

New Series Of National Accounts **(BASE: 1993-94) : A NOTE***

After a comprehensive review of both the data base and the methodology used in the estimation of various aggregates, the Central Statistical Organisation (CSO) has introduced, in February 1999, a new series of national accounts. The new series, which has 1993-94 as the base year, replaces the earlier series with 1980-81 as the base year. This note briefly analyses the changes effected in the new series and their implications on selected macro ratios.

The note is organised as follows: The overall and sectoral trends in the macro aggregates, such as Gross Domestic Product (GDP), Savings and Investment, as per both old and new series are analysed in Section I. Certain macro ratios, which are widely used, are computed and their implications are noted in Section II. A summary of the Quick Estimates for 1997-98 as well as Advance Estimates for 1998-99 is set out in Section III.

I. TRENDS IN THE AGGREGATES AS PER OLD AND NEW SERIES

A comparative study of the trend in the aggregates according to the old and new series for the period 1993-94 through 1996-97 is presented in this section. Details of relevant macro aggregates are set out in Statements 1 to 5 and are also presented in Graphs I to XII.

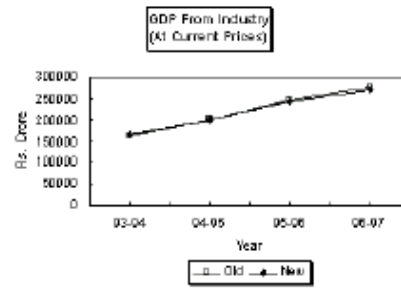
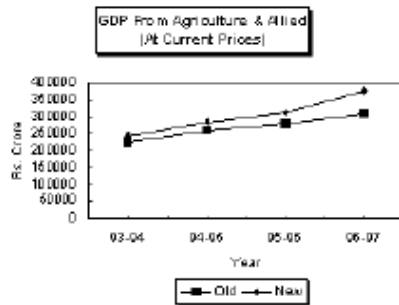
GDP: Overall and Sectoral

At Current Prices

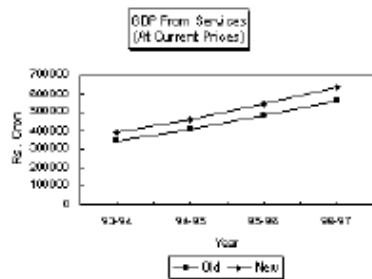
Between 1993-94 and 1996-97, GDP at factor cost and at current prices, as per the old series, had gone up by 16.2 per cent per annum from Rs.7,32,874 crore to Rs.11,49,215 crore (Statement 1). As per the new series, however, the rate of growth worked out to 17.2 per cent, the increase being from Rs.7,99,077 crore to Rs.12,85,259 crore during the same period. The increase in the quantum of GDP and in the rate of growth under the new series is attributable, *inter alia*, to the inclusion of a few activities, which were hitherto not covered, under the purview of production boundary. During the same period, sector-wise, the rate of growth for 'agriculture and allied activities' at 15.8 per cent under the new series was higher than that under the old series (11.5 per cent), while the growth rate for 'services' had remained at 17.6 per cent under both the series. 'Industry', however, registered a low rate of growth of 18.1 per cent under the new series as compared with 19.1 per cent in the old series. Furthermore, there was a scale effect in the case of 'services' (i.e., the new GDP from services sector exhibits roughly a parallel shift from its old counterpart), but, for 'agriculture and allied activities', the difference between the old and the new series had been divergent (Graph I to IV).

Graph I

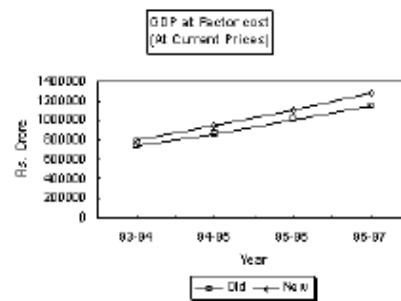
Graph II



Graph III



Graph IV



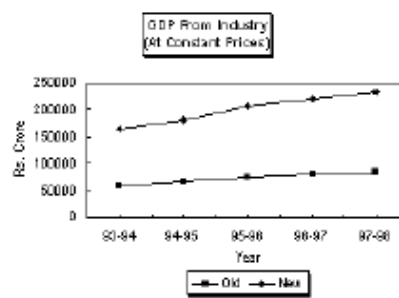
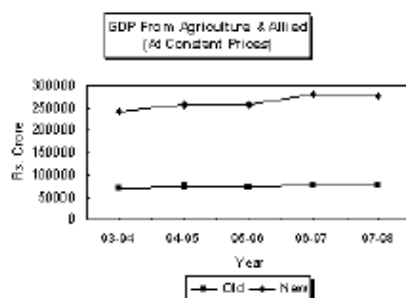
At Constant Prices

At constant prices, GDP at factor cost in the old series (base: 1980-81) rose from Rs.2,39,145 crore in 1993-94 to Rs.3,11,887 crore in 1997-98 at an annual compounded rate of 6.9 per cent (Statement 2). In the new series (base: 1993-94), the real GDP at factor cost had increased from Rs.7,99,077 crore to Rs.10,49,191 crore during the same period at an annual compounded rate of 7.0 per cent. The growth rates over the period were, thus, almost the same. The new GDP numbers, however are nearly three times the old GDP numbers (Graphs V to VIII).

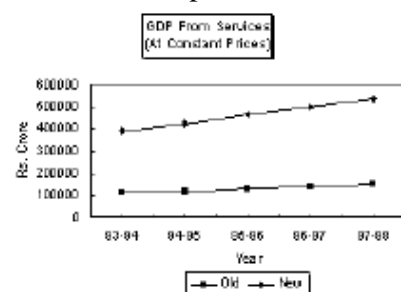
Sectoral and annual growth rates of real GDP under the two series for the common years present certain interesting features (Table 1 and Graphs IX to XII). The rate of growth in real GDP in 1994-95 remains at 7.8 per cent under both the series. It is higher in the new series than in the old series for 1995-96 and 1996-97. The growth rate for 1997-98 given by CSO as revised estimate in July 1998 is marginally higher (as per the old series) than that as per the new series. Sector-wise, in respect of 'agriculture and allied activities', the new series presents a better picture than the old series for all the years (1994-95 to 1997-98), but in respect of the industrial sector, such a position obtains only for three years, viz., 1995-96 to 1997-98.

Graph V

Graph VI



Graph VII



Graph VIII

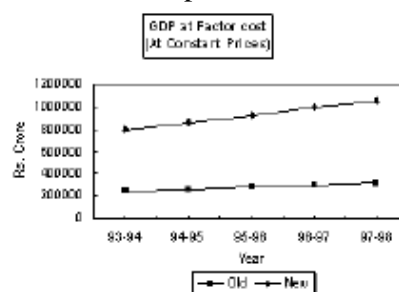


TABLE 1 : COMPARISON OF GROWTH RATES OF REAL GDP

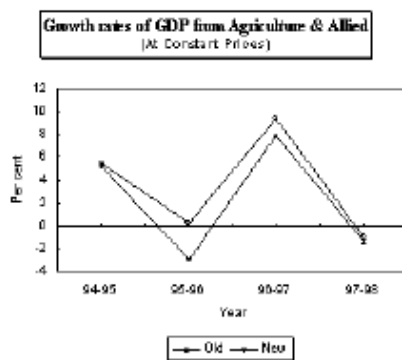
Sectors	(Per cent)							
	1994-95		1995-96		1996-97		1997-98	
	New	Old	New	Old	New	Old	New	Old
1. Agriculture and allied activities	5.4	5.1	0.2	-3.0	9.4	7.9	-1.0	-1.5
1.1 Agriculture	5.3	5.2	-0.1	-3.4	9.6	8.2	-1.3	
1.2 Forestry and logging	4.3	1.8	1.5	-0.2	3.5	0.2	3.5	n.a.
1.3 Fishing	8.1	6.7	6.5	6.2	10.3	7.2	1.6	
2. Industry	10.3	11.2	13.2	12.9	6.7	6.6	6.3	5.8
2.1 Mining and quarrying	9.2	5.9	7.4	8.4	1.2	-0.3	2.7	4.0
2.2 Manufacturing	10.6	11.9	15.0	14.0	7.7	7.4	6.8	5.8
2.3 Electricity, gas and water supply	9.3	9.4	6.7	7.3	5.7	5.0	6.6	6.6
3. Services	8.2	7.6	9.6	10.3	7.5	7.8	7.8	8.3
3.1 Construction	5.3	6.2	8.2	9.7	2.9	5.2	4.1	3.6
3.2 Trade, hotel and restaurants	14.9	12.0	12.8	15.4	8.4	8.4	5.4	
3.3 Transport, storage & communication	8.8	7.9	9.0	8.3	9.0	9.2	6.5	5.2
3.4 Financing, insurance, real estates and business services	5.6	7.2	8.3	9.7	7.9	8.7	8.4	9.7
3.5 Community, social and personal services	3.4	3.3	7.8	6.0	6.7	6.4	13.3	14.5

4. GDP at factor cost

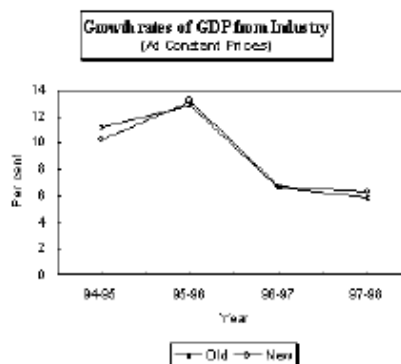
7.8 7.8 7.6 7.2 7.8 7.5 5.0 5.1

New : Estimates with base 1993-94, Old : Estimates with base 1980-81, n.a. : Not available

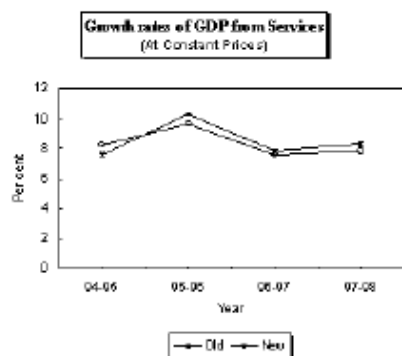
Graph IX



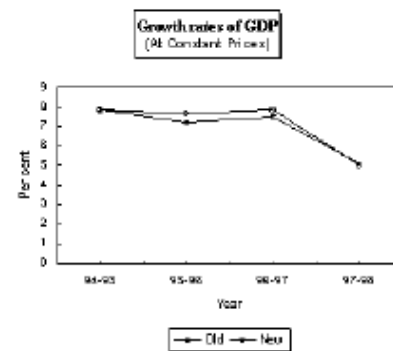
Graph X



Graph XI



Graph XII



Trend Rate of Growth

The trend growth rates, as estimated with a log linear function for the period 1993-94 to 1997-98 remain almost the same under both the series ([Table 2](#)).

For the new series, the rate of growth in GDP for the period works out to 7.2 per cent which is slightly higher than that for the old series (7.0 per cent). Sector-wise, the trend growth rate of GDP originating in 'agriculture and allied activities' at 3.7 per cent is significantly higher than that under the old series (2.1 per cent). While the trend growth rates for GDP from 'industry' are the same, that of services is marginally lower under the new series.

TABLE 2 : TREND GROWTH RATES IN REAL GDP AND ITS SECTORAL COMPONENTS: OLD AND NEW SERIES (1993-94 TO 1997-98)

	(Per cent)	
	Old	New
1. Agriculture & allied activities	2.1	3.7

2. Industry	9.2	9.2
a) Mining and quarrying	4.4	4.9
b) Manufacturing	9.9	10.2
c) Electricity, gas & water supply	6.9	6.9
3. Services	8.6	8.3
a) Construction	6.4	5.2
b) Trade, transport & communication	9.7	9.7
c) Finance & business services	8.9	7.7
d) Community & personal services	7.2	7.6
4. GDP at factor cost at constant prices	7.0	7.2

Old : with base 1980-81, New : with base 1993-94.

Note : Trend Growth rates are derived from a log-linear equation of the form: $\text{Ln}(x) = a + bt$; where x is the concerned GDP or sectoral GDP and t is the time trend.

Sectoral Composition of GDP

The sectoral composition has undergone some changes as a result of the revision in the base year ([Table 3](#)). Under both the series, 'services' continues to account for a larger share in GDP during 1994-95 to 1997-98. Under the new series, however, the relative shares of 'services' and agriculture and allied activities' in GDP have moved up while that of 'industry' has moved downward.

Savings

In absolute terms, savings have remained unaffected (except for the normal process of updation) by the change in the base year. However, the rates of saving have undergone notable changes due to the revision in GDP at current market prices (Statement 3 and [Table 4](#)). As the extent of upward revision in GDP at current market prices is more than that in the Gross Domestic Saving (GDS), the rate of GDS has persistently declined under the new base as compared with that under the old base.

TABLE 3 : SECTORAL DISTRIBUTION OF REAL GDP

Sectors	(Per cent)							
	1994-95		1995-96		1996-97		1997-98	
	New	Old	New	Old	New	Old	New	Old
1. Agriculture and allied activities	29.7	28.8	27.6	26.0	28.0	26.1	26.4	24.5
1.1 Agriculture	27.3	26.9	25.3	24.2	25.8	24.4	24.2	
1.2 Forestry and logging	1.2	1.1	1.2	1.1	1.1	1.0	1.1	n.a.
1.3 Fishing	1.1	0.8	1.1	0.8	1.2	0.8	1.1	
2. Industry	21.2	25.6	22.3	27.0	22.0	26.7	22.3	26.9
2.1 Mining and quarrying	2.5	1.8	2.5	1.9	2.3	1.7	2.3	1.7

2.2	Manufacturing	16.3	21.2	17.4	22.5	17.4	22.5	17.6	22.7
2.3	Electricity, gas and water supply	2.4	2.6	2.4	2.6	2.3	2.5	2.4	2.6
3.	Services	49.1	45.6	50.1	47.0	49.9	47.1	51.2	48.6
3.1	Construction	4.9	4.3	5.0	4.4	4.7	4.3	4.7	4.3
3.2	Trade, hotel and restaurants	14.8	13.4	15.5	14.5	15.6	14.6	15.7	
3.3	Transport, storage & communication	7.3	5.5	7.4	5.5	7.5	5.6	7.6	20.2
3.4	Financing, insurance, real estates and business services	11.0	11.7	11.1	12.0	11.1	12.1	11.4	12.7
3.5	Community, social and personal services	11.1	10.7	11.1	10.6	11.0	10.4	11.9	11.4
	TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

New : Estimates with base 1993-94, *Old* : Estimates with base 1980-81,

n.a. : Not available

TABLE 4 : SAVING RATES UNDER OLD AND NEW SERIES

		(Per cent of GDP at current market prices)							
Items	1993-94		1994-95		1995-96		1996-97		
	New	Old	New	Old	New	Old	New	Old	
1.	Gross Domestic Saving	21.8	22.7	24.2	25.6	24.1	25.3	24.4	26.1
	1.1. Public Sector	0.5	0.6	1.5	1.8	1.9	2.3	1.5	1.9
	1.2. Private Corporate Sector	3.4	3.6	3.4	3.5	4.8	4.2	4.1	3.9
	1.3 Household Sector	17.9	18.5	19.3	20.3	17.4	18.8	18.8	20.3
	a) Financial Saving	10.8	11.7	11.6	11.3	8.2	8.6	9.8	10.7
	b) Physical Saving	7.1	6.8	7.7	9.0	9.3	10.3	9.0	9.6

Investment

Trends in the rates of capital formation at current market prices during 1993-94 to 1996-97 exhibit a few interesting features (Statement 4 and [Table 5](#)). Under the new series, the rate of Gross Domestic Capital Formation (GDGF), which is adjusted for errors and omissions, has been consistently low as compared with the old series. The rate of Gross Capital Formation (GCF) under the new series follows the same pattern as of GDGF.

The rates of GCF for both the public sector and the private corporate sector are higher under the old series for all the years. The rate of GCF for households moved along with the rate for overall GCF except for 1993-94. Errors and omissions are high in the new series as compared with the old series except for 1993-94. Trend in GCF at constant prices reveals that the rates are higher under the old series, except for 1993-94 (Statement 5).

TABLE 5: INVESTMENT RATES UNDER OLD AND NEW SERIES

		(Per cent of GDP at current market prices)			
Items	1993-94		1994-95		
	New	Old	New	Old	

	New	Old	New	Old	New	Old	New	Old
1. Gross Domestic Capital Formation	22.4	23.3	25.4	26.9	25.8	27.1	25.7	27.3
2. Gross Capital Formation	20.8	21.3	22.9	25.1	25.6	27.3	23.1	25.2
2.1 Public Sector	8.1	8.6	8.5	9.0	7.4	7.9	6.7	7.4
2.2 Private Corporate Sector	5.6	5.9	6.7	7.1	9.0	9.1	7.5	8.2
2.3 Household Sector	7.1	6.8	7.7	9.0	9.3	10.3	9.0	9.6
3. Errors and Omissions	1.6	2.0	2.4	1.8	0.2	-0.1	2.5	2.1

Note : All Investment figures are in current prices.

II. IMPLICATIONS OF CHANGES IN GDP SERIES FOR MAJOR MACRO RATIOS

Under the new series, GDP at current market prices has moved up. As this variable is the denominator in the computation of key macroeconomic indicators, all the ratios under view here have undergone downward revision (Statement 6 and Graphs XIII to XVIII). The direction of trend has remained unaffected notwithstanding the changes in the rates.

In respect of Government finances, the gross fiscal deficit to GDP ratio moves down as a result of the use of the new series. Simultaneously, there would be a decline in the total revenue and tax revenue (including those for direct and indirect taxes) to GDP ratios, as well as in the interest payments to GDP ratio.

On the external front, a significant downward revision in external debt to GDP ratio is observed in 1993-94 and 1996-97.

III. QUICK ESTIMATES FOR 1997-98 AND ADVANCE ESTIMATES FOR 1998-99

Real GDP and its Sectoral Composition

(a) Quick Estimates, 1997-98

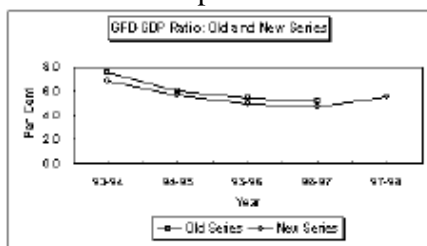
According to the Quick Estimates, GDP at factor cost (at 1993-94 prices) in 1997-98 had registered a growth of 5.0 per cent as compared with a higher rate of 7.8 per cent in 1996-97 ([Table 6](#)). The deceleration in 1997-98, is attributable mainly to the negative growth rate in 'agriculture and allied activities' and lower growth in 'industry', notwithstanding the improvement in the rate of growth in the 'services' sector. Real national income (i.e., Net National Product at factor cost) was also lower at 4.8 per cent in 1997-98 as against 8.2 per cent in 1996-97. Per capita income recorded an increase of 3.0 per cent as compared with 6.3 per cent, during the same years. The growth in Net Domestic Product (at 1993-94 prices) has moved down from 7.8 per cent in 1996-97 to 4.7 per cent in 1997-98.

TABLE 6 : GROWTH RATES AND SECTORAL COMPOSITION OF GDP

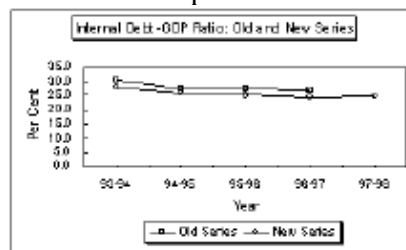
(Per cent)

Sector	Growth Rate			Sectoral Shares		
	1996-97 (Provisional Estimates)	1997-98 (Quick Estimates)	1998-99 (Advance Estimates)	1996-97 (Provisional Estimates)	1997-98 (Quick Estimates)	1998-99 (Advance Estimates)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Agriculture and allied activities	9.4	(-1.0)	5.3	28.0	26.4	26.3
Industry (excluding Construction)	6.7	6.3	5.2	22.0	22.3	22.2
Services (including Construction)	7.5	7.8	6.3	50.0	51.3	51.5
GROSS DOMESTIC PRODUCT	7.8	5.0	5.8	100.0	100.0	100.0

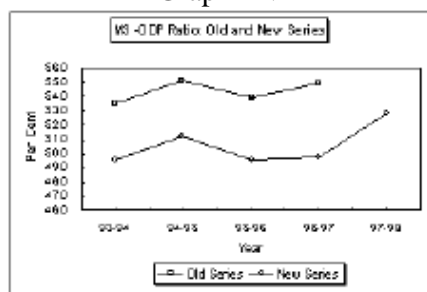
Graph XIII



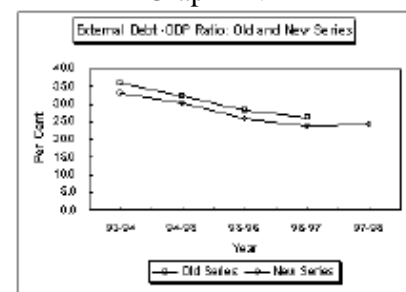
Graph XIV



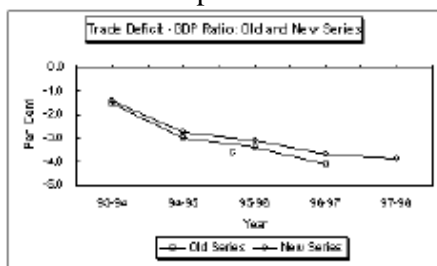
Graph XV



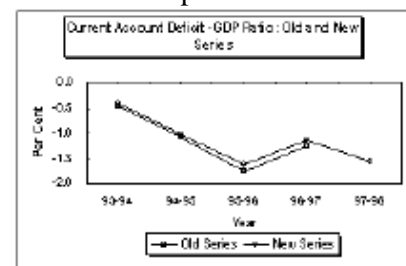
Graph XVI



Graph XVII



Graph XVIII



A sector-wise analysis of growth in real GDP during 1997-98 brings out the following salient features:

- There was a sharp fall in the growth of GDP from 'agriculture and allied activities'; the rate of growth turned from a positive of 9.4 per cent in 1996-97 to a negative of 1.0 per cent, mainly on account of a steep decline in the production of wheat, coarse

cereals, pulses, oilseeds and cotton during 1997-98 as compared with the previous year.

- The sectors, which recorded higher growth rates during 1997-98 as compared with the previous year, were 'mining and quarrying' (from 1.2 per cent to 2.7 per cent), 'electricity, gas and water supply' (from 5.7 per cent to 6.6 per cent), 'construction' (from 2.9 per cent to 4.1 per cent), 'financing, insurance, real estate and business services' (from 7.9 per cent to 8.4 per cent) and 'community, social and personal services' (from 6.7 per cent to 13.3 per cent).
- Notable deceleration was seen in the growth of 'manufacturing' (from 7.7 per cent to 6.8 per cent), 'trade, hotels and restaurants' (from 8.4 per cent to 5.4 per cent) and 'transport, storage and communication' (from 9.0 per cent to 6.5 per cent).

(b) *Advance Estimates, 1998-99*

The growth rate of real GDP in 1998-99 is estimated to have increased by 5.8 per cent, as compared with 5.0 per cent in the earlier year. The improvement is expected to stem from an impressive performance of 'agriculture and allied activities' (from (-) 1.0 per cent to 5.3 per cent), which would more than compensate for the deceleration in the performance of 'industry' and 'services'.

Apart from 'agriculture and allied activities', the only other sector which would experience higher growth rate is 'trade, hotels, transport and communication' (from 5.7 per cent in 1997-98 to 6.8 per cent in 1998-99).

The sectors, which would have experienced deceleration in their growth rates in 1998-99 as compared with 1997-98, are the following: (a) manufacturing (from 6.8 per cent to 5.7 per cent), (b) mining and quarrying (from 2.7 per cent to 0.1 per cent), (c) electricity, gas and water supply (from 6.6 per cent to 6.3 per cent), (d) financing, insurance, real estate and business services (from 8.4 per cent to 7.7 per cent), (e) community, social and personal services (from 13.3 per cent to 5.8 per cent), and (f) construction (from 4.1 per cent to 2.3 per cent).

Other measures of real national and domestic product would have also shown high growth rates in 1998-99 as compared with that in 1997-98. The real National Income or Net National Income at factor cost (NNP) is estimated to show a growth rate of 5.7 per cent. Per capita income (per capita real NNP) is placed at Rs. 10,047 for 1998-99, showing an increase of 4.0 per cent over the earlier year.

Saving and Capital Formation

Aggregate Saving and Capital formation

There was a decline in the rate of Gross Domestic Saving (GDS) from 24.4 per cent of GDP at current market prices in 1996-97 to 23.1 per cent in 1997-98 ([Table 7](#)). The GDCF,

which is *adjusted* for errors and omissions, also registered a decline, from 25.7 per cent of GDP in 1996-97 to 24.8 per cent in 1997-98. Consequently, the gap in saving-GDCF had widened and was financed by a larger accretion of net inflow of resources from abroad. Gross Capital Formation (GCF, which is *unadjusted* for errors and omissions) had recorded a modest increase, from 23.1 per cent of GDP in 1996-97 to 23.4 per cent of GDP in 1997-98. 'Errors and omissions' had declined from 2.5 per cent in 1996-97 to 1.4 per cent in 1997-98.

Sectoral Saving and Capital formation

The decline in the rate of GDS in 1997-98 is attributable to decline in all the components of saving except household savings in financial assets, which had increased from 9.8 per cent of GDP in 1996-97 to 10.3 per cent of GDP in 1997-98. There was decline in the rates of saving in all the other components, *viz.*, household sector's physical saving, public sector saving and private corporate sector saving.

TABLE 7 : SAVING AND INVESTMENT RATES

Items	(as percentage of GDP at current market prices)	
	1996-97 (Provisional Estimates)	1997-98 (Quick Estimates)
(1)	(2)	(3)
1. Gross Domestic Saving (1.1 + 1.2 + 1.3)	24.4	23.1
1.1. Public Sector	1.5	1.0
1.2. Private Corporate Sector	4.1	3.8
1.3. Household Sector (a + b)	18.8	18.3
a) Financial Saving	9.8	10.3
b) Physical Saving	9.0	8.0
2. Gross Domestic Capital Formation (3 + 4)	25.7	24.8
3. Gross Capital Formation (3.1 + 3.2 + 3.3)	23.1	23.4
3.1 Public Sector	6.7	7.0
3.2 Private Corporate Sector	7.5	8.4
3.3 Household Sector	9.0	8.0
4. Errors and Omissions	2.5	1.4
5. Saving- Investment Gap (1-2)	(-) 1.2	(-) 1.7
3.1 Public Sector (1.1 - 3.1)	(-) 5.2	(-) 6.0
3.2 Private Corporate Sector (1.2 - 3.2)	(-) 3.4	(-) 4.6
3.3 Household Sector (1.3 - 3.3)	9.8	10.3

Note : Components may not add up to the totals due to rounding off.

* Prepared in the Division of National Income, Savings and Flow of Funds in the Department of Economic Analysis and Policy, based on the material made available by the Central Statistical Organisation.