence of forces that might reverse this trend. The body of data from which I derive my view is found in the following surveys carried out by the National Council of Applied Economic Research:

- *Urban Saving Survey, 1962* (Reference period 1960).
- *All India Rural Household Survey: Income, Investment and Saving, Vol. II, 1965* (Reference period 1962).
- *All India Household Survey of Income, Saving and Consumer Expenditure, 1972* (Reference period 1967-68).
- *Household Income and Its Disposition, 1980* (Reference period 1975-76).

The evidence from these surveys is as follows:

- The proportion of dissaving households fell in rural areas from 20.20% in 1962 to 11.40% in 1975-76, and in urban areas from 46.00% in 1960 to 5.70% in 1975-76.
- The dissaving rate (amount dissaved as a proportion of gross income to all households) declined from -0.60% in 1967-68 to -0.35% in 1975-76 in urban areas and from -2.54% in 1962 to -2.40% in 1967-68 and to -0.80% in 1975-76 in the rural areas.

A3.3 The decline in the dissaving rate in the 70s has been faster than in the 60s and, if this trend has continued in the later 70s, an increase in the gross saving rate of more than 2 percentage points could be attributed to this factor alone.

A3.4 A view may be taken that the above evidence for a fall in the dissaving rate is not sufficiently strong. While I might not agree with this view, I would not quarrel with it. I would only add that one cannot ignore trends in dissaving rates when interpreting trends in saving rates, and if available evidence is not found to be sufficiently convincing then studies should be taken up to provide an adequately convincing data base.

ATTACHMENT 4
COMMENTS ON THE NOTE OF DISSENT OF
DR. S. P. GUPTA AND DR. MAHFOOZ AHMED
by
Dr. A. K. Ghosh

A4.1 I have to reluctantly record my comments on the note of dissent by Dr. S.P. Gupta and Dr. Mahfooz Ahmed to our report, without the advantage of a full discussion of either the minute of dissent or my comments thereon, in the Committee as a whole. It seems to me that Drs. Gupta and Ahmed have both missed the thrust of the report, and the minute of dissent is only likely to divert attention from the main findings to trivialities.

A4.2 The Group was appointed, to the best of my knowledge, to examine whether and to what extent the current CSO estimates of capital formation and savings are correct, and to suggest data improvements. We have found that:

(a) though there are considerable possibilities of errors in estimation, particularly in regard to certain sectoral estimates, there has been a substantial increase in the rate of saving from 1950-51 to 1978-79;

(b) however, the *real* rate of fixed asset formation has been stagnant for quite some time, indeed from the mid-sixties no matter in what way the reference years are chosen; and

(c) of late, a substantial part of saving has come from remittances from Indian workers abroad, which *could* be a transient feature in our savings scenario. Indeed, to the extent that such remitted savings become a part of over-all domestic saving, we are probably exaggerating our own savings performance.

A4.3 We also found numerous areas where estimates need improvement. These issues are briefly discussed in various technical appendices. We felt that this matter requires detailed and painstaking examination by research workers both in and outside the CSO. I need not go into these. Suffice it to mention here that improvements in the estimates could, in my personal opinion, further bring down the rate of saving and investment in the economy as a percentage of the national income.

A4.4 The most significant conclusions reached by us are first, that there is no room for complacency in regard to our savings effort and we must endeavour to increase our national savings; and secondly, that the *real* rate of fixed asset formation has been stagnant from about the mid-sixties. I do not think Drs. Gupta and Ahmed can deny either proposition. The choice of the mid-sixties as a point of reference arises from the cataclysmic drought which affected the Indian economy in 1965-66 and 1966-67; these years, in a way, serve as a water-shed for this reason.

A4.5 On a perusal of the note of dissent, I am unable to see how the note has any relevance to the broad conclusions. On the other hand, the danger is that attention of the reader and the policy maker may be diverted from the real issues to trivialities. No one is questioning the nature of the effort made by the country during the seventies. But we would be failing in our duty if, while reporting to

Government on a serious matter, we do not draw attention to the implications of the levelling of the *real* rate of fixed asset formation. There has been a lot of glib talk lately that our rate of saving today is adequate for self-sustaining growth, and that we do not need to make any further effort in this direction. This is a dangerous delusion, the more so when we realise that the *real* rate of fixed asset formation has been stagnant over the last decade and a half, no matter what the reasons.

I would therefore like to highlight this important aspect of our findings, and I would like to reiterate that attention should not be diverted from this stark reality by minor points.

STATISTICAL ANNEXURES

STATISTICAL ANNEXURES

Statistical Annexure —	1	:	Rates of Gross Saving and Capital Formation (At Current Prices)
"	"	2	Rates of Net Saving and Capital Formation (At Current Prices)
"	"	3	Rates of Gross Capital Formation (At 1970-71 Prices)
"	"	4	Rates of Net Capital Formation (At 1970-71 Prices)
"	"	5	Rates of Saving and Capital Formation (Three-yearly Moving Averages)
"	"	6	Composition of Gross Domestic Capital Formation
"	"	7	Gross Domestic Capital Formation By Sectors (At Current Prices)
"	"	8	Gross Fixed Capital Formation and Change in Stocks By Sectors (At Current Prices)
"	"	9	Investment and National Income Deflators (1970-71 = 100)
"	"	10	Net/Gross Domestic Fixed Capital Formation (At 1970-71 Prices)
"	"	11	Gross Domestic Fixed Capital Formation By Sectors & Assets (At Current Prices)
"	"	12	Gross Capital Formation in <i>Kutcha</i> & <i>Pucca</i> Construction (At Current Prices)
"	"	13	Composition of Gross Fixed Capital Formation : Public and Private Sectors (At Current Prices)
"	"	14	Composition of Gross Fixed Capital Formation : Public and Private Sectors (Percentage Distribution)
"	"	15	Gross Domestic Capital Formation by Industry of Use (At Current Prices)
"	"	16	Gross Domestic Capital Formation by Industry of Use (At Current Prices) (Percentage Distribution)
"	"	17	Gross Domestic Capital Formation by Industry of Use (At 1970-71 Prices)
"	"	18	Gross Domestic Capital Formation by Industry of Use (At 1970-71 Prices) (Percentage Distribution)
"	"	19	Gross Domestic Fixed Capital Formation (At 1970-71 Prices)
"	"	20	Gross Capital Formation By Assets — Household Sector (At Current Prices)
"	"	21	Gross Domestic Saving By Sectors
"	"	22	Estimates of Saving of Administrative Departments — 1960-61 to 1978-79
"	"	23	Estimates of Saving of Non-Departmental Enterprises
"	"	24	Saving and Capital Formation in Public and Private Sectors (At Current Prices)
"	"	25	Saving and Capital Formation in Private Sector (At Current Prices)
"	"	26	Structure of Household Saving (Net) (At Current Prices)
"	"	27	Structure of Household Saving (Net) (At Current Prices) (Percentage Distribution)

"	"	28	:	Household Financial Saving By Items (Gross and Net) (At Current Prices)
"	"	29	:	Household Savings : Gross and Net
"	"	30	:	Saving of Household Sector in the Form of Financial Assets
"	"	31	:	Rate of Household Saving : 1960-61 to 1978-79 (At Current Prices)
"	"	32	:	Inflow(+)/Outflow(—) of Foreign Resources
"	"	33	:	Ownership of Bank Deposits by Type and Economic Sectors: 1961 to 1978
"	"	34	:	Commercial Bank Deposits Pattern of Ownership (Disaggregated) (1976 and 1978)

(All statistical annexures are based on data supplied by the CSO except numbers 29, 30, 33 & 34 which are based on RBI data)

STATISTICAL ANNEXURE – 1
Rates of Gross Saving and Capital Formation
(at current prices)

Year	Gross Domestic (Rupees, Crores)			Consumption of fixed capital (Rupees, Crores)	Rate of		
	Saving	Capital formation	Product at market prices		Saving	Capital forma- tion	Consum- ption of fixed capital (% of GDP)
1	2	3	4	5	6	7	8
1950-51	975	954	9564	324	10.2	10.0	3.4
1951-52	1005	1188	10021	359	10.0	11.9	3.6
1952-53	806	772	9759	389	8.3	7.9	4.0
1953-54	922	909	10451	392	8.8	8.7	3.8
1954-55	1054	1070	9684	429	10.9	11.0	4.4
1955-56	1430	1469	10261	448	13.9	14.3	4.4
1956-57	1599	1959	11816	486	13.5	16.6	4.1
1957-58	1370	1843	11986	536	11.4	15.4	4.5
1958-59	1409	1785	13438	627	10.5	13.3	4.7
1959-60	1765	1996	13979	661	12.6	14.3	4.7
1960-61	2063	2544	15018	736	13.7	16.9	4.9
1961-62	2093	2438	15977	812	13.1	15.3	5.1
1962-63	2476	2916	17099	932	14.5	17.1	5.5
1963-64	2826	3266	19656	1001	14.4	16.6	5.1
1964-65	3135	3735	23044	1112	13.6	16.2	4.8
1965-66	3791	4390	24112	1229	15.7	18.2	5.1
1966-67	4514	5437	27662	1402	16.3	19.7	5.1
1967-68	4497	5334	32294	1558	13.9	16.5	4.8
1968-69	4697	5113	33279	1686	14.1	15.4	5.1
1969-70	6044	6285	36851	1915	16.4	17.1	5.2
1970-71	6783	7177	40263	2217	16.8	17.8	5.5
1971-72	7498	7976	43356	2399	17.3	18.4	5.5
1972-73	7769	8066	47865	2669	16.2	16.9	5.6
1973-74	11392	11784	58940	3023	19.3	20.0	5.1
1974-75	12653	13306	69595	3526	18.2	19.1	5.1
1975-76	14842	14725	74162	4054	20.0	19.9	5.5
1976-77	17738	16429	80594	4464	22.0	20.4	5.5
1977-78	19498	18033	90213	4996	21.6	20.0	5.5
1978-79	23376	23141	97704	5699	23.9	23.7	5.8
1979-80	23055	23018	108546	6677	21.2	21.8	6.2

STATISTICAL ANNEXURE – 2

Rates of Net Saving and Capital Formation (at current prices)

Year	Net domestic (Rupees, crores)			Rate (% of NDP)	
	Saving	Capital formation	Product at market prices	Net saving	Net capital formation
1	2	3	4	5	6
1950-51	651	630	9240	7.0	6.8
1951-52	646	829	9662	6.7	8.6
1952-53	417	383	9370	4.5	4.1
1953-54	530	517	10059	5.3	5.1
1954-55	625	641	9255	6.8	6.9
1955-56	982	1021	9813	10.0	10.4
1956-57	1113	1473	11330	9.8	13.0
1957-58	834	1307	11450	7.3	11.4
1958-59	782	1158	12811	6.1	9.0
1959-60	1104	1335	13318	8.3	10.0
1960-61	1327	1808	14282	9.3	12.7
1961-62	1281	1626	15165	8.4	10.7
1962-63	1544	1984	16167	9.6	12.3
1963-64	1825	2265	18655	9.8	12.1
1964-65	2023	2623	21932	9.2	12.0
1965-66	2562	3161	22883	11.2	13.8
1966-67	3112	4035	26260	11.8	15.4
1967-68	2939	3776	30736	9.6	12.3
1968-69	3011	3427	31593	9.5	10.8
1969-70	4129	4370	34936	11.8	12.5
1970-71	4566	4960	38046	12.0	13.0
1971-72	5099	5577	40957	12.4	13.6
1972-73	5100	5397	45196	11.3	11.9
1973-74	8369	8761	55917	15.0	15.7
1974-75	9127	9780	66069	13.8	14.8
1975-76	10788	10671	70108	15.4	15.2
1976-77	13274	11965	76130	17.4	15.7
1977-78	14502	13037	85217	17.0	15.3
1978-79	17677	17442	92005	19.2	19.0
1979-80	16378	16941	101869	16.1	16.6

STATISTICAL ANNEXURE – 3**Rates of Gross Capital Formation (at 1970-71 prices)**

Year	Gross domestic capital formation (Rupees, crores)	Gross domestic product at market prices (Rupees, crores)	Rate of gross capital formation (per cent)
1	2	3	4
1950-51	2379	18442	12.9
1951-52	2804	18924	14.8
1952-53	1838	19547	9.4
1953-54	2127	20793	10.2
1954-55	2363	21503	11.0
1955-56	3323	22320	14.9
1956-57	4271	23520	18.2
1957-58	4088	23310	17.5
1958-59	3382	25224	13.4
1959-60	3741	25803	14.5
1960-61	4523	27164	16.7
1961-62	4140	28292	14.6
1962-63	4808	29127	16.5
1963-64	5080	30886	16.4
1964-65	5581	33272	16.8
1965-66	6170	31923	19.3
1966-67	6675	31886	20.9
1967-68	6139	34555	17.8
1968-69	5758	35756	16.1
1969-70	6677	38039	17.6
1970-71	7177	40263	17.8
1971-72	7547	41196	18.3
1972-73	7075	40901	17.3
1973-74	9072	42370	21.4
1974-75	8205	42437	19.3
1975-76	8424	46589	18.1
1976-77	9162	47457	19.3
1977-78	9783	51197	19.1
1978-79	11690	54732	21.4
1979-80	10296	52153	19.7

STATISTICAL ANNEXURE – 4**Rates of Net Capital Formation (at 1970-71 prices)**

Year	Net domestic capital formation (Rupees, crores)	Net domestic product at market prices (Rupees, crores)	Rate of net capital formation (per cent)
1	2	3	4
1950-51	1641	17704	9.3
1951-52	2049	18169	11.3
1952-53	1054	18763	5.6
1953-54	1321	19987	6.6
1954-55	1501	20641	7.3
1955-56	2422	21419	11.3
1956-57	3329	22578	14.7
1957-58	3082	22304	13.8
1958-59	2298	24140	9.5
1959-60	2615	24677	10.6
1960-61	3349	25990	12.9
1961-62	2886	27038	10.7
1962-63	3388	27707	12.2
1963-64	3616	29422	12.3
1964-65	3990	31681	12.6
1965-66	4482	30235	14.8
1966-67	4892	30103	16.3
1967-68	4264	32680	13.0
1968-69	3811	33809	11.3
1969-70	4567	35929	12.7
1970-71	4960	38046	13.0
1971-72	5262	38911	13.5
1972-73	4667	38493	12.1
1973-74	6629	39927	16.6
1974-75	5850	40082	14.6
1975-76	5917	44082	13.4
1976-77	6534	44829	14.6
1977-78	6989	48403	14.4
1978-79	8680	51722	16.8
1979-80	7217	49074	14.7

STATISTICAL ANNEXURE – 5

Rates of Saving and Capital Formation (Three-yearly Moving Averages)

(In percentages)

Year	At Current Prices					At 1970-71 Prices	
	Gross saving	Gross capital formation	Consumption of fixed capital	Net saving	Net capital formation	Rate of G.D.C.F.	Rate of N.D.C.F.
1	2	3	4	5	6	7	8
1950-51	...	...	...	...	...	...	...
1951-52	9.5	9.9	3.7	6.1	6.5	12.4	8.7
1952-53	9.0	9.5	3.8	5.5	5.9	11.5	7.8
1953-54	9.3	9.2	4.1	5.5	5.4	14.0	6.5
1954-55	11.2	11.3	4.2	7.4	7.5	16.7	8.4
1955-56	12.8	14.0	4.3	8.9	10.1	14.7	11.1
1956-57	12.9	15.4	4.3	9.0	11.6	16.9	13.3
1957-58	11.8	15.1	4.4	7.7	11.1	16.4	12.7
1958-59	11.5	14.3	4.6	7.2	10.1	15.1	11.3
1959-60	12.3	14.8	4.8	7.9	10.6	14.9	11.0
1960-61	13.1	15.5	4.9	8.7	11.1	15.3	11.4
1961-62	13.8	16.4	5.2	9.1	11.9	15.9	11.9
1962-63	14.0	16.3	5.2	9.3	11.7	15.8	11.7
1963-64	14.2	16.6	5.1	9.5	12.1	16.6	12.4
1964-65	14.6	17.0	5.0	10.1	12.6	17.5	13.2
1965-66	15.2	18.0	5.0	10.7	13.7	19.0	14.6
1966-67	15.3	18.1	5.0	10.9	13.8	19.3	14.7
1967-68	14.8	17.2	5.0	10.3	12.8	18.3	13.5
1968-69	14.8	16.3	5.0	10.3	11.9	17.2	12.3
1969-70	15.8	16.8	5.3	11.1	12.1	17.2	12.3
1970-71	16.8	17.8	5.4	12.1	13.0	17.9	13.1
1971-72	16.8	17.7	5.5	11.9	12.8	17.8	12.9
1972-73	17.6	18.4	5.4	12.9	13.7	19.0	14.1
1973-74	17.9	18.7	5.3	13.4	14.1	19.3	14.4
1974-75	19.2	19.7	5.2	14.7	15.2	19.6	14.9
1975-76	20.1	19.8	5.4	15.5	15.2	18.9	14.2
1976-77	21.2	20.1	5.5	16.6	15.4	18.8	14.1
1977-78	22.5	20.4	5.6	17.9	16.7	19.9	15.3
1978-79	22.2	21.8	5.5	17.4	17.0	20.1	15.3
1979-80	...	...	...	...	...	...	...

STATISTICAL ANNEXURE – 6

Composition of Gross Domestic Capital Formation

(Rupees, Crores)

Year	At Current Prices				At 1970-71 Prices			
	GDFCF@	Chage in stocks	GDCF@	3 as % of 4	GDFCF@	Change in stocks	GDCF@	7 as % of 8
1	2	3	4	5	6	7	8	9
1950-51	970 (10.1)	160 (1.7)	1130	14.2	2484 (13.5)	334 (1.8)	2818	11.9
1951-52	964 (9.6)	198 (2.0)	1162	17.0	2352 (12.4)	391 (2.1)	2743	14.3
1952-53	886 (9.1)	(-)27 (-)(0.3)	859	(-) 3.1	2118 (10.8)	(-)73 (-)(0.4)	2045	(-) 3.6
1953-54	893 (8.5)	(-)29 (-)(0.3)	864	(-) 3.4	2100 (10.1)	(-)78 (-)(0.4)	2022	(-) 3.9
1954-55	1021 (10.5)	67 (0.7)	1088	6.2	2250 (10.5)	151 (0.7)	2401	6.3
1955-56	1283 (12.5)	133 (1.3)	1416	9.4	2884 (12.9)	319 (1.4)	3203	10.0
1956-57	1621 (13.7)	270 (2.3)	1891	14.3	3562 (15.1)	561 (2.4)	4123	13.6
1957-58	1692 (14.1)	248 (2.1)	1940	12.8	3775 (16.2)	528 (2.3)	4303	12.3
1958-59	1707 (12.7)	30 (0.2)	1737	1.7	3244 (12.9)	47 (0.2)	3291	1.4
1959-60	1870 (13.4)	244 (1.7)	2114	11.5	3493 (13.5)	469 (1.8)	3962	11.8
1960-61	2155 (14.4)	427 (2.8)	2582	16.5	3823 (14.1)	769 (2.8)	4592	16.7
1961-62	2410 (15.1)	270 (1.7)	2680	10.1	4068 (14.4)	483 (1.7)	4551	10.6
1962-63	2664 (15.6)	387 (2.3)	3051	12.7	4385 (15.1)	646 (2.2)	5031	12.3
1963-64	3149 (16.0)	380 (1.9)	3529	10.8	4884 (15.8)	605 (2.0)	5489	11.0
1964-65	3659 (15.9)	410 (1.8)	4069	10.1	5469 (16.4)	611 (1.8)	6080	10.0
1965-66	4131 (17.1)	295 (1.2)	4426	6.7	5798 (18.2)	424 (1.3)	6222	6.8

Contd. . .

STATISTICAL ANNEXURE – 6 (Contd.)

Composition of Gross Domestic Capital Formation

(Rupees, Crores)

Year	At Current Prices				At 1970-71 Prices			
	GDFCF@	Change in stocks	GDFC@	3 as % of 4	GDFCF@	Change in stocks	GDCF@	7 as % Of 8
1	2	3	4	5	6	7	8	9
1966-67	4601 (16.6)	715 (2.6)	5316	13.4	5663 (17.8)	863 (2.7)	6526	13.2
1967-68	5084 (15.7)	623 (1.9)	5707	10.9	5924 (17.1)	644 (1.9)	6568	9.8
1968-69	5376 (16.1)	164 (0.5)	5540	3.0	6056 (16.9)	183 (0.5)	6239	2.9
1969-70	5898 (16.0)	578 (1.6)	6476	8.9	6285 (16.5)	595 (1.6)	6880	8.6
1970-71	6305 (15.7)	1039 (2.6)	7344	14.1	6305 (15.6)	1039 (2.6)	7344	14.1
1971-72	7074 (16.3)	1337 (3.1)	8411	15.9	6686 (16.2)	1273 (3.1)	7959	16.0
1972-73	8066 (16.8)	460 (1.0)	8526	5.4	7059 (17.3)	420 (1.0)	7479	5.6
1973-74	9029 (15.3)	2323 (3.9)	11352	20.5	7060 (16.7)	1679 (4.0)	8739	19.2
1974-75	10930 (15.7)	3580 (5.1)	14510	24.7	6856 (16.2)	2091 (4.9)	8947	23.4
1975-76	13264 (17.9)	3151 (4.2)	16415	19.2	7529 (16.2)	1862 (4.0)	9391	19.8
1976-77	15358 (19.1)	2382 (3.0)	17740	13.4	8537 (18.0)	1356 (2.8)	9893	13.7
1977-78	17188 (19.0)	1252 (1.4)	18440	6.8	9302 (18.2)	702 (1.4)	10004	7.0
1978-79	19413 (19.9)	3211 (3.3)	22624	14.2	9695 (17.7)	1734 (3.2)	11429	15.2
1979-80	21541 (19.8)	3428 (3.2)	24969	13.7	9297 (17.8)	1588 (3.0)	10885	14.6

Figures in brackets are proportions to GDP at market prices.

@ No adjustment is made for 'Errors and Omissions' in GDFCF and GDCF both at current and 1970-71 prices.

STATISTICAL ANNEXURE – 7
@
Gross Domestic Capital Formation-By Sectors
(at current prices)

Year	Public Sector		Private Corporate Sector		Household Sector	
	Amount (Rupees, Crores)	Ratio to total GDCF	Amount (Rupees, Crores)	Ratio to total GDCF	Amount (Rupees, Crores)	Ratio to total GDCF
1	2	3	4	5	6	7
1950-51	260	23.0	214	18.9	657	58.1
1951-52	304	26.1	251	21.6	607	52.2
1952-53	257	29.9	73	8.5	529	61.6
1953-54	293	33.9	5	0.6	567	65.5
1954-55	437	40.2	144	13.2	508	46.6
1955-56	498	35.2	219	15.4	699	49.4
1956-57	666	35.2	341	18.0	884	46.8
1957-58	833	42.9	390	20.1	717	37.0
1958-59	815	46.9	238	13.7	684	39.4
1959-60	901	42.6	297	14.1	916	43.3
1960-61	1141	44.2	535	20.7	906	35.1
1961-62	1147	42.8	738	27.5	795	29.7
1962-63	1445	47.4	533	17.5	1073	35.1
1963-64	1681	47.6	861	24.4	987	28.0
1964-65	1948	47.9	898	22.1	1223	30.0
1965-66	2215	50.1	696	15.7	1515	34.2
1966-67	2135	40.1	615	11.6	2566	48.3
1967-68	2332	40.8	809	14.2	2567	45.0
1968-69	2168	39.1	756	13.7	2616	47.2
1969-70	2259	34.9	661	10.2	3556	54.9
1970-71	2813	38.3	1030	14.0	3502	47.7
1971-72	3212	38.2	1287	15.3	3912	46.5
1972-73	3674	43.1	1331	15.6	3521	41.3
1973-74	4812	42.4	1630	14.4	4910	43.2
1974-75	5640	38.9	2707	18.6	6163	42.5
1975-76	7746	47.2	2139	13.0	6531	39.8
1976-77	8556	48.2	1628	9.2	7556	42.6
1977-78	7637	41.4	2237	12.1	8565	46.5
1978-79	10152	44.9	2475	10.9	9908	44.2
1979-80	11850	47.2	2756	11.0	10363	41.5

@ The data are not adjusted for (i) 'errors and omissions' and (ii) net purchase of second-hand physical assets.

STATISTICAL ANNEXURE – 8

Gross Fixed Capital Formation and Change in Stocks by Sectors

(at current prices)

(Rupees, Crores)

Year	Public Sector				Private Corporate Sector			
	Change in stocks		GFCF		Change in stocks		GFCF	
1	2		3		4		5	
1950-51	35.61	(0.4)	224.31	(2.3)	130.58	(1.4)	83.06	(0.9)
1951-52	41.41	(0.4)	262.77	(2.6)	159.98	(1.6)	91.08	(0.9)
1952-53	24.64	(-) (0.3)	281.52	(2.9)	(-) 27.49	(-) (0.3)	100.38	(1.0)
1953-54	(-) 35.34	(-) (0.3)	327.92	(3.1)	(-) 57.99	(-) (0.6)	62.74	(0.6)
1954-55	41.97	(0.4)	394.39	(4.1)	27.48	(0.3)	116.82	(1.2)
1955-56	(-) 34.49	(-) (0.3)	532.41	(5.2)	116.90	(1.1)	102.17	(1.0)
1956-57	50.88	(0.4)	615.18	(5.2)	157.02	(1.3)	183.75	(1.6)
1957-58	190.31	(1.6)	642.92	(5.4)	98.33	(0.8)	291.22	(2.4)
1958-59	113.63	(0.8)	701.45	(5.2)	11.97	(0.1)	225.90	(1.7)
1959-60	16.70	(0.1)	883.82	(6.3)	75.55	(0.5)	221.83	(1.6)
1960-61	86.55	(0.6)	1054.45	(7.0)	209.80	(1.4)	325.75	(2.2)
1961-62	40.03	(0.3)	1106.98	(6.9)	231.98	(1.5)	506.03	(3.2)
1962-63	133.13	(0.8)	1311.92	(7.7)	132.59	(0.8)	400.03	(2.3)
1963-64	119.29	(0.6)	1561.83	(7.9)	213.70	(1.1)	647.54	(3.3)
1964-65	124.46	(0.5)	1823.99	(7.9)	309.52	(1.3)	588.43	(2.6)
1965-66	169.63	(0.7)	2046.06	(8.5)	298.18	(1.2)	397.52	(1.7)
1966-67	88.19	(0.3)	2046.73	(7.4)	151.10	(0.5)	463.73	(1.7)
1967-68	319.39	(1.0)	2012.13	(6.2)	270.60	(0.8)	538.59	(1.7)
1968-69	56.44	(0.2)	2111.28	(6.3)	233.26	(0.7)	522.79	(1.6)
1969-70	69.22	(0.2)	2189.50	(5.9)	205.02	(0.6)	456.73	(1.2)
1970-71	378.12	(0.9)	2434.28	(6.0)	410.52	(1.0)	619.66	(1.5)
1971-72	363.32	(0.8)	2849.00	(6.6)	505.04	(1.2)	781.96	(1.8)
1972-73	(-) 12.43	neg.	3686.23	(7.7)	507.29	(1.1)	824.01	(1.7)
1973-74	805.58	(1.4)	4006.99	(6.8)	566.53	(1.0)	1063.28	(1.8)
1974-75	1393.12	(2.0)	4246.83	(6.1)	1548.05	(2.2)	1159.11	(1.7)
1975-76	2077.69	(2.8)	5667.95	(7.6)	376.22	(0.5)	1762.91	(2.4)
1976-77	1449.35	(1.8)	7106.55	(8.8)	337.63	(0.4)	1290.52	(1.6)
1977-78	(-) 264.00	(-) (0.3)	7901.52	(8.8)	590.40	(0.6)	1646.28	(1.8)
1978-79	855.42	(0.9)	9296.22	(9.5)	793.58	(0.8)	1681.77	(1.7)
1979-80	1635.67	(1.5)	10214.46	(9.4)	865.50	(0.8)	1890.22	(1.7)

Contd. . .

STATISTICAL ANNEXURE – 8 (CONTINUED)

Gross Fixed Capital Formation and Change in Stocks by Sectors

(at current prices)

(Rupees, Crores)

Year	Household Sector				Total			
	Change in stocks		GFCF		Change in stocks		GFCF	
	6		7		8		9	
1950-51	(-)6.09	(-) (0.1)	662.56	(6.9)	160.10	(1.7)	969.93	(10.1)
1951-52	(-)3.70	(neg.)	610.26	(6.1)	197.69	(2.0)	964.11	(9.6)
1952-53	24.98	(0.3)	504.03	(5.2)	(-)27.15	(-) (0.3)	885.93	(9.1)
1953-54	63.87	(0.6)	502.76	(11.8)	(-)29.46	(-) (0.3)	893.42	(8.5)
1954-55	(-)2.76	(neg.)	510.04	(5.3)	66.69	(0.7)	1021.25	(10.5)
1955-56	50.15	(0.5)	648.97	(6.3)	132.56	(1.3)	1283.55	(12.5)
1956-57	61.63	(0.5)	822.19	(7.0)	269.53	(2.3)	1621.12	(13.7)
1957-58	(-)41.05	(-) (0.3)	758.31	(6.3)	247.59	(2.1)	1692.45	(14.1)
1958-59	(-)96.09	(-) (0.7)	779.69	(5.8)	29.51	(0.2)	1707.04	(12.7)
1959-60	151.71	(1.1)	764.33	(5.5)	243.96	(1.7)	1869.98	(13.4)
1960-61	130.56	(0.9)	775.28	(5.2)	426.91	(2.8)	2155.48	(14.3)
1961-62	(-)1.76	(neg.)	796.94	(5.0)	270.25	(1.7)	2409.95	(15.1)
1962-63	121.53	(0.7)	951.75	(5.6)	387.25	(2.3)	2663.70	(15.6)
1963-64	47.05	(0.2)	939.33	(4.8)	380.04	(1.9)	3148.70	(16.0)
1964-65	(-)23.71	(-) (0.1)	1246.13	(5.4)	410.27	(1.8)	3658.55	(15.9)
1965-66	(-)172.75	(-) (0.7)	1687.78	(7.0)	295.06	(1.2)	4131.36	(17.1)
1966-67	475.58	(1.7)	2090.85	(7.6)	714.87	(2.6)	4601.31	(16.6)
1967-68	33.11	(0.1)	2533.56	(7.8)	623.10	(1.9)	5084.28	(15.7)
1968-69	(-)125.96	(-) (0.4)	2742.12	(8.2)	163.74	(0.5)	5376.19	(16.2)
1969-70	303.95	(0.8)	3251.99	(8.8)	578.19	(1.6)	5898.22	(16.0)
1970-71	250.33	(0.6)	3251.02	(8.1)	1038.97	(2.6)	6304.96	(15.7)
1971-72	468.65	(1.1)	3442.93	(7.9)	1337.01	(3.1)	7073.89	(16.3)
1972-73	(-)35.14	(-) (0.1)	3555.56	(7.4)	459.72	(1.0)	8065.80	(16.9)
1973-74	950.99	(1.6)	3959.20	(6.7)	2323.10	(3.9)	9029.47	(15.3)
1974-75	638.39	(0.9)	5524.37	(7.9)	3579.56	(5.1)	10930.31	(15.7)
1975-76	696.88	(0.9)	5833.59	(7.9)	3150.79	(4.2)	13264.45	(17.9)
1976-77	595.20	(0.7)	6960.71	(8.6)	2382.18	(3.0)	15357.78	(19.1)
1977-78	925.89	(1.0)	7639.80	(8.5)	1252.29	(1.4)	17187.60	(19.1)
1978-79	1561.96	(1.6)	8435.44	(8.6)	3210.96	(3.3)	19413.43	(19.9)
1979-80	927.26	(0.9)	9436.01	(8.7)	3428.43	(3.2)	21540.69	(19.8)

Figures in brackets are percentages to GDP at market prices.

STATISTICAL ANNEXURE – 9
Investment and National Income Deflators
(1970-71 = 100)

Year	Construction	Machinery & equipment	GDCF	Change in stocks	GDCF (unadjusted)	GDP at factor cost	GDP at market prices
1	2	3	4	5	6	7	8
1950-51	44.7	28.2	39.0	47.9	40.1	51.0	51.9
1951-52	46.2	32.4	41.0	50.6	42.4	52.5	53.0
1952-53	46.3	34.4	41.8	37.0	42.0	49.1	49.9
1953-54	45.4	37.0	42.5	37.2	42.7	49.5	50.3
1954-55	45.6	44.9	45.4	44.4	45.3	44.2	45.0
1955-56	46.1	42.0	44.5	41.7	44.2	45.3	46.0
1956-57	49.5	39.9	45.5	48.1	45.9	49.5	50.2
1957-58	52.3	37.5	44.8	47.0	45.1	50.5	51.4
1958-59	53.8	50.7	52.6	63.8	52.8	52.6	53.3
1959-60	55.4	50.5	53.5	52.0	53.4	53.5	54.2
1960-61	57.9	54.1	56.4	55.5	56.2	55.1	55.3
1961-62	60.9	56.9	59.2	55.9	58.9	56.3	56.5
1962-63	63.2	57.7	60.7	59.9	60.6	58.6	58.7
1963-64	64.5	64.4	64.5	62.8	64.3	63.7	63.6
1964-65	67.6	66.1	66.9	67.1	66.9	69.4	69.3
1965-66	72.7	69.4	71.3	69.6	71.2	75.9	75.5
1966-67	78.0	86.4	81.2	82.9	81.5	85.9	86.8
1967-68	82.4	91.8	85.8	96.7	86.9	93.7	93.5
1968-69	87.2	91.5	88.8	89.6	88.8	93.3	93.1
1969-70	93.9	93.7	93.8	97.1	94.1	97.1	96.9
1970-71	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
1971-72	107.3	103.7	105.8	105.0	105.7	105.2	105.2
1972-73	115.8	112.2	114.3	109.5	114.0	117.1	117.0
1973-74	133.1	122.1	127.9	138.4	129.9	139.1	139.1
1974-75	161.2	157.5	159.4	171.2	162.2	162.3	164.0
1975-76	175.1	177.5	176.2	169.2	174.8	155.7	159.2
1976-77	182.0	177.3	179.9	175.7	179.3	166.3	169.8
1977-78	189.5	178.7	184.8	178.5	184.3	173.1	176.2
1978-79	206.2	193.2	200.2	185.2	197.9	175.2	178.5
1979-80	235.9	227.1	231.7	215.9	229.4	204.4	208.1

STATISTICAL ANNEXURE – 10

Net Domestic Fixed Capital Formation and Gross Domestic Fixed Capital Formation as percentages of NDP and GDP at Market Prices

(all at 1970-71 Prices)

(Rupees, Crores)

Year	NDFCF	NDP at market prices	GDFCF	GDP at market prices
1	2	3	4	5
1950-51	1746 (9.9)	17704	2484 (13.5)	18442
1951-52	1597 (8.8)	18169	2352 (12.4)	18924
1952-53	1334 (7.1)	18763	2118 (10.8)	19547
1953-54	1294 (6.5)	19987	2100 (10.1)	20793
1954-55	1388 (6.7)	20641	2250 (10.5)	21503
1955-56	1983 (9.2)	21419	2884 (12.9)	22320
1956-57	2620 (11.6)	22578	3562 (15.1)	23520
1957-58	2769 (12.4)	22304	3775 (16.2)	23310
1958-59	2160 (8.9)	24140	3244 (12.9)	25224
1959-60	2367 (9.6)	24677	3493 (13.5)	25803
1960-61	2649 (10.2)	25990	3823 (14.1)	27164
1961-62	2814 (10.4)	27038	4068 (14.4)	28292
1962-63	2965 (10.7)	27707	4385 (15.1)	29127
1963-64	3420 (11.6)	29422	4884 (15.8)	30886
1964-65	3878 (12.2)	31681	5469 (16.4)	33272
1965-66	4110 (13.6)	30235	5798 (18.2)	31923

Contd. . .

STATISTICAL ANNEXURE – 10 (CONTD.)
Net Domestic Fixed Capital Formation and Gross Domestic Fixed Capital Formation
as percentages of NDP and GDP at Market Prices

(all at 1970-71 Prices)

(Rupees, Crores)

Year	NDFCF	NDP at market prices	GDFCF	GDP at market prices
1	2	3	4	5
1966-67	3880 (12.9)	30103	5663 (17.8)	31886
1967-68	4049 (12.4)	32680	5924 (17.1)	34555
1968-69	4109 (12.1)	33809	6056 (16.9)	35756
1969-70	4175 (11.6)	35929	6285 (16.5)	38039
1970-71	4088 (10.7)	38046	6305 (15.6)	40263
1971-72	4401 (11.3)	38911	6686 (16.2)	41196
1972-73	4651 (12.1)	38493	7059 (17.3)	40901
1973-74	4617 (11.6)	39927	7060 (16.7)	42370
1974-75	4501 (11.2)	40082	6856 (16.2)	42437
1975-76	5022 (11.4)	44082	7529 (16.2)	46589
1976-77	5909 (13.2)	44829	8537 (18.0)	47457
1977-78	6508 (13.4)	48403	9302 (18.2)	51197
1978-79	6685 (12.9)	51722	9695 (17.7)	54732
1979-80*	6218 (12.7)	49074	9297 (17.8)	52153

* Quick Estimates.

- Figures in brackets are percentages to NDP at market prices and GDP at market prices (at 1970-71 prices), respectively.
- No adjustment is made for 'errors and omissions' in NDFCF and GDFCF.

STATISTICAL ANNEXURE – 11

Gross Domestic Fixed Capital Formation – By Sectors & Assets

(at current prices)

(Rupees, Crores)

Year	Construction				Machinery & Equipment			
	Public sector	Private corporate sector	Household sector	Total	Public sector	Private corporate sector	Household sector	Total
1	2	3	4	5	6	7	8	9
1950-51	169	15	545	729	55	69	117	241
1951-52	209	19	446	674	53	73	164	290
1952-53	230	16	366	612	51	85	138	274
1953-54	262	19	345	626	65	44	158	267
1954-55	303	17	376	696	91	100	134	325
1955-56	423	22	365	810	110	79	284	473
1956-57	454	30	542	1026	161	154	280	595
1957-58	494	57	426	977	149	234	332	715
1958-59	529	50	508	1087	172	176	272	620
1959-60	541	52	593	1186	343	170	171	684
1960-61	676	101	560	1337	379	225	215	819
1961-62	752	98	608	1458	355	408	189	952
1962-63	912	100	536	1548	400	301	415	1116
1963-64	1144	146	481	1771	418	502	458	1378
1964-65	1248	150	638	2036	576	439	608	1623
1965-66	1377	114	869	2360	669	284	819	1772
1966-67	1316	60	1338	2714	731	403	753	1887
1967-68	1247	120	1741	3108	765	418	793	1976
1968-69	1299	135	1902	3336	812	388	840	2040
1969-70	1499	124	2054	3677	691	332	1198	2221
1970-71	1547	104	2308	3959	887	516	943	2346
1971-72	1914	186	2164	4264	935	596	1279	2810
1972-73	2427	149	2138	4714	1259	676	1417	3352
1973-74	2589	178	2163	4930	1418	885	1796	4099
1974-75	2476	165	3113	5754	1771	994	2411	5176
1975-76	2872	226	4158	7256	2796	1538	1675	6009
1976-77	3749	232	4547	8528	3358	1058	2414	6830
1977-78	4254	270	5348	9872	3647	1376	2292	7315
1978-79	5241	275	5339	10855	4055	1407	3096	8558
1979-80	5677	302	5520	11499	4538	1588	3916	10042

Note: Data excludes net purchase of second-hand physical assets.

STATISTICAL ANNEXURE – 12

Gross Capital Formation in Kutcha and Pucca Construction

(at current prices)

(Rupees, Crores)

Year	Public Sector		Private Corporate Sector		Household Sector		Total	
	Kutcha [@]	Pucca	Kutcha [£]	Pucca	Kutcha	Pucca	Kutcha	Pucca
1	2	3	4	5	6	7	8	9
1950-51	1	168	5	9	174	372	180	549
1951-52	1	208	7	12	157	289	165	509
1952-53	1	229	4	12	141	225	146	466
1953-54	1	261	7	12	141	204	149	477
1954-55	2	301	4	13	137	239	143	553
1955-56	3	420	9	14	140	224	152	658
1956-57	3	451	5	25	182	360	190	836
1957-58	4	490	14	43	151	275	169	808
1958-59	5	524	20	30	186	322	211	876
1959-60	5	536	11	41	206	387	222	964
1960-61	3	673	10	91	215	345	228	1109
1961-62	3	749	14	84	232	376	249	1209
1962-63	4	908	10	90	217	319	231	1317
1963-64	4	1140	13	133	218	263	235	1536
1964-65	5	1243	12	138	274	364	291	1745
1965-66	6	1371	10	104	319	550	335	2025
1966-67	7	1309	16	44	446	892	469	2245
1967-68	9	1238	17	103	589	1152	615	2493
1968-69	9	1290	19	116	616	1286	644	2692
1969-70	8	1491	18	106	669	1385	695	2982
1970-71	9	1538	24	80	655	1653	688	3271
1971-72	10	1904	25	161	722	1442	757	3507
1972-73	11	2417	33	115	732	1406	776	3938
1973-74	13	2576	43	135	951	1212	1007	3923
1974-75	11	2465	28	137	1081	2032	1120	4634
1975-76	14	2858	68	158	1260	2898	1342	5914
1976-77	17	3732	78	154	1364	3183	1459	7069
1977-78	19	4235	79	191	1535	3813	1633	8239
1978-79	24	5217	84	191	1693	3646	1801	9054
1979-80	28	5649	96	206	1804	3716	1928	9571

@ Relates to 'forestry' sector only

£ Relates to tea, coffee, and rubber plantations only.

STATISTICAL ANNEXURE – 13

Composition of Gross Fixed Capital Formation: Public and Private Sectors

(at current prices)

Year	Public (Rupees, Crores)			Private (Rupees, Crores)			Public as per cent of total	
	Cons- truction	Machinery and equipment	Total	Cons- truction	Machinery and equipment	Total	Cons- truction	Machinery and equipment
1	2	3	4	5	6	7	8	9
1950-51	169	55	224	560	186	746	23.2	22.8
1951-52	209	53	262	465	237	702	31.0	18.3
1952-53	230	51	281	382	223	605	37.6	18.6
1953-54	262	65	327	364	202	566	41.9	24.3
1954-55	303	91	394	393	234	627	43.5	28.0
1955-56	423	110	533	387	363	750	52.2	23.3
1956-57	454	161	615	572	434	1006	44.2	27.1
1957-58	494	149	643	483	566	1049	50.6	20.8
1958-59	529	172	701	558	448	1006	48.7	27.7
1959-60	541	343	884	645	341	986	45.6	50.1
1960-61	676	379	1055	661	440	1101	50.6	46.3
1961-62	752	355	1107	706	597	1303	51.6	37.3
1962-63	912	400	1312	636	716	1352	58.9	35.8
1963-64	1144	418	1562	627	960	1587	64.6	30.3
1964-65	1248	576	1824	788	1047	1835	61.3	35.5
1965-66	1377	669	2046	983	1103	2086	58.3	37.8
1966-67	1316	731	2047	1398	1156	2554	48.5	38.7
1967-68	1247	765	2012	1861	1211	3072	40.1	38.7
1968-69	1299	812	2111	2037	1228	3265	38.9	39.8
1969-70	1499	691	2190	2178	1530	3708	40.8	31.1
1970-71	1547	887	2434	2412	1459	3871	39.1	37.8
1971-72	1914	935	2849	2350	1875	4225	44.9	33.3
1972-73	2427	1259	3686	2287	2093	4380	51.5	37.6
1973-74	2589	1418	4007	2341	2681	5022	52.5	34.6
1974-75	2476	1771	4247	3278	3405	6683	43.0	34.2
1975-76	2872	2796	5668	4384	3213	7597	39.6	46.5
1976-77	3749	3358	7107	4779	3472	8251	44.0	49.2
1977-78	4254	3647	7901	5618	3668	9286	43.1	49.9
1978-79	5241	4055	9296	5614	4503	10117	48.3	47.4
1979-80	5677	4538	10215	5822	5504	11326	49.4	45.2

STATISTICAL ANNEXURE – 14

Composition of Gross Fixed Capital Formation : Public and Private Sectors

(at current prices)

(Percentage Distribution)

Year	Public		Private		Total	
	Cons- truction	Machinery and equipment	Cons- truction	Machinery and equipment	Cons- truction	Machinery and equipment
1	2	3	4	5	6	7
1950-51	75.4	24.6	75.1	24.9	75.2	24.8
1951-52	79.8	20.2	66.2	33.8	69.9	30.1
1952-53	81.9	18.1	63.1	36.9	69.1	30.9
1953-54	80.1	19.9	64.3	35.7	70.1	29.9
1954-55	76.9	23.1	62.7	37.3	68.2	31.8
1955-56	79.4	20.6	51.6	48.4	63.1	36.9
1956-57	73.8	26.2	56.9	43.1	63.3	36.7
1957-58	76.8	23.2	46.0	54.0	57.7	42.3
1958-59	75.5	24.5	55.5	44.5	63.7	36.3
1959-60	61.2	38.8	65.4	34.6	63.4	36.6
1960-61	64.1	35.9	60.0	40.0	62.0	38.0
1961-62	67.9	32.1	54.2	45.8	60.5	39.5
1962-63	69.5	30.5	47.0	53.0	58.1	41.9
1963-64	73.2	26.8	39.5	60.5	56.2	43.8
1964-65	68.4	31.6	42.9	57.1	55.6	44.4
1965-66	67.3	32.7	47.1	52.9	57.1	42.9
1966-67	64.3	35.7	54.7	45.3	59.0	41.0
1967-68	62.0	38.0	60.6	39.4	61.1	38.9
1968-69	61.5	38.5	62.4	37.6	62.1	37.9
1969-70	68.4	31.6	58.7	41.3	62.3	37.7
1970-71	63.6	36.4	62.3	37.7	62.8	37.2
1971-72	67.2	32.8	55.6	44.4	60.3	39.7
1972-73	65.8	34.2	52.2	47.8	58.4	41.6
1973-74	64.6	35.4	46.6	53.4	54.6	45.4
1974-75	58.3	41.7	49.0	51.0	52.6	47.4
1975-76	50.7	49.3	57.7	42.3	54.7	45.3
1976-77	52.8	47.2	57.9	42.1	55.5	44.5
1977-78	53.8	46.2	60.5	39.5	57.4	42.6
1978-79	56.4	43.6	55.5	44.5	55.9	44.1
1979-80	55.6	44.4	51.4	48.6	53.4	46.6

STATISTICAL ANNEXURE – 15

**Gross Domestic Capital Formation by Industry of use
(at current prices)**

(Rupees, Crores)

Year	Agriculture, forestry & logging and fishing	Mining and quarrying	Manufac- turing, elec- tricity, gas and water supply	Registered Manufac- turing	Storage, transport, communi- cation & trade	Others	Total
1	2	3	4	5	6	7	8
1950-51	213	7	132	95	214	388	954
1951-52	284	19	304	266	185	396	1188
1952-53	243	8	173	136	83	265	772
1953-54	276	12	148	95	200	273	909
1954-55	261	12	185	84	206	406	1070
1955-56	344	13	364	251	305	443	1469
1956-57	373	6	598	411	362	620	1959
1957-58	374	10	489	376	379	591	1843
1958-59	393	12	372	214	427	581	1785
1959-60	344	13	599	477	396	644	1996
1960-61	416	40	829	650	475	784	2544
1961-62	397	40	851	584	449	701	2438
1962-63	446	56	1054	677	580	780	2916
1963-64	502	77	1084	669	740	863	3266
1964-65	618	104	1303	871	733	977	3735
1965-66	777	53	1632	1089	687	1241	4390
1966-67	849	99	2124	1461	907	1458	5437
1967-68	880	90	1844	1137	835	1685	5334
1968-69	1003	72	1586	854	770	1682	5113
1969-70	1180	128	2168	1291	742	2067	6285
1970-71	1365	92	2626	1420	1416	1678	7177
1971-72	1466	150	2809	1501	1596	1955	7976
1972-73	1726	131	2588	1174	1440	2181	8066
1973-74	2129	230	3934	2156	2389	3102	11784
1974-75	2045	337	5644	3731	2477	2803	13306
1975-76	2255	640	5585	3470	3350	2895	14725
1976-77	3416	803	5080	2424	3270	3860	16429
1977-78	3877	759	6385	2861	2772	4240	18033
1978-79	5072	688	8277	4378	3961	5143	23141

STATISTICAL ANNEXURE – 16

Gross Domestic Capital Formation by Industry of Use

(At Current Prices)

(Percentage Distribution)

Year	Agriculture, forestry & logging and fishing	Mining and quarrying	Manufacturing, gas and water supply	Registered Manufacturing	Transport, communication and trade	Others	Total
1	2	3	4	5	6	7	8
1950-51	22.3	0.7	13.8	9.9	22.5	40.7	100.0
1951-52	23.9	1.6	25.6	22.4	15.6	33.3	100.0
1952-53	31.5	1.0	22.4	17.6	10.8	34.3	100.0
1953-54	30.4	1.3	16.3	10.4	22.0	30.0	100.0
1954-55	24.4	1.1	17.3	7.8	19.3	37.9	100.0
1955-56	23.4	0.9	24.8	17.1	20.8	30.1	100.0
1956-57	19.0	0.3	30.5	21.0	18.5	31.7	100.0
1957-58	20.3	0.5	26.5	20.4	20.6	32.1	100.0
1958-59	22.0	0.7	20.8	12.0	23.9	32.6	100.0
1959-60	17.2	0.7	30.0	23.9	19.8	32.3	100.0
1960-61	16.3	1.6	32.6	25.5	18.7	30.8	100.0
1961-62	16.3	1.6	34.9	23.9	18.4	28.8	100.0
1962-63	15.3	1.9	36.1	23.2	19.9	26.8	100.0
1963-64	15.4	2.4	33.2	20.5	22.6	26.4	100.0
1964-65	16.5	2.8	34.9	23.3	19.6	26.2	100.0
1965-66	17.7	1.2	37.2	24.8	15.6	28.3	100.0
1966-67	15.6	1.8	39.1	26.9	16.7	26.8	100.0
1967-68	16.5	1.7	34.6	21.3	15.6	31.6	100.0
1968-69	19.6	1.4	31.0	16.7	15.1	32.9	100.0
1969-70	18.8	2.0	34.5	20.5	11.8	32.9	100.0
1970-71	19.0	1.3	36.6	19.8	19.7	23.4	100.0
1971-72	18.4	1.9	35.2	18.8	20.0	24.5	100.0
1972-73	21.4	1.6	32.1	14.5	17.9	27.0	100.0
1973-74	18.1	1.9	33.4	18.3	20.3	26.3	100.0
1974-75	15.4	2.5	42.4	28.0	18.6	21.1	100.0
1975-76	15.3	4.3	37.9	23.6	22.8	19.7	100.0
1976-77	20.8	4.9	30.9	14.7	19.9	23.5	100.0
1977-78	21.5	4.2	35.4	15.9	15.4	23.5	100.0
1978-79	21.9	3.0	35.8	18.9	17.1	22.2	100.0

STATISTICAL ANNEXURE – 17

Gross Domestic Capital Formation by Industry of Use

(at 1970-71 prices)

(Rupees, Crores)

Year	Agriculture forestry & logging and fishing	Mining and quarrying	Manufac- turing, electricity, gas and water supply	Registered Manufac- turing	Transport, storage, communi- cation and trade	Others	Total
1	2	3	4	5	6	7	8
1950-51	531	17	366	276	520	945	2379
1951-52	716	41	736	649	417	894	2804
1952-53	608	16	471	385	126	617	1838
1953-54	699	25	334	212	442	627	2127
1954-55	562	30	392	178	436	943	2363
1955-56	819	26	821	583	686	971	3323
1956-57	852	10	1339	958	748	1322	4271
1957-58	868	21	1213	973	762	1224	4088
1958-59	815	24	652	365	767	1124	3382
1959-60	640	25	1171	954	695	1210	3741
1960-61	786	70	1381	1065	826	1460	4523
1961-62	707	68	1422	968	692	1251	4140
1962-63	802	89	1668	1067	897	1352	4808
1963-64	832	111	1611	985	1134	1392	5080
1964-65	995	153	1871	1235	1041	1521	5581
1965-66	1200	67	2179	1449	931	1793	6170
1966-67	1018	118	2580	1778	1096	1863	6675
1967-68	1009	102	2108	1316	889	2031	6139
1968-69	1114	80	1776	952	861	1927	5758
1969-70	1246	139	2317	1369	785	2190	6677
1970-71	1365	92	2626	1420	1416	1678	7177
1971-72	1391	143	2666	1414	1508	1839	7547
1972-73	1513	117	2287	1031	1265	1893	7075
1973-74	1594	185	3030	1619	1890	2373	9072
1974-75	1296	214	3418	2209	1555	1722	8205
1975-76	1301	355	3218	2008	1947	1603	8424
1976-77	1891	454	2862	1392	1876	2079	9162
1977-78	2059	434	3488	1580	1576	2226	9783
1978-79	2533	370	4250	2319	2093	2444	1690

STATISTICAL ANNEXURE – 18

**Gross Domestic Capital Formation by Industry of Use
(at 1970-71 prices)
(Percentage Distribution)**

Year	Agriculture, forestry & logging and fishing	Mining and quarrying	Manufac- turing, electricity, gas and water supply	Registered Manufac- turing	Transport, communi- cation and trade	Others	Total
1	2	3	4	5	6	7	8
1950-51	22.3	0.7	15.4	11.6	21.9	39.7	100.0
1951-52	25.5	1.5	26.2	23.1	14.9	31.9	100.0
1952-53	33.1	0.9	25.6	20.9	6.8	33.6	100.0
1953-54	32.8	1.2	15.7	10.0	20.8	29.5	100.0
1954-55	23.8	1.3	16.6	7.5	18.4	39.9	100.0
1955-56	24.7	0.8	24.7	17.5	20.6	29.2	100.0
1956-57	19.9	0.2	31.4	22.4	17.5	31.0	100.0
1957-58	21.2	0.5	29.7	23.8	18.6	30.0	100.0
1958-59	24.1	0.7	19.3	10.8	22.7	33.2	100.0
1959-60	17.1	0.7	31.3	25.5	18.6	32.3	100.0
1960-61	17.4	1.5	30.5	23.5	18.3	32.3	100.0
1961-62	17.1	1.7	34.3	23.4	16.7	30.2	100.0
1962-63	16.7	1.8	34.7	22.2	18.7	28.1	100.0
1963-64	16.4	2.2	31.7	19.4	22.3	27.4	100.0
1964-65	17.8	2.7	33.5	22.1	18.7	27.3	100.0
1965-66	19.4	1.1	35.3	23.5	15.1	29.1	100.0
1966-67	15.2	1.8	38.7	26.6	16.4	27.9	100.0
1967-68	16.4	1.7	34.3	21.4	14.5	33.1	100.0
1968-69	19.3	1.4	30.8	16.5	15.0	33.5	100.0
1969-70	18.7	2.1	34.7	20.5	11.7	32.8	100.0
1970-71	19.0	1.3	36.6	19.8	19.7	23.4	100.0
1971-72	18.4	1.9	35.3	18.7	20.0	24.4	100.0
1972-73	21.4	1.6	32.3	14.6	17.9	26.8	100.0
1973-74	17.6	2.0	33.4	17.8	20.8	26.2	100.0
1974-75	15.8	2.6	41.6	26.9	19.0	21.0	100.0
1975-76	15.5	4.2	38.2	23.8	23.1	19.0	100.0
1976-77	20.6	5.0	31.2	15.2	20.5	22.7	100.0
1977-78	21.0	4.4	35.7	16.1	16.1	22.8	100.0
1978-79	21.7	3.2	36.3	19.8	17.9	20.9	100.0

STATISTICAL ANNEXURE – 19
Gross Domestic Fixed Capital Formation
(At 1970-71 Prices)

Year	GFCF (Rupees, Crores)			Percentage Distribution			Index of growth	
	Construc- tion	Machinery and equipment	Total	Construc- tion	Machinery and equipment	Construc- tion	Machinery and equipment	Total
1	2	3	4	5	6	7	8	9
1950-51	1630	854	2484	65.6	34.4	100.0	100.0	100.0
1951-52	1458	894	2352	62.0	38.0	89.4	104.7	94.7
1952-53	1321	797	2118	62.4	37.6	81.0	93.3	85.3
1953-54	1378	722	2100	65.6	34.4	84.5	84.5	84.5
1954-55	1526	724	2250	67.8	32.2	93.6	84.8	90.6
1955-56	1758	1126	2884	61.0	39.0	107.9	131.9	116.1
1956-57	2072	1490	3562	58.2	41.8	127.1	174.5	143.4
1957-58	1869	1906	3775	49.5	50.5	114.7	223.2	152.0
1958-59	2020	1224	3244	62.3	37.7	123.9	143.3	130.6
1959-60	2139	1354	3493	61.2	38.8	131.2	158.5	140.6
1960-61	2310	1513	3823	60.4	39.6	141.7	177.2	153.9
1961-62	2396	1672	4068	58.9	41.1	147.0	195.8	163.8
1962-63	2451	1934	4385	55.9	44.1	150.4	226.5	176.5
1963-64	2745	2139	4884	56.2	43.8	168.4	250.5	196.6
1964-65	3012	2457	5469	55.1	44.9	184.8	287.7	220.2
1965-66	3245	2553	5798	56.0	44.0	199.1	298.9	233.4
1966-67	3480	2183	5663	61.5	38.5	213.5	255.6	228.0
1967-68	3771	2153	5924	63.7	36.3	231.3	252.1	238.5
1968-69	3826	2230	6056	63.2	36.8	234.7	261.1	243.8
1969-70	3915	2370	6285	62.3	37.7	240.2	277.5	253.0
1970-71	3959	2346	6305	62.8	37.2	242.9	274.7	253.8
1971-72	3975	2711	6686	59.5	40.5	243.9	317.4	269.2
1972-73	4072	2987	7059	57.7	42.3	249.8	349.8	284.2
1973-74	3703	3357	7060	52.5	47.5	227.2	393.1	284.2
1974-75	3570	3286	6856	52.1	47.9	219.0	384.8	276.0
1975-76	4144	3385	7529	55.0	45.0	254.2	396.4	303.1
1976-77	4685	3852	8537	54.9	45.1	287.4	451.1	343.7
1977-78	5209	4093	9302	56.0	44.0	319.6	479.3	374.4
1978-79	5265	4430	9695	54.3	45.7	323.1	518.7	390.3
1979-80	4875	4422	9297	52.4	47.6	299.0	517.8	374.3

STATISTICAL ANNEXURE – 20

Gross Capital Formation by Assets – Household Sector (at current prices)

(Rupees, Crores)

Year	Construction						Machinery & equipment		Change in stocks		Total	
	Kutcha		Pucca		Total							
1	2		3		4		5		6		7	
1950-51	173	(1.8)	372	(3.9)	545	(5.7)	117	(1.2)	(-)6	(-0.1)	656	(6.8)
1951-52	157	(1.6)	289	(2.9)	446	(4.5)	164	(1.6)	(-)4	(neg.)	606	(6.1)
1952-53	141	(1.4)	225	(2.3)	366	(3.7)	138	(1.4)	25	(0.3)	529	(5.4)
1953-54	141	(1.3)	204	(2.0)	345	(3.3)	158	(1.5)	64	(0.6)	567	(5.4)
1954-55	137	(1.4)	239	(2.5)	376	(3.9)	134	(1.4)	(-)3	(neg.)	507	(5.3)
1955-56	141	(1.4)	224	(2.2)	365	(3.6)	284	(2.7)	50	(0.5)	699	(6.8)
1956-57	182	(1.5)	360	(3.1)	542	(4.6)	280	(2.4)	62	(0.5)	884	(7.5)
1957-58	151	(1.2)	275	(2.3)	426	(3.5)	332	(2.8)	(-)41	(-0.3)	717	(6.0)
1958-59	186	(1.4)	322	(2.4)	508	(3.8)	272	(2.0)	(-)96	(-0.7)	684	(5.1)
1959-60	206	(1.5)	387	(2.7)	593	(4.2)	171	(1.2)	152	(1.1)	916	(6.5)
1960-61	215	(1.4)	345	(2.3)	560	(3.7)	215	(1.4)	131	(0.9)	906	(6.0)
1961-62	232	(1.4)	376	(2.4)	608	(3.8)	189	(1.2)	(-)2	(neg.)	795	(5.0)
1962-63	217	(1.2)	319	(1.9)	536	(3.1)	415	(2.4)	122	(0.7)	1073	(6.2)
1963-64	218	(1.1)	263	(1.4)	481	(2.5)	458	(2.3)	47	(0.2)	986	(5.0)
1964-65	274	(1.2)	364	(1.6)	638	(2.8)	608	(2.6)	(-)24	(-0.1)	1222	(5.3)
1965-66	319	(1.3)	550	(2.3)	869	(3.6)	819	(3.4)	(-)173	(-0.7)	1515	(6.3)
1966-67	446	(1.6)	892	(3.2)	1338	(4.8)	753	(2.7)	475	(1.7)	2566	(9.2)
1967-68	589	(1.8)	1152	(3.6)	1741	(5.4)	793	(2.4)	33	(0.1)	2567	(7.9)
1968-69	616	(1.8)	1286	(3.9)	1902	(5.7)	840	(2.5)	(-)126	(-0.4)	2616	(7.8)
1969-70	669	(1.8)	1385	(3.8)	2054	(5.6)	1198	(3.2)	304	(0.8)	3556	(9.6)
1970-71	655	(1.6)	1653	(4.1)	2308	(5.7)	943	(2.4)	250	(0.6)	3501	(8.7)
1971-72	722	(1.7)	1442	(3.3)	2164	(5.0)	1279	(2.9)	469	(1.1)	3912	(9.0)
1972-73	732	(1.5)	1406	(2.9)	2138	(4.4)	1417	(3.0)	(-)35	(-0.1)	3520	(7.3)
1973-74	951	(1.6)	1212	(2.1)	2163	(3.7)	1796	(3.0)	951	(1.6)	4910	(8.3)
1974-75	1081	(1.6)	2032	(2.9)	3113	(4.5)	2411	(3.5)	639	(0.9)	6163	(8.9)
1975-76	1260	(1.7)	2898	(3.9)	4158	(5.6)	1675	(2.3)	697	(0.9)	6530	(8.8)
1976-77	1364	(1.7)	3183	(3.9)	4547	(5.6)	2414	(3.0)	595	(0.7)	7556	(9.3)
1977-78	1535	(1.7)	3813	(4.2)	5348	(5.9)	2292	(2.6)	926	(1.0)	8566	(9.5)
1978-79	1693	(1.7)	3646	(3.7)	5339	(5.4)	3096	(3.2)	1562	(1.6)	9997	(10.2)
1979-80	1804	(1.7)	3716	(3.4)	5520	(5.1)	3916	(3.6)	927	(0.8)	10363	(9.5)

Figures in brackets are percentage to GDP at current market prices.

STATISTICAL ANNEXURE – 21

Gross Domestic Saving – By Sectors

Year	Public Sector			Private Corporate Sector			Household Sector		
	Amount (Rupees, Crores)	Ratio to gross domestic saving	Ratio to GDP at market prices	Amount (Rupees, Crores)	Ratio to gross domestic saving	Ratio to GDP at market prices	Amount (Rupees, Crores)	Ratio to gross domestic saving	Ratio to GDP at market prices
1	2	3	4	5	6	7	8	9	10
1950-51	168	17.2	1.8	89	9.1	0.9	718	73.7	7.5
1951-52	252	25.1	2.5	132	13.1	1.3	621	61.8	6.2
1952-53	145	18.0	1.5	60	7.4	0.6	601	74.6	6.2
1953-54	127	13.8	1.2	86	9.3	0.8	709	76.9	6.8
1954-55	151	14.3	1.6	114	10.8	1.2	789	74.9	8.1
1955-56	172	12.0	1.7	130	9.1	1.2	1128	78.9	11.0
1956-57	231	14.5	1.9	151	9.4	1.3	1217	76.1	10.3
1957-58	245	17.9	2.0	117	8.5	1.0	1008	73.6	8.4
1958-59	227	16.1	1.7	136	9.7	1.0	1046	74.2	7.8
1959-60	236	13.4	1.7	180	10.2	1.3	1349	76.4	9.6
1960-61	425	20.6	2.8	276	13.4	1.8	1362	66.0	9.1
1961-62	494	23.6	3.1	315	15.1	2.0	1284	61.3	8.0
1962-63	566	22.9	3.3	338	13.6	2.0	1572	63.5	9.2
1963-64	709	25.1	3.6	387	13.7	2.0	1730	61.2	8.8
1964-65	817	26.1	3.5	381	12.1	1.7	1937	61.8	8.4
1965-66	809	21.3	3.4	396	10.5	1.6	2586	68.2	10.7
1966-67	668	14.8	2.4	414	9.2	1.5	3432	76.0	12.4
1967-68	667	14.8	2.1	399	8.9	1.2	3431	76.3	10.6
1968-69	858	18.3	2.6	427	9.1	1.3	3412	72.6	10.2
1969-70	1033	17.1	2.8	536	8.9	1.5	4475	74.0	12.1
1970-71	1253	18.5	3.1	657	9.7	1.6	4873	71.8	12.1
1971-72	1278	17.1	3.0	753	10.0	1.7	5467	72.9	12.6
1972-73	1332	17.2	2.8	788	10.1	1.6	5649	72.7	11.8
1973-74	1807	15.9	3.0	1062	9.3	1.8	8523	74.8	14.5
1974-75	2676	21.1	3.8	1441	11.4	2.1	8536	67.5	12.3
1975-76	3339	22.5	4.5	1055	7.1	1.4	10448	70.4	14.1
1976-77	4123	23.2	5.1	1161	6.6	1.4	12454	70.2	15.5
1977-78	4088	21.0	4.5	1385	7.1	1.5	14025	71.9	15.6
1978-79	4656	19.9	4.7	1544	6.6	1.6	17176	73.5	17.6
1979-80	4015	17.4	3.7	1744	7.4	1.6	17326	75.2	15.9

STATISTICAL ANNEXURE – 22
Estimates of Saving of Administrative Departments (1)
1960-61 to 1978-79

(Rupees, Crores)

Year	Central Government	State Governments	Local bodies	Total (2)+(3)+(4)	Consumption of fixed capital ⁽²⁾	Gross saving (5) + (6)
1	2	3	4	5	6	7
1960-61	113	121	64	298	64	362
1961-62	236	49	81	366	60	426
1962-63	202	117	89	408	72	480
1963-64	242	177	94	513	73	586
1964-65	312	175	111	598	81	679
1965-66	376	97	69	542	83	625
1966-67	148	190	70	408	88	496
1967-68	59	217	84	360	98	458
1968-69	196	251	96	543	92	635
1969-70	338	221	67	626	99	725
1970-71	368	323	43	734	123	857
1971-72	218	484	40	742	122	864
1972-73	343	324	11	678	148	826
1973-74	397	533	31	961	165	1126
1974-75	671	850	31	1552	151	1703
1975-76	911	1259	101	2271	178	2449
1976-77	885	1459	169	2513	186	2699
1977-78	1120	1379	66	2565	190	2755
1978-79	1296	1542	15	2853	216	3069

(1) Includes departmental enterprises also.

(2) Relates to departmental enterprises only as no allowance for the consumption of fixed capital is made in respect of the Government administration.

STATISTICAL ANNEXURE – 23

Estimates of Saving of Non-Departmental Enterprises⁽¹⁾ 1960-61 to 1978-79

(Rupees, Crores)

Year	Net saving			Consumption of fixed capital	Gross saving (4+5)
	Financial enterprises	Non-financial enterprises	Total (2+3)		
1	2	3	4	5	6
1960-61	20	(-) 9	11	52	63
1961-62	21	(-) 24	(-) 3	71	68
1962-63	23	(-) 23	—	86	86
1963-64	31	(-) 5	26	97	123
1964-65	36	(-) 23	13	125	138
1965-66	66	(-) 16	50	134	184
1966-67	37	(-) 38	(-) 1	173	172
1967-68	54	(-) 59	(-) 5	214	209
1968-69	36	(-) 57	(-) 21	244	223
1969-70	53	(-) 34	19	290	309
1970-71	84	(-) 14	70	326	396
1971-72	93	(-) 73	20	394	414
1972-73	145	(-) 84	61	445	506
1973-74	204	(-) 84	120	561	681
1974-75	336	83	419	554	973
1975-76	327	(-) 105	222	668	890
1976-77	503	131	634	790	1424
1977-78	561	(-) 193	368	965	1333
1978-79	682	(-) 173	509	1078	1587

(1) Include Government companies and statutory corporations.

STATISTICAL ANNEXURE – 24

Saving and Capital Formation in Public and Private Sectors

(at current prices)

Year	Gross Domestic Saving (Rupees, Crores)		Gross Domestic Capital Formation (Rupees, Crores)		Share of Public Sector in (percent)	
	Public sector	Private sector	Public sector	Private sector	Gross domestic saving	Gross domestic capital formation
1	2	3	4	5	6	7
1950-51	168	807	260	870	17.2	23.0
1951-52	252	753	304	858	25.1	26.2
1952-53	145	661	257	602	18.0	29.9
1953-54	127	795	293	571	13.8	33.9
1954-55	151	903	437	651	14.3	40.2
1955-56	172	1258	498	918	12.0	35.2
1956-57	231	1368	666	1225	14.4	35.2
1957-58	245	1125	833	1107	17.9	42.9
1958-59	227	1182	815	922	16.1	46.9
1959-60	236	1529	901	1213	13.4	42.6
1960-61	425	1638	1141	1442	20.6	44.2
1961-62	494	1599	1147	1533	23.6	42.8
1962-63	566	1910	1445	1606	22.9	47.4
1963-64	709	2117	1681	1848	25.1	47.6
1964-65	817	2318	1948	2121	26.1	47.9
1965-66	809	2982	2215	2211	21.3	50.0
1966-67	668	3846	2135	3181	14.8	40.2
1967-68	667	3830	2332	3376	14.8	40.8
1968-69	858	3839	2168	3372	18.3	39.1
1969-70	1033	5011	2259	4217	17.1	34.9
1970-71	1253	5530	2773	4571	18.5	37.8
1971-72	1278	6220	3165	5246	17.0	37.6
1972-73	1332	6437	3607	4919	17.1	42.3
1973-74	1807	9585	4814	6538	15.9	42.4
1974-75	2676	9977	5664	8845	21.1	39.0
1975-76	3339	11503	7677	8738	22.5	46.8
1976-77	4123	13615	8508	9232	23.2	48.0
1977-78	4088	15410	7408	11032	21.0	40.2
1978-79	4656	18720	9999	12625	19.9	44.2
1979-80	4015	19040	11718	13252	17.4	46.9

STATISTICAL ANNEXURE – 25

Saving and Capital Formation in Private Sector

(at current prices)

(Rupees, Crores)

Year	Gross Domestic Saving				Gross Domestic Capital Formation			
	Household sector	Private corporate sector	Total	Col. 2 as percentage of Col. 4	Household sector	Private corporate sector	Total	Col. 6 as percentage of Col. 8
1	2	3	4	5	6	7	8	9
1950-51	718	89	807	89.0	656	214	870	75.4
1951-52	621	132	753	82.5	607	251	858	70.7
1952-53	601	60	661	90.9	529	73	602	87.7
1953-54	709	86	795	89.2	566	5	571	99.1
1954-55	789	114	903	87.4	508	144	652	77.9
1955-56	1128	130	1258	89.7	699	219	918	76.1
1956-57	1217	151	1368	89.0	884	341	1225	72.2
1957-58	1008	117	1125	89.6	717	390	1107	64.8
1958-59	1046	136	1182	88.5	684	238	922	74.2
1959-60	1349	180	1529	88.2	916	298	1214	75.5
1960-61	1362	276	1638	83.2	906	535	1441	62.9
1961-62	1284	315	1599	80.3	795	738	1533	51.9
1962-63	1572	338	1910	82.3	1073	533	1606	66.8
1963-64	1730	387	2117	81.7	987	861	1848	53.4
1964-65	1937	381	2318	83.6	1223	898	2121	57.7
1965-66	2586	396	2982	86.7	1515	696	2211	68.5
1966-67	3432	414	3846	89.2	2566	615	3181	80.7
1967-68	3431	399	3830	89.6	2567	809	3376	76.0
1968-69	3412	427	3839	88.9	2616	756	3372	77.6
1969-70	4475	536	5011	89.3	3556	661	4217	84.3
1970-71	4873	657	5530	89.1	3502	1030	4532	77.3
1971-72	5467	753	6220	87.9	3912	1287	5199	75.2
1972-73	5649	788	6437	87.8	3521	1331	4852	72.6
1973-74	8523	1062	9585	88.9	4910	1630	6540	75.1
1974-75	8536	1441	9977	85.6	6163	2707	8870	69.5
1975-76	10448	1055	11503	90.8	6531	2139	8670	75.3
1976-77	12454	1161	13615	91.5	7556	1628	9184	82.3
1977-78	14025	1385	15410	91.0	8565	2237	10802	79.3
1978-79	17176	1544	18720	91.8	9997	2475	12473	79.4
1979-80	17326	1714	19040	91.0	10363	2756	13119	79.0

STATISTICAL ANNEXURE – 26

Structure of household saving (net) (at current prices)

(Rupees, Crores)

FINANCIAL									
Year	Currency	Net	Shares	Net	Life	Provident	Total	Physical	Total
		deposits	and	claims	insurance	& pension	financial	assets	
			debentures	on Govt. funds	funds	funds	assets		
1	2	3	4	5	6	7	8	9	10
1950-51	81	(-) 26	52	(-) 84	20	19	62	422	484
1951-52	(-) 116	(-) 45	49	93	13	20	14	345	359
1952-53	(-) 17	43	23	(-) 22	18	27	72	236	308
1953-54	26	21	27	(-) 2	25	45	142	276	418
1954-55	67	38	11	91	28	47	282	184	466
1955-56	203	24	41	76	31	54	429	388	817
1956-57	48	(-) 19	71	141	30	62	333	544	877
1957-58	50	76	36	19	29	81	291	342	633
1958-59	111	42	34	71	32	72	362	220	482
1959-60	133	68	61	39	46	86	433	433	866
1960-61	145	11	67	57	50	126	456	445	901
1961-62	94	103	112	(-) 12	65	127	489	294	783
1962-63	175	70	45	(-) 20	82	147	499	496	995
1963-64	211	118	119	42	78	175	743	394	1137
1964-65	135	253	64	(-) 32	88	206	714	593	1307
1965-66	285	309	175	(-) 9	96	216	1072	799	1871
1966-67	118	337	114	(-) 48	104	239	864	1734	2598
1967-68	145	268	78	(-) 59	122	311	865	1649	2514
1968-69	263	72	84	(-) 84	139	321	795	1617	2412
1969-70	334	85	65	(-) 139	160	414	919	2418	3337
1970-71	345	265	94	(-) 12	189	490	1371	2168	3539
1971-72	381	574	61	(-) 243	216	566	1555	2496	4051
1972-73	616	773	26	(-) 196	262	647	2128	1981	4109
1973-74	812	1260	44	434	326	736	3612	3195	6807
1974-75	17	1017	137	(-) 95	322	976	2374	4010	6384
1975-76	321	1131	115	742	385	1224	3918	4030	7948
1976-77	1134	1857	186	94	480	1148	4899	4921	9820
1977-78	721	2684	294	(-) 114	559	1315	5459	5687	11146
1978-79	1483	3357	236	(-) 128	646	1585	7179	6636	13815

STATISTICAL ANNEXURE – 27

Structure of household saving (net)

(at current prices)

(Percentage Distribution)

Year	Financial Assets							Physical assets	Total
	Currency	Net deposits	Shares and debentures	Net claims on Govt.	Life insurance funds	Provident & pension funds	Total financial assets		
1	2	3	4	5	6	7	8	9	10
1950-51	16.7	(-) 5.4	10.8	(-) 17.3	4.1	3.9	12.8	87.2	100.0
1951-52	(-) 32.3	(-) 12.5	13.6	25.9	3.6	5.6	3.9	96.1	100.0
1952-53	(-) 5.5	13.9	7.5	(-) 7.1	5.8	8.8	23.4	76.6	100.0
1953-54	6.2	5.0	6.5	(-) 0.5	6.0	10.8	34.0	66.0	100.0
1954-55	14.4	8.1	2.4	19.5	6.0	10.1	60.5	39.5	100.0
1955-56	24.9	2.9	5.0	9.3	3.8	6.6	52.5	47.5	100.0
1956-57	5.5	(-) 2.2	8.1	16.1	3.4	7.1	38.0	62.0	100.0
1957-58	7.9	12.0	5.7	3.0	4.6	12.8	46.0	54.0	100.0
1958-59	19.1	7.2	5.8	12.2	5.5	12.4	62.2	37.8	100.0
1959-60	15.4	7.9	7.0	4.5	5.3	9.9	50.0	50.0	100.0
1960-61	16.1	1.2	7.4	6.3	5.6	14.0	50.6	49.4	100.0
1961-62	12.0	13.2	14.3	(-) 1.5	8.3	16.2	62.5	37.5	100.0
1962-63	17.6	7.0	4.5	(-) 2.0	8.2	14.8	50.1	49.9	100.0
1963-64	18.6	10.3	10.5	3.7	6.9	15.3	65.3	34.7	100.0
1964-65	10.3	19.4	4.9	(-) 2.5	6.7	15.8	54.6	45.4	100.0
1965-66	15.2	16.5	9.4	(-) 0.5	5.1	11.6	57.3	42.7	100.0
1966-67	4.5	13.0	4.4	(-) 1.8	4.0	9.2	33.3	66.7	100.0
1967-68	5.8	10.7	3.1	(-) 2.4	4.9	12.3	34.4	65.6	100.0
1968-69	10.9	3.0	3.5	(-) 3.5	5.8	13.3	33.0	67.0	100.0
1969-70	10.0	2.5	2.0	(-) 4.2	4.8	12.4	27.5	72.5	100.0
1970-71	9.7	7.5	2.6	(-) 0.3	5.3	13.9	38.7	61.3	100.0
1971-72	9.4	14.2	1.5	(-) 6.0	5.3	14.0	38.4	61.6	100.0
1972-73	15.0	18.8	0.6	(-) 4.8	6.4	15.8	51.8	48.2	100.0
1973-74	11.9	18.5	0.7	6.4	4.8	10.8	53.1	46.9	100.0
1974-75	0.3	15.9	2.2	(-) 1.5	5.0	15.3	37.2	62.8	100.0
1975-76	4.0	14.2	1.5	9.3	4.9	15.4	49.3	50.7	100.0
1976-77	11.5	18.9	1.9	1.0	4.9	11.7	49.9	50.1	100.0
1977-78	6.5	24.1	2.6	(-) 1.0	5.0	11.8	49.0	51.0	100.0
1978-79	10.7	24.3	1.7	(-) 0.9	4.7	11.5	52.0	48.0	100.0

STATISTICAL ANNEXURE – 28

**Household financial saving by items (Gross and net)
(at current prices)**

(Rupees, Crores)

Year	Total financial saving (Net)	Currency			Net deposits				Shares & Debentures				Govt. Securities & Small Savings			Insurance Policies				P.F.
		Total	Held by public	Less held by sectors other than households	Total	With banks and private corporate sector (gross)	Less advances to households	Add Trade debt (net)	Total	Private corporate enterprises	Unit Trust of India	Co-operative institutions	Total	Investment in Govt. Securities & small savings (gross)	Less Net borrowing of households from Govt.	Total	Life insurance	Postal insurance	State insurance	Provident fund
1	2	3	3.1	3.2	4	4.1	4.2	4.3	5	5.1	5.2	5.3	6	6.1	6.2	7	7.1	7.2	7.3	8
1960-61	455.15	144.99	154.28	9.29	10.48	109.50	99.02	—	66.67	46.41	—	20.26	56.59	93.37	36.78	50.07	47.86	0.86	1.35	126.35
1961-62	489.52	94.15	106.02	11.87	102.50	190.44	87.94	—	112.37	88.94	—	23.43	-11.78	24.82	36.60	64.98	62.02	0.97	1.99	127.30
1962-63	499.47	175.40	182.29	6.89	70.56	203.43	132.87	—	44.83	17.21	—	27.62	-20.47	19.38	39.85	82.38	79.28	1.12	1.98	146.77
1963-64	743.01	210.99	223.21	12.22	118.27	317.78	199.51	—	19.48	85.32	—	34.16	42.17	77.67	35.50	77.66	74.67	1.23	1.76	174.44
1964-65	713.94	134.88	162.43	27.55	253.21	374.27	121.06	—	64.06	19.12	15.80	29.14	-31.98	50.90	82.88	87.76	83.79	1.30	2.69	205.99
1965-66	1072.55	285.43	276.91	-8.52	309.36	466.84	157.48	—	175.11	143.67	2.20	29.24	-9.02	55.56	64.58	96.02	92.05	1.27	2.70	215.65
1966-67	864.28	118.04	137.83	19.79	336.47	468.33	204.83	72.97	114.43	69.86	7.20	37.37	-48.13	33.85	81.98	104.43	99.47	1.42	3.54	239.04
1967-68	864.71	144.85	185.24	40.39	267.26	453.99	173.42	-13.31	78.34	20.33	14.00	44.01	-58.63	37.75	96.38	121.60	116.44	1.46	3.70	311.29
1968-69	794.96	263.15	312.02	48.87	72.15	518.33	391.80	-54.38	84.13	16.35	15.40	52.38	-84.18	-22.79	61.39	138.64	132.46	1.62	4.56	321.07
1969-70	918.84	334.49	338.37	3.88	84.82	530.08	484.31	39.05	64.59	-10.12	20.64	54.07	-139.19	-92.32	46.87	160.01	152.28	2.09	5.64	414.12
1970-71	1371.08	344.74	363.30	18.56	264.99	787.38	570.85	48.46	94.06	15.06	14.28	64.72	-11.75	57.46	69.21	189.12	181.13	2.37	5.62	489.92
1971-72	1554.62	380.73	434.53	53.80	574.04	1111.16	588.95	51.83	60.87	-3.67	12.38	52.16	-243.32	-149.54	93.78	215.85	210.43	2.70	2.72	566.45
1972-73	2128.37	616.08	633.48	17.40	773.29	1336.02	664.11	101.38	25.97	-49.51	19.43	56.05	-195.97	-124.35	71.62	262.00	252.79	3.10	6.11	647.00
1973-74	3611.86	812.08	887.11	75.03	1259.69	1801.84	790.93	248.78	44.15	-19.00	23.99	39.16	433.84	458.97	25.13	326.49	316.20	3.30	6.99	735.61
1974-75	2373.91	16.46	85.60	69.14	1017.38	1363.93	739.48	392.93	136.89	51.62	-2.84	88.11	-95.50	-53.17	42.33	322.29	307.06	4.13	11.10	976.39
1975-76	3917.95	321.49	335.37	13.88	1131.00	2197.39	990.75	-75.64	114.90	30.89	15.94	68.07	741.63	808.64	67.01	384.57	366.34	6.14	12.09	1224.36
1976-77	4898.52	1134.23	1167.77	33.54	1857.11	3310.70	1356.60	-96.99	185.76	85.28	19.76	80.72	93.52	234.32	140.80	480.33	455.94	7.68	16.71	1147.57
1977-78	5459.43	721.41	757.08	35.67	2684.06	3686.99	1320.53	317.60	293.47	154.04	45.82	93.61	-114.34	36.07	150.41	559.47	518.07	11.10	30.30	1315.36
1978-79	7179.14	1482.95	1586.68	103.73	3357.08	4611.51	1601.87	347.44	236.30	61.34	70.61	104.35	-127.81	-14.86	112.95	645.74	584.68	15.30	45.76	1584.88

STATISTICAL ANNEXURE – 29

Household Savings : Gross and Net

(Rupees, Crores)

Year	Gross saving in Financial Assets	Saving in Physical Assets	Total Gross Saving	Increase in Financial Liabilities	Net Saving in Financial Assets (2 - 5)	Total Net Saving (3 + 6)	Net Financial Assets as Percentage of Total Net Saving
1	2	3	4	5	6	7	8
1970-71	2084.5	2168.0	4252.5	597.3	1487.2	3655.2	40.7
	(a) 49.0	51.0		14.0			
	(b) 5.2	5.4		1.5		9.1	
1971-72	2347.6	2496.0	4843.6	724.3	1623.3	4119.3	39.4
	(a) 48.5	51.5		15.0			
	(b) 5.4	5.8		1.7		9.5	
1972-73	3004.2	1981.0	4985.2	635.9	2368.3	4349.3	54.4
	(a) 60.3	39.7		12.8			
	(b) 6.3	4.1		1.3		9.1	
1973-74	3631.5	3195.0	6826.5	830.7	2800.8	5995.8	46.7
	(a) 53.2	46.8		12.2			
	(b) 6.2	5.4		1.4		10.2	
1974-75	3402.1	4010.0	7412.1	801.4	2600.7	6610.7	39.3
	(a) 45.9	54.1		10.8			
	(b) 4.9	5.8		1.2		9.5	
1975-76	4994.3	4030.0	9024.3	1178.1	3816.2	7846.2	48.6
	(a) 55.3	44.7		13.0			
	(b) 6.7	5.4		1.6		10.5	
1976-77	6905.1	4921.0	11826.1	1710.3	5194.8	10115.8	51.3
	(a) 58.4	41.6		14.5			
	(b) 8.5	6.1		2.1		12.5	
1977-78	7112.6	5687.0	12799.6	1669.5	5443.1	11130.1	48.9
	(a) 55.6	44.4		13.0			
	(b) 7.9	6.3		1.8		12.4	
1978-79	9285.9	6636.0	15921.9	2343.9	6942.0	13578.0	51.1
	(a) 58.3	41.7		14.7			
	(b) 9.5	6.8		2.4		13.9	
1979-80	9559.0	6392.0	15951.0	2762.0	6797.0	13189.0	51.5
	(a) 59.9	40.1		17.3			
	(b) 8.8	5.9		2.5		12.2	

Note: (a) Percentage to gross domestic product at market prices.

(b) Percentage to total gross domestic saving.

Source: Reserve Bank of India

STATISTICAL ANNEXURE – 30

Saving of the Household Sector in the Form of Financial Assets
(at current prices)

(Rupees, Crores)

Instruments	1970-71	1971-72	1972-73	1973-74	1974-75
A. Saving (gross) of the household sector in financial assets	2084.5	2347.6	3004.2	3631.5	3402.1
(i) to (x)					
(a)	5.2	5.4	6.3	6.2	4.9
(i) Currency	354.6	404.0	637.2	769.3	18.4
(a)	0.9	0.9	1.3	1.3	neg.
(b)	17.0	17.2	21.2	21.2	0.5
(ii) Deposits	790.3	1019.6	1210.5	1507.3	1511.4
(a)	2.0	2.4	2.5	2.6	2.2
(b)	37.9	43.4	40.3	41.5	44.4
Of which:					
Bank deposits	311	982	1184	1210	1376
(a)	0.8	2.3	2.5	2.1	2.0
(b)	14.9	41.8	39.4	33.3	40.4
(iii) Loans to companies	67.0	104.4	108.3	44.9	92.3
(a)	0.2	0.2	0.2	0.1	0.1
(b)	3.2	4.4	3.6	1.2	2.7
(iv) Life insurance fund	219.9	251.2	306.8	355.5	343.9
(a)	0.5	0.6	0.7	0.6	0.5
(b)	10.6	10.7	10.2	9.8	10.1
(v) Provident fund	422.2	474.3	523.4	603.0	786.6
(a)	1.0	1.1	1.1	1.0	1.1
(b)	20.3	20.2	17.4	16.6	23.1
(vi) Claims on Government	117.3	2.5	84.0	90.4	214.3
(a)	0.3	neg.	0.2	0.2	0.3
(b)	5.6	0.1	2.8	2.5	6.3
(vii) Corporate (private non-financial) & co-operative securities	64.9	17.8	21.9	(-)5.3	58.5
(a)	0.2	neg.	neg.	neg.	0.1
(b)	3.1	0.8	0.7	(-)0.1	1.7
(viii) Securities of term lending and other financial institutions	1.9	2.2	5.3	(-)11.0	3.9
(a)	neg.	neg.	0.1	neg.	neg.
(b)	0.1	0.1	0.2	(-)0.3	0.1
(ix) Units of U.T.I.	14.4	12.4	18.6	23.9	(-)2.8
(a)	neg.	neg.	neg.	neg.	neg.
(b)	0.7	0.5	0.6	0.6	(-)0.1

STATISTICAL ANNEXURE – 30 (CONTD.)

Saving of the Household Sector in the Form of Financial Assets

(at current prices)

(Rupees, Crores)

Instruments	1970-71	1971-72	1972-73	1973-74	1974-75
(x) Other assets	32.0	59.2	88.2	253.5	375.6
(a)	0.1	0.2	0.2	0.4	0.6
(b)	1.5	2.5	3.0	7.0	11.0
B. Financial liabilities of the household sector	597.3	724.3	635.9	830.7	801.4
(i) to (v)					
(a)	1.5	1.7	1.3	1.4	1.2
(i) Bank advances	504.3	492.3	493.0	674.3	604.5
(a)	1.3	1.1	1.0	1.1	0.9
(b)	84.4	68.0	77.5	81.2	75.4
(ii) Loans from other financial institutions	40.1	52.9	44.7	44.2	79.4
(a)	0.1	0.1	0.1	0.1	0.1
(b)	6.7	7.3	7.0	5.3	9.9
(iii) Loans & advances from Government	75.1	132.5	65.9	21.4	60.3
(a)	0.2	0.3	0.1	neg.	0.1
(b)	12.6	18.3	10.4	2.6	7.5
(iv) Loans & advances from co-operative non-credit societies	(-)24.6	19.2	10.6	36.3	26.4
(a)	(-)0.1	0.1	neg.	0.1	0.1
(b)	(-)4.1	2.6	1.7	4.4	3.3
(v) Other liabilities	2.4	27.4	21.7	54.5	30.8
(a)	neg.	0.1	0.1	0.1	neg.
(b)	0.4	3.8	3.4	6.6	3.8
C. Saving (net) of the household sector in financial assets	1487.2	1623.3	2368.3	2800.8	2600.7
(A-B)					
(a)	3.7	3.7	5.0	4.8	3.7

Contd.

STATISTICAL ANNEXURE – 30 (CONTD.)
Saving of the Household Sector in the Form of Financial Assets
(at current prices)

(Rupees, Crores)

Instruments	1976-76	1976-77	1977-78@	1978-79@	1979-80@
A. Saving (gross) of the household sector in financial assets	4994.3	6905.1	7112.6	9285.9	9559.0
(i) to (x)					
(a)	6.7	8.5	7.9	9.5	8.8
(i) Currency	341.9	1139.8	703.3	1524.7	1398.0
(a)	0.4	1.4	0.8	1.6	1.3
(b)	6.9	16.5	9.9	16.4	14.6
(ii) Deposits	2129.4	3306.8	3520.9	4620.0	4479.0
(a)	2.9	4.1	3.9	4.7	4.1
(b)	42.6	47.9	49.5	49.5	46.8
Of which:					
Bank deposits	1901	2813	3187	4016	3918
(a)	2.6	3.5	3.5	4.1	3.6
(b)	38.1	40.7	44.8	43.2	40.9
(iii) Loans to companies	129.7	113.5	179.5	(-)69.1	201.0
(a)	0.2	0.1	0.2	(-)0.1	0.2
(b)	2.6	1.6	2.5	(-)0.7	2.1
(iv) Life insurance fund	422.2	524.1	591.7	679.6	765.0
(a)	0.5	0.6	0.6	0.7	0.7
(b)	8.5	7.6	8.3	7.3	8.0
(v) Provident fund	1079.6	1171.6	1315.8	1593.2	1875.0
(a)	1.5	1.5	1.5	1.6	1.7
(b)	21.6	17.0	18.5	17.2	19.6
(vi) Claims on Government	832.3	632.3	325.1	216.2	304.0
(a)	1.1	0.8	0.4	0.2	0.3
(b)	16.7	9.2	4.6	2.3	3.2
(vii) Corporate (private non-financial) & co-operative securities	38.4	(-)13.2	199.7	242.4	211.0
(a)	0.1	neg.	0.2	0.3	0.2
(b)	0.8	(-)0.2	2.8	2.6	2.2
(viii) Securities of term lending and other financial institutions	4.9	7.9	1.0	1.2	1.0
(a)	neg.	neg.	neg.	neg.	neg.
(b)	0.1	0.1	neg.	neg.	neg.
(ix) Units of U.T.I.	15.9	20.2	34.0	77.9	55.0
(a)	neg.	neg.	neg.	0.1	0.1
(b)	0.3	0.3	0.5	0.8	0.6

STATISTICAL ANNEXURE – 30 (CONTD.)
Saving of the Household Sector in the Form of Financial Assets
(at current prices)

(Rupees, Crores)

Instruments	1975-76	1976-77	1977-78@	1978-79@	1979-80@
(x) Other assets	neg.	2.1	241.6	399.8	270.0
(a)	neg.	neg.	0.2	0.4	0.2
(b)	neg.	neg.	3.4	4.3	2.8
B. Financial liabilities of the household sector	1178.1	1710.3	1669.5	2343.9	2762.0
(i) to (v)					
(a)	1.6	2.1	1.8	2.4	2.5
(i) Bank advances	938.5	1231.9	1480.6	2094.4	2490.0
(a)	1.3	1.5	1.6	2.1	2.3
(b)	79.7	72.0	88.7	89.3	90.2
(ii) Loans from other financial institutions	79.9	86.8	76.9	78.8	95.0
(a)	0.1	0.1	0.1	0.1	0.1
(b)	6.8	5.1	4.6	3.4	3.4
(iii) Loans & advances from Government	20.4	118.1	95.3	154.8	155.0
(a)	neg.	0.2	0.1	0.2	0.1
(b)	1.7	6.9	5.7	6.6	5.6
(iv) Loans & advances from co-operative non-credit societies	24.9	19.0	10.2	15.9	17.0
(a)	neg.	neg.	neg.	neg.	neg.
(b)	2.1	1.1	0.6	0.7	0.6
(v) Other liabilities	114.4	254.5	6.5	neg.	5.0
(a)	0.2	0.3	neg.	neg.	neg.
(b)	9.7	14.9	0.4	neg.	0.2
C. Saving (net) of the household sector in financial assets	3816.2	5194.8	5443.1	6942.0	6797.0
(A-B)					
(a)	5.1	6.4	6.1	7.1	6.3

(a) Percentage to G.D.P. at market prices.

(b) Percentage to financial assets/liabilities.

@ Provisional.

Source : Reserve Bank of India.

STATISTICAL ANNEXURE – 31**Rate of Household Saving, 1960-61 to 1978-79****(at current prices)***(Rupees, Crores)*

Year	Personal disposable income	Household net saving	Saving as percentage of personal disposable income col. (3) col. (2)
1	2	3	4
1960-61	12720	901	7.1
1961-62	13393	783	5.8
1962-63	14081	955	7.1
1963-64	16015	1137	7.1
1964-65	19095	1307	6.8
1965-66	19805	1871	9.4
1966-67	23094	2598	11.2
1967-68	27350	2514	9.2
1968-69	27795	2412	8.7
1969-70	30553	3337	10.9
1970-71	33062	3539	10.7
1971-72	35273	4051	11.5
1972-73	39179	4109	10.5
1973-74	49086	6807	13.9
1974-75	57145	6384	11.2
1975-76	60142	7948	13.2
1976-77	64724	9820	15.2
1977-78	73894	11146	15.1
1978-79	79296	13815	17.4

STATISTICAL ANNEXURE – 32

Inflow(+)/Outflow(-) of foreign resources

(Rupees, Crores)

Year	at current prices		
	Gross domestic saving	Inflow/outflow of foreign capital	Capital formation (gross)
1950-51	975	(-) 21 (-)(0.2)	954
1951-52	1005	183 (1.8)	1188
1952-53	806	(-) 34 (-)(0.3)	772
1953-54	922	(-) 13 (-)(0.1)	909
1954-55	1054	16 (0.2)	1070
1955-56	1430	39 (0.4)	1469
1956-57	1599	360 (3.0)	1959
1957-58	1370	473 (3.9)	1843
1958-59	1409	376 (2.8)	1785
1959-60	1765	231 (1.7)	1996
1960-61	2063	481 (3.2)	2544
1961-62	2093	345 (2.2)	2438
1962-63	2476	440 (2.6)	2916
1963-64	2826	440 (2.2)	3266
1964-65	3135	600 (2.6)	3735
1965-66	3791	599 (2.5)	4390
1966-67	4514	923 (3.3)	5437
1967-68	4497	837 (2.6)	5334

Contd. . .

STATISTICAL ANNEXURE – 32 (CONTD.)

Inflow(+)/Outflow(-) of foreign resources

(Rupees, Crores)

Year	at current prices		
	Gross domestic saving	Inflow/outflow of foreign capital	Capital formation (gross)
1968-69	4697	416 (1.3)	5113
1969-70	6044	241 (0.7)	6285
1970-71	6783	394 (1.0)	7177
1971-72	7498	478 (1.1)	7976
1972-73	7769	297 (0.6)	8066
1973-74	11392	392 (0.7)	11784
1974-75	12653	653 (0.9)	13306
1975-76	14842	(-)117 (-)(0.2)	14725
1976-77	17738	(-)1309 (-)(1.6)	16429
1977-78	19498	(-)1465 (-)(1.6)	18033
1978-79	23376	(-)235 (-)(0.2)	23141
1979-80	23055	563 (0.5)	23618

Figures in brackets are proportions to GDP at current market prices

STATISTICAL ANNEXURE – 33

Ownership of bank deposits by type and economic sectors :

1961 to 1978

(Rupees, Crores)

Sector	Current				Savings			
	1961	1971	1976	1978	1961	1971	1976	1978
1	2	3	4	5	6	7	8	9
1. Government Sector	76 (12.4)	366 (24.3)	771 (27.7)	1409 (35.9)	— —	— —	— —	290 (5.2)
2. Corporate Sector (including Co-operatives)	178 (28.9)	284 (18.8)	451 (16.2)	499 (12.7)	— —	— —	— —	12 (0.2)
3. Household Sector	361 (58.7)	857 (56.8)	1560 (56.1)	2017 (51.4)	284 (100.0)	1541 (100.0)	3605 (100.0)	5293 (94.6)
(a) Individuals and professionals	146 (23.7)	362 (24.0)	771 (27.7)	679 (17.3)	276 (97.2)	1498 (97.2)	3567 (99.0)	4999 (85.3)
(b) Non-corporate business and partnerships	206 (33.5)	495 (32.8)	790 (28.4)	1338 (34.1)	— —	— —	— —	294 (5.3)
(c) Non-corporate business, partnerships, temples, charitable foundations, educational institutions, etc.	9 (1.5)	—	—	—	8 (2.8)	43 (2.8)	38 (1.1)	— —
TOTAL (1+2+3)	615	1508	2782	3926	284	1541	3605	5595

Contd. . .

STATISTICAL ANNEXURE – 33 (CONTD.)

**Ownership of bank deposits by type and economic sectors :
1961 to 1978**

(Rupees, Crores)

Sector	Fixed				Total			
	1961	1971	1976	1978	1961	1971	1976	1978
	10	11	12	13	14	15	16	17
1. Government Sector	115 (14.4)	511 (16.6)	1314 (16.5)	2085 (17.4)	191 (11.3)	877 (14.3)	2085 (14.5)	3784 (17.6)
2. Corporate Sector (including Co-operatives)	159 (20.0)	193 (6.2)	668 (8.4)	474 (4.0)	377 (19.9)	477 (7.8)	1118 (7.8)	985 (4.6)
3. Household Sector	522 (65.6)	2371 (77.1)	5988 (75.1)	9407 (78.6)	1167 (68.8)	4769 (77.9)	11154 (77.7)	16717 (77.8)
(a) Individuals and professionals	388 (48.7)	1734 (56.4)	5270 (66.1)	8261 (69.0)	810 (47.8)	3594 (58.7)	9608 (66.9)	13939 (64.9)
(b) Non-corporate business and partnerships	131 (16.5)	637 (20.7)			337 (19.9)	1132 (18.5)		
(c) Non-corporate business, partnerships, temples, charitable foundations, educational institutions, etc.	3 (0.4)	— —	718 (9.0)	1146 (9.6)	20 (1.2)	43 (0.7)	545 (10.8)	2778 (12.9)
TOTAL (1+2+3)	796	3076	7969	11966	1695	6125	14357	21487

@ Includes 'others' referring to staff security deposits, margin deposits, staff provident deposits, etc. for 1976, while for other years the same have been classified into current or term deposits depending on their nature.

Figures in brackets are percentages to total.

Source : Reserve Bank of India.

STATISTICAL ANNEXURE – 34

Commercial Bank Deposits Pattern of Ownership (Disaggregated)

(1976 and 1978)

(Rupees, Crores)

Item	March 1976	March 1978 (Provisional)
I. Government Sector	2085.0 (14.5)	3784.3 (17.6)
II. Corporate Sector	1118.1 (7.8)	985.4 (4.6)
III. Other Institutions	1545.1 (10.8)	2778.2 (12.9)
(1) Non-credit co-operative institutions	32.4 (0.2)	97.9 (0.5)
(2) Unincorporated Concerns	636.5 (4.4)	1168.1 (5.4)
(3) Trusts, Associations etc.	241.9 (1.7)	475.1 (2.2)
(4) Others	636.3 (4.5)	1037.1 (4.8)
IV. Individuals including <i>Hindu Undivided Families</i>	9608.3 (66.9)	13939.0 (64.9)
(1) Farmers	769.9 (5.4)	1555.8 (7.3)
(2) Wage & Salary earners	2142.5 (14.9)	3724.9 (17.3)
(3) Professionals & Self-employed persons	847.5 (5.9)	1757.3 (8.2)
(4) Others (including unclassified)	5848.3 (40.7)	6900.9 (32.1)
V. Total (I+II+III+IV)	14356.5	21486.9

Figures in Brackets are percentages to total

Source: Reserve Bank of India

**List of Members of Sub-Groups and
Other Persons Associated With the Working Group**

A. Sub-Groups and Their Membership

Sub-Group	Subject to be dealt with	Composition of the Sub-group
I.	Concepts of 'consumption of fixed capital' and 'capital destruction' recommended in <i>SNA</i> and adopted for measurement. Relevance of concept of <i>real</i> rate of saving and <i>current</i> rate of saving, and the price series to be adopted for the purpose.	1) Dr. A.K. Ghosh, Chairman, Bureau of Industrial Costs and Prices, Lok Nayak Bhavan, New Delhi-110 003. Chairman 2) Prof. M. Mukherjee, Member Honorary Professor, Indian Statistical Institute, 9-G, Gobindpur Road, Calcutta-700 045. 3) Shri R.P. Katyal, Convenor Deputy Director, Central Statistical Organisation, New Delhi-110 001. Special Invitees 1) Dr. A. Bagchi (National Institute of Public Finance and Policy) 2) Mrs. Uma Roy Choudhury (CSO)
II.	Public Sector and Corporate Sector Savings	1) Dr. R.J. Chelliah, Chairman Director, National Institute of Public Finance and Policy, 18/2, New Institutional Area, New Delhi-110 067. 2) Dr. Mahfooz Ahmed, Member Economic Adviser, Ministry of Finance, North Block, New Delhi-110 001. 3) Shri M.V. Raghavachari, Member Deputy Director, Division of Fiscal Analysis, Department of Economic

Sub-Group	Subject to be dealt with	Composition of the Sub-group
		Analysis and Policy, Reserve Bank of India, P.B. No. 1036, Bombay-400 001. 4) Shri L.N. Rastogi, Officer on Special Duty, Central Statistical Organisation, New Delhi-110 001. Convenor Special Invitees 1) Dr. K.C. Seal (CSO) 2) Dr. K.N. Reddy, (National Institute of Public Finance & Policy) 3) Shri M.P. Aggarwal, (Ministry of Finance) 4) Shri S.V. Pimparkar (CSO) 5) Shri M.R. Bhatnagar (CSO) 6) Shri S.C. Luthra (CSO)

Sub-Group	Subject to be dealt with	Composition of the Sub-group
III.	Investment in Housing and Construction in the Household Sector	1) Dr. A. Bagchi, RBI Professor, National Institute of Public Finance and Policy, 18/2, New Institutional Area, New Delhi-110 067. Chairman 2) Shri T.R. Venkatachalam, Director, Credit Planning Cell, Reserve Bank of India, Bombay-400 001. Member 3) Shri G.C. Mathur, Director, National Buildings Organisation, G Wing, Nirman Bhavan, New Delhi-110 011. Member 4) Shri D.N. Chaturvedi, Assistant Director, Central Statistical Organisation, New Delhi-110 001. Convenor Special Invitees 1) Dr. K.C. Seal (CSO) 2) Mrs. Uma Roy Choudhury (CSO) 3) Shri R.R. Bagga (NBO)
IV.	Investment and Saving of Unincorporated Enterprises Particularly in Manufacturing and Trade.	1) Dr. I.Z. Bhatti, Director General, National Council of Applied Economic Research, 11, Indraprastha Estate, New Delhi-110 002. Chairman 2) Dr. H.C. Bhatt, Director, Division of Industrial Studies, Department of Economic Analysis and Policy, Reserve Bank of India, P.B. No. 1036, Bombay-400 001. Member

Sub-Group	Subject to be dealt with	Composition of the Sub-group
		3) Smt. Grace Majumdar, Officer on Special Duty, Central Statistical Organisation, New Delhi-110 001. Convenor Special Invitees 1) Dr. K.C. Seal (CSO) 2) Shri D.M. Chaturvedi (CSO)
V.	Financial Savings of the Household Sector	1) Shri D.R. Gupta, Adviser, Planning Commission, New Delhi-110 001. Chairman 2) Dr. S.P. Gupta, Adviser, Planning Commission, New Delhi-110 001. Member 3) Dr. N.A. Mujumdar, Adviser, Department of Economic Analysis and Policy, Reserve Bank of India, P.B. No. 1036, Bombay-400 001. Member 4) Shri S.V. Pimparkar, Deputy Director, Central Statistical Organisation, New Delhi-110 001. Convenor Special Invitees 1) Dr. K.C. Seal (CSO) 2) Mrs. Uma Roy Choudhury (CSO) 3) Dr. A. Bagchi (National Institute of Public Finance and Policy) 4) Dr. Ram N. Lal (Planning Commission) 5) Shri A.K. Sarkar (Planning Commission) 6) Shri C.P. Malhotra (Planning Commission)

Sub-Group	Subject to be dealt with	Composition of the Sub-group
VI.	Change in the deposit holdings of households, unincorporated enterprises (i.e., partnerships) etc., inventories held in the household sector; and the rest of the world account (covering in particular the unilateral transfers from migrants) in the context of saving measurement.	1) Prof. K.N. Raj, Centre for Development Studies, Ulloor, Trivandrum-695 011. Chairman 2) Shri D.R. Gupta, Adviser, Planning Commission, New Delhi-110 001. Member 3) Dr. D.C. Rao, Special Adviser, Reserve Bank of India, Bombay-400 001. Member 4) Dr. N.A. Mujumdar, Adviser, Department of Economic Analysis and Policy, Reserve Bank of India, P.B. No. 1036, Bombay-400 001. Member 5) Mrs. Uma Roy Choudhury, Additional Director, Central Statistical Organisation, New Delhi-110 001. Convenor Special Invitee 1) Dr. S.L. Shetty (RBI)

**B. List of Members of Staff of CSO, RBI, and CDS
Who Worked for the Working Group**

Central Statistical Organisation (CSO), New Delhi

- | | | |
|----|----------------------|-------------------------|
| 1. | Shri L.N. Rastogi | Officer on Special Duty |
| 2. | Shri S.V. Pimparkar | Deputy Director |
| 3. | Shri R.N. Khera | Assistant Director |
| 4. | Smt. Hitesh Malhotra | Senior Investigator |
| 5. | Shri Girish Chandra | Senior Investigator |
| 6. | Shri B.K. Gupta | Senior Investigator |

Reserve Bank of India (RBI), Bombay

(Department of Economic Analysis and Policy)

- | | | |
|----|--------------------|--------------------|
| 1. | Shri K.A. Menon | Staff Officer |
| 2. | Shri S.L. Narayana | Economic Assistant |
| 3. | Smt. U.R. Vaidya | Economic Assistant |
| 4. | Shri V.L. Sarate | Economic Assistant |
| 5. | Shri B.R. Jagtap | Clerk Grade I |

Centre for Development Studies (CDS), Trivandrum

- | | | |
|----|-------------------------|--------------------|
| 1. | Shri Ashoka Mody | Research Associate |
| 2. | Shri N. Suresh Chandran | Staff Member |