REPORT OF

THE GROUP FOR EXAMINING DISCREPANCY IN PFCE ESTIMATES FROM NSSO CONSUMER EXPENDITURE DATA AND ESTIMATES COMPILED BY NATIONAL ACCOUNTS DIVISION

CENTRAL STATISTICAL ORGANISATION

MINISTRY OF STATISTICS & PROGRAMME IMPLEMENTATION

GOVERNMENT OF INDIA

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PREFACE

A meeting with the officers of PCL, CSO and Economic Advisor's Office, was held with Prof. S.D. Tendulkar, Chairman and Dr. Surjit S. Bhalla, Member NSC to discuss different issues relating to Price Statistics. While discussing the proposal to introduce CPI (Urban), CPI (Rural) and combined CPI, it was decided to use Consumer Expenditure Survey data to prepare weighting diagram. Some members raised doubts about the discrepancy in Private Final Consumption Expenditure estimates from the NSSO and National Accounts. In view of this, it was decided to constitute a Group to examine the issue of divergence in the two sets of estimates under the Chairpersonship of Dr. Savita Sharma, DDG, National Accounts Division, CSO. The composition of the Group was as follows:

1.	Dr. Savita Sharma, DDG (NAD)	Chairperson
2.	Shri Sanjay Kumar, Director, (PCL)	Member
3.	Sh. Prabir Choudhury, Director, SDRD, Kolkata	Member
4.	Sh. Janardan Yadav, Director NAD	Member -Secretary

2. The terms of reference of the group were the following:

(i). To examine the extent of discrepancy in PFCE estimate from NSSO Consumer Expenditure data and estimates compiled by National Accounts Division using commodity flow approach.

(ii). To ascertain reasons of discrepancy in the two sets of PFCE estimates.

3. The group held two meetings at the initial stages to chalk out the action plan. It was decided to use NSS consumer expenditure data of 55th (1999-00) and 61rst (2004-05) round and compare it with the NAS estimates. The detailed data from the reports mentioned below has been used for making concordance between the NSS and NAS items to facilitate comparison at the disaggregated level:

1. *Consumption of Some Important Commodities in India, 1999-2000 (NSS 55th Round, Report No. 461).*
2. *Household Consumption of Various Goods and Services in India, 2004-05 (NSS 61st Round, Report No. 509).*

4. It was also decided to use earlier study done by CSO on this subject. The earlier report analysed the data up to the year 1993-94. The committee has considered for examination the data now available for NSS quinquennial rounds conducted during 1999-2000 and 2004-05. Many of the causes of the difference in two sets of estimates are inherent in the methodology adopted for estimation by the two agencies which have

been discussed extensively in the earlier studies. The detailed item-wise comparison of the estimates on food and non-food consumption was taken up to identify the components mainly responsible for the divergence.

CHAPTER I
INTRODUCTION

1.1 In India, the private final consumption expenditure (PFCE) is generated from two sources. First, as a part of the National Accounts Statistics (NAS), the Central Statistical Organisation (CSO) compiles annually the estimates of private consumption. Secondly, the Household Consumer Expenditure Surveys (HCES) of the National Sample Survey Organisation (NSSO) yields the estimates of private consumption. The former is available as a macro estimate and a scalar for the nation as a whole while the latter estimates are available separately for different states in rural and urban areas, which can be aggregated to a national estimate. The estimates of private consumption from these two sources are different, primarily as these are derived from different approaches. The difference in two sets of estimates is obvious but the concern is the increase in the difference over the years. The data from two sources for the years from 1972-73 to 2004-05 shows that the difference has increased from 5 percent to 50 percent. Moreover, the growth in per capita consumption expenditure of NAS is higher than that of growth in per capita expenditure of NSS.

1.2 The issue of divergence between the estimates of private consumption expenditure gained momentum when Planning Commission dropped the adjustment of NSS distribution of consumption expenditure to the level of NAS in late 1990's. On the basis of Task Force Methodology, Planning Commission was estimating incidence of poverty from consumption expenditure distribution of NSS after scaling it up to the level of consumption expenditure of NAS. Planning Commission uses macro economic aggregates of NAS in its planning exercises and PFCE of NAS is one of the indicators used in these exercises. Poverty ratio has also been used as a parameter in planning exercises. To have consistency in the data used, Task Force suggested estimating poverty after adjusting NSS distribution to the level of NAS. As long as the NAS estimate was 5 percent to 10 percent higher than NSS, it did not bother the academicians. But, over the years this discrepancy rose to more than 30 percent. Computing poverty from the expenditure distribution of NSS after scaling it by such a high proportion led to the criticism of the Task Force methodology of estimation of poverty.

1.3 In September 1989, Planning Commission, constituted an Expert Group under the chairmanship of Prof. D.T. Lakdawala to go into the question of re-defining the poverty line. The Expert Group recommended use of consumption distribution of NSS without any adjustment to NAS level of consumption for estimation of poverty. This was

a major departure from Task Force method, which did this adjustment on a *pro-rata* basis. The recommendations of the Expert Group regarding the exclusive reliance on NSS data for consumption expenditures were accepted by the Government in 1997.

1.4 The unadjusted distribution yields the poverty ratio as 54.88 percent in 1973-74 and 26.10 in 1999-2000, a decline of 29 percentage points. Whereas, the NSS consumption distribution adjusted to the CSO consumption expenditure yields a poverty ratio of 28.32 percent in 1973-74 and 4.34 percent in 1999-2000, marking a decline of 24 percentage points during this period. However, it is the level of poverty that causes concern. It is virtually non-existent in case the CSO consumption is the "correct" estimate of consumption expenditure and follows the same pattern of distribution as that of NSS distribution. There is a group of academicians who feel that consumption expenditure of NSS is grossly under-estimated and does not give the true picture of growing economy.

1.5 Drastically different picture emerging from these two estimates of private consumption expenditure has led to the debate on the correctness and reliability of either or both these estimates. Detailed analysis of each and every component forming part of these two estimates can only help to bring them closer but are unlikely to entirely close the gap. A number of studies have been conducted, centering on the coverage and measurement procedure of these estimates.

1.6 In order to examine the extent of discrepancy in PFCE estimates from NSSO Consumer Expenditure data and estimates compiled by National Accounts Division a committee has been set up by CSO. The committee would also ascertain the reasons of discrepancy in the two sets of PFCE estimates.

CHAPTER II
METHODOLOGY OF ESTIMATION OF CONSUMPTION EXPENDITURE

2.1 The NSSO estimate consumption expenditure by conducting a survey of households. The consumption expenditure is collected from the selected households directly by canvassing a well-designed schedule of enquiry covering almost every item of household consumption. But the surveys conducted for this purpose, called Household Consumption Expenditure Surveys (HCES), cover only the households and not the consumption expenditure of private non profit institutes serving households (NPISHs).

2.2 The household consumer expenditure surveys by NSSO provide the estimates of monthly per capita consumer expenditure for broad items of expenditure. These are available separately for the rural and urban population for all-India and separately for the states and Union Territories (UT). The monthly per capita consumption estimates are multiplied by the appropriate factor to derive the annual per capita expenditure. This is then multiplied by the projected population of relevant year for rural and urban areas to get the total annual consumption expenditure in rural and urban areas respectively. Rural and urban consumer expenditure is added to get NSS based estimates of aggregate annual household consumer expenditure.

2.3 The estimate of P*rivate Final Consumption Expenditure (PFCE)* in National Accounts Statistics is derived following the "commodity flow" approach. It implies working of commodity balances relating to various items of consumption, taking into account (i) production; (ii) intermediate consumption in agriculture, manufacturing and other industries; (iii) net imports; (iv) change in stock; (v) consumption on government account and household and non-household final consumption. An amount is also discounted for the wastage of agricultural produce. For obtaining PFCE the expenditure incurred by industries as intermediate consumption and all final consumption (including imports and exports) other than those by households and non-profit institutions are deducted from the total availability.

2.4 The quantity of final consumption obtained from commodity balances is generally evaluated at market prices. For services, the estimates of final consumption expenditure is derived from the total output (as measured by the gross earnings) of the agencies providing these services to the consumers after netting out the expenditure by the private enterprises and public sector on these services during the year. The gross

earnings of any particular service during a given period is the sum total of the payments received from the consumers of these services in lieu of the services rendered to them.

2.5 For food items, PFCE is estimated at two stages. Firstly, the quantity retained by the producers for their own consumption is evaluated at producer's prices which is the same as used for the domestic product and secondly, marketed part is evaluated at retail prices which are the average prices of rural and urban prices collected from National Sample Survey Organisation (NSSO) and Directorate of Economic & Statistics, Ministry of Agriculture respectively. For manufacturing items, the value of output is adjusted for excise duty and trade and transport margin (TTM). The TTM'S are separately estimated for various commodities/commodity groups on the basis of price data at various levels; i.e., producers', wholesale, retail etc. Import duty is also added to the value of imports. The sum of all the commodity-wise estimates of value gives the aggregate estimate of PFCE, which in fact represents the value of goods and services consumed by the households and NPISHs.

2.6 The two data sets of private final consumption expenditure of NAS and NSS are not strictly comparable. Besides, the differences in the coverage and reference time-frames, there is difference in the concepts and methods of estimation followed by the two agencies. As mentioned earlier, this issue is not new. A number of studies have been conducted in the past by various academicians and researchers. Recently, the 'Study Group on Non-sampling Errors' comprising officers from NAD, CSO and SDRD, NSSO prepared a report on "Cross Validation Study of Estimates of Private Final Consumption Expenditure available from Household Survey and National Accounts". This report contains a comprehensive disaggregated level comparison of the two sets of estimates. The present attempt to explore the extent and reasons for the discrepancy are an extension of the above mentioned report which contains analyses of the data up to the year 1993-94. The committee has considered for examination the data now available for NSS quinquennial rounds conducted during 1999-2000 and 2004-05.

2.7 It is important to mention that the data for 1999-2000 is not exactly comparable with other rounds. The reference period for different commodity groups in the household consumption expenditure surveys conducted during 1999-2000 is different from HCES of earlier years as well as from the survey conducted during 2004-05. In all HCESs, except 1999-00, the data has been collected for 30-days reference period for all commodities. The data for 365-days reference period is also being collected for five non-food item-groups namely, clothing (bedding), footwear, education, medical care (institutional) and durable goods. But, the NSS estimates used for comparison with NAS estimates are based on the data collected in the HCES with 30-days reference period. For 1999-00, the data on consumption of clothing, footwear, education, medical care (institutional) and durable goods has been collected for 365-days reference period only.

Hence the data for the above mentioned items for 365 days reference period has been used in 1999-00.

2.8 The NSS estimates mentioned in Table 1 below are arrived as the product of the estimates of annual per capita consumption expenditure obtained from the HCES and the population projections based on the Population Census-2001. The NAS estimates for different years given in this table are the current-price estimates based on the base year of the corresponding series.

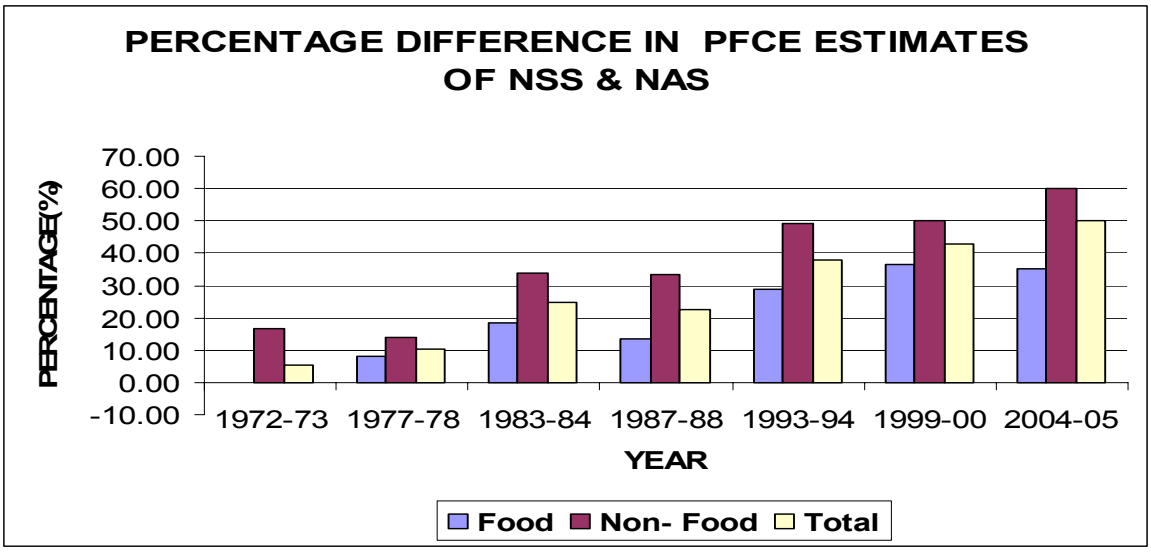
Table1: Divergence between the NSS and NAS Estimates of Consumption Expenditure for Selected Years

(Rs. crore)

Year	Source	Food	Non-food	Total
1972-73	NSS	23420	9790	33210
(1970-71 base)	NAS	23379	11752	35131
	% difference	0.18	-16.70	-5.47
1977-78	NSS	36500	20030	56530
(1970-71 base)	NAS	39801	23282	63083
	% difference	-8.29	-13.97	-10.39
1983-84	NSS	69735	39996	109731
(1980-81 base)	NAS	85613	60471	146084
	% difference	-18.55	-33.86	-24.88
1987-88	NSS	106205	67560	173765
(1980-81 base)	NAS	122805	101256	224061
	% difference	-13.52	-33.28	-22.45
1993-94	NSS	224066	131704	355770
(1993-94 base)	NAS	315243	259529	574772
	% difference	-28.92	-49.25	-38.10
1999-00	NSS	393126	323265	716391
(1993-94 base)	NAS	652627	618929	1271556
	% difference	-39.76	-47.77	-43.66
1999-00	NSS	410918	305473	716391
(1999-00 base)	NAS	647011	610530	1257541
	% difference	-36.49	-49.97	-43.03
2004-05 (URP)	NSS	481189	450226	931415
(1999-00 base)	NAS	742609	1131120	1873729
	% difference	-35.20	-60.20	-50.29
2004-05 (MRP)	NSS	481189	485204	966393
(1999-00 base)	NAS	742609	1131120	1873729
	% difference	-35.20	-57.10	-48.42

Notes:

1. % difference stands for (NSS – NAS) / NAS expressed in percentage.
2. The estimates for 1972-73 and 1977-78 are taken from the National Accounts Statistics of 1981 (page 34) and 1986 (page 36) respectively.
3. Figures for NAS estimates for 1983-84, 1987-88 are on 1980-81 base, 1993-94 and 1999-00 are at 1993-94 base and 2004-05 are at 1999-00 base and taken from the National Accounts Statistics of 1990, 1992,2000 and NAS 2007 respectively.



2.9 Table 1 show that the divergence between the estimates of total consumption at aggregate level was only 5 per cent in 1972-73 and about 10 per cent in 1977-78. It increased to a level of about 25 per cent by 1982-83, remained at almost the same level in 1987-88, and then became as high as 38 per cent in 1993-94. The difference further increased to about 43 percent in 1999-00 and 50 percent in 2004-05. Keeping in view the differences in coverage, concept, method of estimation and data sources used, the order of difference of about 5 to 10 per cent is not significant. But, the widening of the gap between two sets of estimates over the years is certainly a matter of concern.

2.10 The difference in the expenditure of non-food items is more than the difference of expenditure on food items. For the year 1972-73, the expenditure on food items from both the sources is almost same. The estimate of food expenditure of NAS increased faster than that the NSS estimates thereafter. The difference between the NSS and NAS estimates was 8 per cent in 1977-78, became 19 per cent in 1983-84 and it was observed to be 29 per cent in 1993-94. It ranged between 35 to 40 percent during 1999-00 to 2004-05. Whereas the difference in the consumption of non-food items was 17 per cent in 1972-73, increased manifold to around 50 per cent in 1993-94 and 1999-00. The difference is 60 percent in 2004-05.

2.11 The earlier report analysed the data up to the year 1993-94. The committee has considered for examination the data now available for NSS quinquennial rounds conducted during 1999-2000 and 2004-05. Many of the causes of the difference in two sets of estimates are inherent in the methodology adopted for estimation by the two agencies which have been discussed extensively in the earlier studies. The detailed item-wise comparison of the estimates on food and non-food consumption for these two years is taken up to identify the components mainly responsible for the divergence**.**

CHAPTER III
REASONS FOR DIVERGENCE IN TWO SET OF ESTIMATES

3.1 The comparison of the two sets of estimates is constrained by certain differences inherent in the approaches adopted by the two agencies. The following is a brief discussion on the identified possible reasons for differences that are inherent in the methods of estimation used by the two agencies.

3.2 Coverage: As observed in the earlier studies, the Household Consumer Expenditure Surveys (HCES) of the NSSO excludes the houseless and the institutional population like the inhabitants of orphanages, prisons and hospitals, while the consumption of these persons are included in NAS estimate. Also included in the NAS estimate is the consumption expenditure of NPISHs, which are not explicitly covered by the HCES. Nevertheless, the NSS estimates of average per capita consumption expenditure, in conjunction with the estimated total population of the country, provides a valid aggregate estimate of the consumption expenditure of the households, despite being subject to the limitation of non-coverage of the houseless and the institutional population in the HCES. So far as the comparability between the two sets of estimates is concerned, this limitation is virtually of no consequence, as the proportion of the houseless and the institutional population in the total population is negligibly small. As for the consumption expenditure of NPISHs, it is not possible to derive any reasonable estimate of its share in the NAS estimate of PFCE. Since the activities of NPISHs have increased significantly in the recent years, it could be one of the factors for widening of the gap.

3.3 Reference Time-frame: Since the production and consumption of goods, particularly of agricultural produce, are events usually separated in time by considerable gaps, whatever is produced during the agricultural year is not necessarily consumed during the same period, nor is the current year's consumption drawn entirely from the current year's production. For reasons such as these, the NAS estimates are strictly not comparable with the NSS estimates as the NSS survey period is generally an agricultural year, and the NSS estimates represent the actual consumption during the agricultural year. The comparability, however, should not be seriously affected if the difference in the output of food crops in two successive years is not significant. It may be seen from Table 2 below that the difference in food grains production in the years 1998-99 and 1999-2000 is not much but for major oilseeds and sugarcane, the output is significantly different in the two years. The difference is quite large in case of food-grain production in the years 2003-04 and 2004-05.

Table 2: Production of Food Grains, Oilseeds and Sugarcane during Agricultural Years 1998-99, 1999-00, 2003-04 & 2004-05 (Million tones)

Crop	1998-99	1999-00	2003-04	2004-05
Rice	86.08	89.68	88.53	83.13
Wheat	71.29	76.37	72.16	68.64
Coarse cereals	31.34	30.33	37.60	33.47
Pulses	14.91	13.42	14.91	13.13
Food Grains	**203.62**	**209.8**	**213.2**	**198.37**
Nine major oilseeds	24.75	20.72	25.19	24.35
Sugarcane	288.72	299.32	233.86	237.08

Source: *Agricultural Statistics at a Glance*, 2006, Directorate of Economics and Statistics, Ministry of Agriculture.

3.4 Unmatched Classification Schemes: The classification schemes for grouping commodities and services adopted by the two agencies both at the data collection and compilation stages as well as those used for presentation of results differ considerably in many respects. This makes item-wise comparison difficult. Prior to the 1980-81 series of the NAS, the classification schemes differed in respect of expenditure on 'hotels & restaurants', which was classified under non-food consumer services in the NAS, while it was included in the food group in the NSS estimate. From1980-81 series onwards, the consumption expenditure on 'hotels & restaurants' is classified in the 'food' group in the NAS as well. Yet, the classification schemes used by the two agencies at present differ in a number of other respects. For example:

- In the NAS, the 'rice' retained by the farmers for their self-consumption is put entirely under 'rice' consumption, whether or not a part of it is converted into rice products. In contrast, rice products like *murmure*, *cheera / poha* and *khoi* are not included in the NSS estimate of 'rice', when they are made out of 'home-grown stock'.

- Expenditure on purchase and repairs of transport equipment is classified under 'durables' in the NSS estimates, while it is included in the transport-group in the NAS estimates of PFCE.

- The expenditure on cooked food given to the domestic servants (whether full-time or part-time) is included in the 'food' group in the NSS. In the NAS, on the other hand, all payments (whether in cash or kind) made to the domestic help are, in principle, taken as expenses incurred for consumption of 'personal services'.

3.5 Treatment of Cooked Meals: The value of the "cooked meals" served to a domestic help by an employer household forms a part of 'food' consumption of the employer household in NSS. On the other hand, in NAS estimate it forms consumption of 'services' for the employer households. But, in order to avoid double counting of the

expenditure on 'food', the value of 'cooked meals' is recorded as consumption expenditure of only the employer household in the HCES. As a result, in the aggregate, the HCES fails to include the part of the value of services provided by domestic helps that is remunerated for by "cooked meals". Thus, the NSS method of collection of data on "cooked meals" served to domestic helps as part of their remuneration leads to underestimation of the total value of services consumed by the households, and thus the total consumption expenditure incurred by them.

3.6 Notional Components in NAS Estimate of PFCE: In NAS estimates of rent on dwellings, all imputed rentals of owner-occupied dwellings while in NSS the rent actually paid is taken. This accounts for a substantial part of the divergence observed between the two estimates. The *Financial Intermediation Services Indirectly Measured* (FISIM) is another such notional component in the NAS estimate. This is being included in PFCE since the 1980-81 series of national accounts. Inclusion of imputed rentals of owner-occupied dwellings and FISIM in the NAS estimate of private consumption is as per the internationally accepted system of national accounts. *Table 3* illustrates the affect of these notional components in the NAS estimates of PFCE. After adjusting NSS estimates for these components, the discrepancy between two sets of estimates has come down by 7 to 9 percentage points.

Table 3: Comparison between the NSS estimates and NAS estimates adjusted for rent on dwellings and FISIM (Rs. crore)

Year	Un-adj. NSS	NAS	% diff. Cols. (2) & (3)	Imputed rentals	FISIM	Adjusted NSS	% diff. Cols. (7) & (3)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1983-84	109731	146084	-24.88	10478	758	120967	-17.19
1987-88	173765	224061	-22.45	15416	1513	190694	-14.89
1993-94	355771	574772	-38.10	37297	11,801	404869	-29.59
1999-00	716391	1257541	-43.03	68437	24672*	809500	-35.63
2004-05	931415	1873729	-50.29	101690	65395*	1098500	-41.37

Note: 1. % Difference stands for (NSS – NAS) / NAS expressed in percentage.

2. * Figures include expenditure of life insurance and general insurance also.

CHAPTER IV
COMPARISON OF ESTIMATES OF FOOD CONSUMPTION

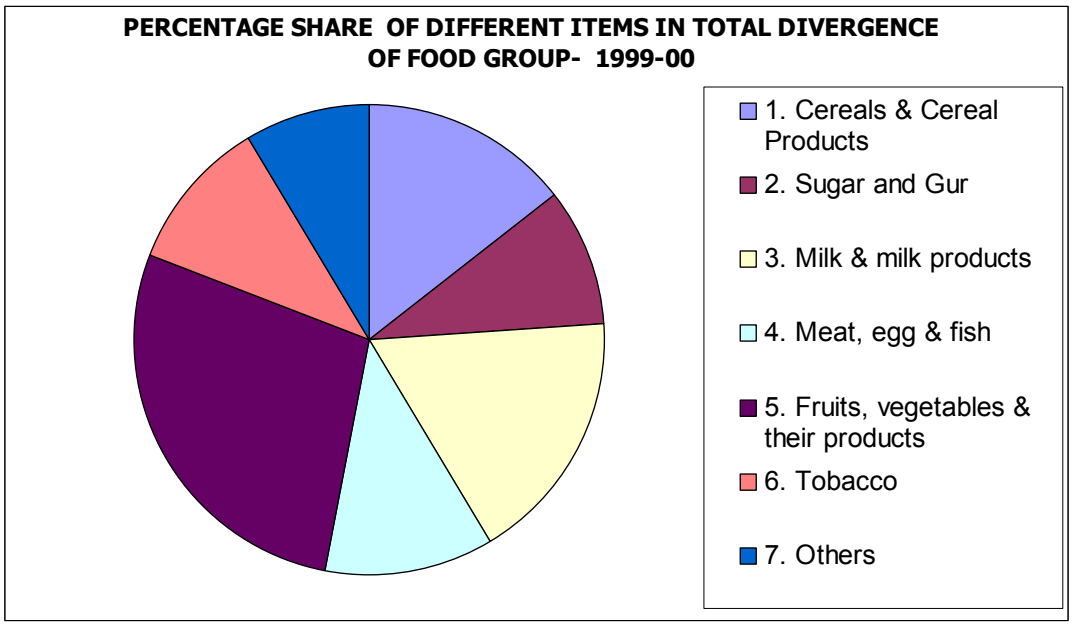
4.1 The individual items have been regrouped suitably to compare the estimates of food consumption by the two agencies. For this purpose, the sub-groups like those of gram products, pulses product, cereal products, cereal substitutes, vegetables, vegetable products, and confectionary items have been regrouped suitably taking individual item-level estimates which are available from both the sources. The expenditure on pan, tobacco & beverages is included in the estimates of food consumption.

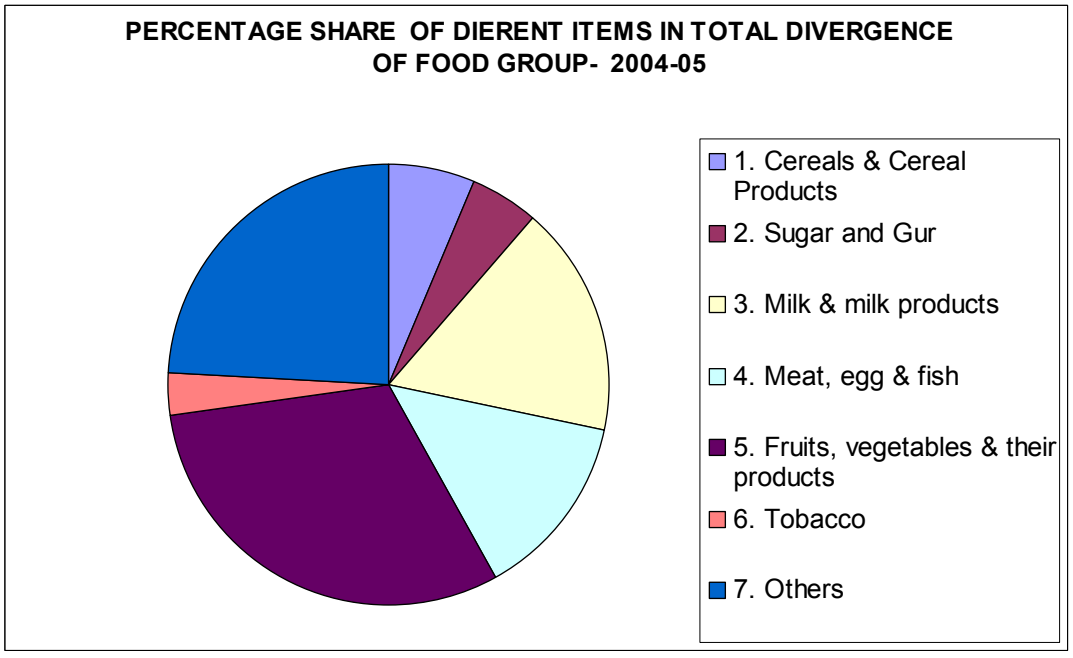
4.2 For obtaining the NAS estimate of private consumption of food items by commodity flow approach, data on output, seed, feed, wastage, imports and exports, changes in stock, government final consumption and intermediate consumption are required. The basic data on output, based on crop estimation, are available from the Directorate of Economics and Statistics, Ministry of Agriculture (DESAg). The seed and feed ratios used are based on current cost of cultivation studies. The wastage ratios for most of the commodities are based on latest available estimates from the Directorate of Market Intelligence (DMI). The main source of data on intermediate consumption for a number of commodities is again DMI report. The data on exports and imports are available on a regular basis from the Director General of Commercial Intelligence and Statistics (DGCI&S). Government consumption expenditure (net purchases of goods and services) for different years is obtained independently from the economic analysis of budget documents. The total expenditure on goods is distributed over commodities/commodity groups on the basis of the norms of the expenditure used for input-output table (latest available IOTT table 1998-99).

Table 4: Comparison between the NAS and NSS estimates for different item-groups of food consumption (Rs. crore)

	1999-00				
Item-group	**NSS estimate**	**NAS estimate**	**NSS-NAS**	**% difference**	**% share**
1. Cereals & Cereal Products	129257	163647	-34390	-21.01	14.57
2. Bread	4538	5883	-1345	-22.86	0.57
3. Gram (Whole)	702	456	246	53.95	-0.10
4. Pulses & pulses product	24671	18845	5826	30.92	-2.47
5. Cereal substitute (tapioca etc)	488	1724	-1236	-71.69	0.52
6. Sugar and Gur	14923	36986	-22063	-59.65	9.35

1999-00					
Item-group	**NSS estimate**	**NAS estimate**	**NSS-NAS**	**% difference**	**% share**
7. Milk & milk products	62510	103681	-41171	-39.71	17.44
8. Edible oils & oilseeds	25872	30518	-4646	-15.22	1.97
9. Meat, egg & fish	23247	50649	-27402	-54.10	11.61
10. Fruits, vegetables & their products	56649	122347	-65698	-53.70	27.83
11. Salt	1426	1426	0	0.00	0.00
12. Spices	16884	17715	-831	-4.69	0.35
13. Non-alcoholic Beverages	10738	15310	-4572	-29.86	1.94
14. Processed / Other food	4639	6914	-2275	-32.90	0.96
15. Pan	2420	3333	-913	-27.39	0.39
16. Tobacco	9441	34395	-24954	-72.55	10.57
17. Alcoholic beverages and other intoxicants	5931	10247	-4316	-42.12	1.83
18. Hotel & restaurant / cooked meals	16582	22935	-6353	-27.70	2.69
Food: Total	**410918**	**647011**	**-236093**	**-36.49**	100.00
2004-05					
Item-group	NSS estimate	NAS estimate	NSS-NAS	% difference	% share
1. Cereals & Cereal Products	133550	114479	19071	16.66	-7.30
2. Bread	6100	5657	443	7.83	-0.17
3. Gram (Whole)	854	434	420	96.77	-0.16
4. Pulses & pulses product	25049	19399	5650	29.13	-2.16
5. Cereal substitute (tapioca etc)	566	1756	-1190	-67.77	0.46
6. Sugar and Gur	18549	33547	-14998	-44.71	5.74
7. Milk & milk products	76334	127114	-50780	-39.95	19.42
8. Edible oils & oilseeds	38753	54367	-15614	-28.72	5.97
9. Meat, egg & fish	28395	68999	-40604	-58.85	15.53
10. Fruits, vegetables & their products	73126	165486	-92360	-55.81	35.33
11. Salt	1605	1382	223	16.14	-0.09
12. Spices	14378	20080	-5702	-28.40	2.18
13. Non-alcoholic Beverages	11409	28633	-17224	-60.15	6.59
14. Processed / Other food	7779	14672	-6893	-46.98	2.64
15. Pan	2576	5907	-3331	-56.39	1.27
16. Tobacco	10971	19946	-8975	-45.00	3.43
17. Alcoholic beverages and other intoxicants	7142	19987	-12845	-64.27	4.91
18. Hotel & restaurant / cooked meals	24053	40764	-16711	-40.99	6.39
Food: Total	**481189**	**742609**	**-261420**	**-35.20**	100.00


PERCENTAGE SHARE OF DIFFERENT ITEMS IN TOTAL DIVERGENCE OF FOOD GROUP- 1999-00
1. Cereals & Cereal Products
2. Sugar and Gur
3. Milk & milk products
4. Meat, egg & fish
5. Fruits, vegetables & their products
6. Tobacco
7. Others


PERCENTAGE SHARE OF DIERENT ITEMS IN TOTAL DIVERGENCE OF FOOD GROUP- 2004-05
1. Cereals & Cereal Products
2. Sugar and Gur
3. Milk & milk products
4. Meat, egg & fish
5. Fruits, vegetables & their products
6. Tobacco
7. Others

4.3 Table-4 gives the NAS and NSS estimates for the different food sub-groups made comparable by suitably regrouping the food items. The NAS estimates of food sub-group are higher than NSS estimates by 35 to 36 percent in the years, 1999-2000 and 2004-05. In 1999-2000, NSS estimate of consumption of 'Cereals & Cereal Products' was 21 percent lower than NAS estimate. Where as the trend is reverse in 2004-05 i.e., NSS estimate is 16 per cent higher than NAS estimate.

4.4 In 1999-2000, the NSS estimates of consumption of 'Gram (whole)' and 'pulses & pulses products' are higher than the NAS estimates. For all other items, NAS estimate of consumption is higher. The major contributors in the difference in the two sets of estimates are 'fruits & vegetable', followed by 'milk & milk products' and 'cereals & cereal products'. In 2004-05, the contribution in the difference is maximum by 'fruits & vegetable', followed by 'milk & milk products' and 'Meat, Egg & fish'.

4.5 The estimates for 'salt' do not vary for the year 1999-2000 . This is because the NAS estimate for this item is directly taken from the HCES of 1999-2000 which is the base year of the revised series of NAS. But estimates for the year 2004-05 of salt are higher by 16 percent as NAS estimates for subsequent years are based on the growth rate observed in NSS estimates of per capita consumption of salt between1993-94 and 19999-00.

4.6 The difference between NAS and NSS estimates are discussed in the following paragraphs at a disaggregated level. An attempt has been made to identify the items that are mainly responsible for the divergence between the two estimates for the item-group. For the items for which quantity estimates are available from both the sources, estimates of quantity consumed are also compared. For comparison between the estimates of such items, the NAS value estimates have been adjusted for prices to eliminate the effect of differential implicit prices in the two sets of estimates. For the remaining items, the adjusted NAS estimates are taken same as the unadjusted value.

Food Grains

4.7 The NSS estimate of expenditure on food grains consumption was higher than that of the NAS for the years 1972-73 and 1977-78. But it is important to note that unlike the estimates for earlier years presented in the table, the NAS estimate for 1993-94 and 1999-00 exceeds the corresponding NSS estimate. The trend has reversed in the year 2004-05 and NSS estimate is higher by 21 percent. It has been observed that the growth rate of NAS estimates is higher than that in the NSS estimates for all the years except for 2004-05.

Table 5: Difference between the NSS and NAS Estimates of Consumption of Food grains in different Years (Rs. Crore)

Year	NSS	NAS	Difference for the group	% Difference	Difference for "all food"
1972-73	13418	10362	3056	29.49	5.43
1977-78	19302	17560	1742	9.92	-4.34
1993-94	85943	90467	-4524	-5.00	-28.92
1999-00	157644	184337	-26693	-14.48	-36.49
2004-05	163648	135647	28001	20.64	-35.20

Note: Food grain is estimated as cereals +pulses-biscuits(estimated from the ratio of biscuits in 1993-94 in bread and biscuit)

4.8 Since the sub-groups 'cereals & cereal products' and 'pulses & pulses products' have major shares in total consumption expenditure on food, it is necessary to undertake a disaggregated-level comparison of NAS and NSS estimates of cereals and pulses consumption. The following paragraphs contain a detailed comparison of the quantity and value estimates of consumption of individual constituents of food grains in 1999-00 and 2004-05. Besides the cereals and pulses, food grains comprise cereals and pulses products and whole grams. Breads produced in bakeries, being principally a wheat product, are also included in this group of food items.

Cereals and Cereal Products

4.9 Table 6 gives a comparison of the NSS and NAS estimates of consumption of cereals and its products for 1999-00 and 2004-05. It also provides comparable estimates for the item 'gram (whole grain)' and 'bread'. Both the NAS and NSS value estimates for the items in the rice and wheat groups represent the expenditure actually incurred on the items. The quantity available from the Public Distribution System (PDS) is evaluated at the administered price in the NAS, while the cost actually paid by the households for the quantity obtained from the PDS are recorded in the HCES. Thus, the implicit prices that can be worked out from the NAS and NSS estimates of value and quantity given in the table represent the (weighted) average of the open-market and administered prices. For the year 2004-05, the implicit prices derived from the NAS estimates for all the cereal-group, except wheat and its products, small millets and gram (whole) are higher than the respective implicit prices derived from the NSS estimates. (A comparison of implicit prices derived from the NAS and NSS estimates is given in *Appendix I* for different items). The NAS value estimates adjusted by NSS implicit prices are given in the table along with the unadjusted values. The following observations emerge from the estimates presented in *Table- 6*:

i. For the year 1999-00, the unadjusted NAS estimate of total cereals consumption is higher than the NSS estimate by Rs. 34390 crore, which reduces to Rs 19331 crores once the NAS quantity estimates are evaluated at NSS implicit prices. The unadjusted NSS and NAS estimates for the rice compare closely both in terms of quantity and value. The difference between the value estimates reduces substantially by adjusting the NAS estimates for prices. However, the trend has reversed in the year 2004-05 and the NSS estimates are higher by Rs. 10341 than the NAS estimate. The difference between the value estimates reduces only marginally by adjusting the NAS estimates for prices as the implicit prices from both the sources are quite close.

Table 6: Itemwise comparison between NAS and NSS estimates of quantity (000 tonnes) and value (Rs. crore) of consumption of 'Cereals and Cereal Products'

	NSS		NAS		Difference	NAS	Adjusted
Item	**Quantity**	**Value**	**Quantity**	**Value**	**(NSS - NAS)**	**adjusted by NSS price**	**difference**
1999-00							
Rice: total	74794	76071	74635	82692	-6621	75909	162
Cheera / poha	732	930	1473	4077	-3147	1871	-941
Khoi-Lawa	122	51	479	1228	-1177	200	-149
Muri	1052	1716	1663	3659	-1943	2713	-997
Other Rice Products	454	383	--		383	0	383
Rice products: total	*2360*	3080	*3615*	8964	-5884	4784	-1704
Rice & Rice products	**77154**	**79151**	**78250**	**91656**	**-12505**	**80275**	**-1124**
Wheat & its products	54954	41093	65330	49854	-8761	48852	-7759
Jowar & its products	5126	3782	8269	7302	-3520	6101	-2319
Bajra & its products	3574	2499	5701	4171	-1672	3986	-1487
Maize & its products	2742	1741	10936	7656	-5915	6944	-5203
Barley & its products	88	39	1354	1216	-1177	600	-561
Small Millets & its products	122	60	811	380	-320	399	-339
Ragi & its products	1327	840	2221	1387	-547	1406	-566
Other cereals		52		365	-313	365	-313
Change in Stock				-340	340	-340	340
Total Cereals	**145087**	**129257**	**172872**	**163647**	**-34390**	**148588**	**-19331**
Bread(Bakery)	--	1133	--	1389	-256	1389	-256
Gram (Whole Grain)	399	702	211	456	246	371	331
2004-05							
Rice: total	78173	77023	68692	61491	15532	67682	9341
Cheera / poha	840	1071	1356	3776	-2705	1729	-658
Khoi-Lawa	32	55	441	1137	-1082	758	-703
Muri	944	1588	1531	3390	-1802	2575	-987
Other Rice Products	329	398	--		398	0	398
Rice products: total	*2145*	3112	*3328*	8303	-5191	5062	-1950
Rice & Rice products	**80318**	**80135**	**72020**	**69794**	**10341**	**71856**	**8279**

Item	NSS		NAS		Difference (NSS - NAS)	NAS adjusted by NSS price	Adjusted difference
	Quantity	Value	Quantity	Value			
Wheat & its products	58193	44608	60600	36682	7926	46453	-1845
Jowar & its products	4911	3467	6867	5177	-1710	4848	-1381
Bajra & its products	4109	2561	7615	4770	-2209	4746	-2185
Maize & its products	2999	1696	12598	8413	-6717	7124	-5428
Barley & its products	61	42	1094	954	-912	753	-711
Small Millets & its products	89	64	444	222	-158	319	-255
Ragi & its products	1527	920	2347	1518	-598	1414	-494
Other cereals		57		146	-89	146	-89
Change in Stock				-13197	13197	-13197	13197
Total Cereals	**152207**	**133550**	**163585**	**114479**	**19071**	**124463**	**9087**
Bread(Bakery)	--	1456	--	1335	121	1335	121
Gram (Whole Grain)	371	854	226	434	420	520	334

*Note: * The NAS quantity figures quoted for rice products (marked with asterisk) are in terms of quantity of rice used for production of the rice product*

ii. In the year 1999-00, the NSS estimates of value of wheat are lower by Rs. 8761 than the NAS estimates. The difference between the value estimates reduces only marginally by adjusting the NAS estimates for prices. However, the trend has reversed in the year 2004-05 and the NSS estimates are higher by Rs. 7926 than the NAS estimate. The difference between the value estimates reduces substantially by adjusting the NAS estimates for prices.

iii. In both the years 1999-00 and 2004-05, the NSS and NAS estimates also differ appreciably for the minor cereals and their products and in most of these cases the NAS estimates are found to be higher than the NSS estimates. A substantial part of the difference between the two sets of value estimates for these items may be attributed to the differential implicit prices. Adjustment for prices brings about a considerable reduction in the discrepancy between the estimates of value.

4.10 Pulses and Pulses Products: Table 7 gives a comparison of the NSS and NAS estimates of consumption of pulses and its products for 1999-00 and 2004-05.

Table 7: Itemwise comparison between NAS and NSS estimates of quantity (000 tonnes) and value (Rs. crore) of consumption of 'Pulses and Pulses Products'

1999-00							
	NSS		NAS		Difference	NAS	Adjusted
Item	Quantity	Value	Quantity	Value	(NSS - NAS)	adjusted by NSS price	difference
Arhar	3140	9047	2178	5053	3994	6275	2772
Gram split	1009	1927	1225	2146	-219	2340	-413
Moong	1387	3478	682	1646	1832	1710	1768
Masur	1674	3730	821	1604	2126	1829	1901
Urd	1165	2898	939	1930	968	2336	562
Other Pulses	1385	2440	1436	2761	-321	2530	-90
Pulses: total	**9760**	**23520**	**7281**	**15140**	**8380**	**17020**	**6500**
Besan	622	1151	648	1244	-93	1199	-48
Other Pulses Products	--	--	1274	2484	-2484	3070	3070
Change in Stock	--	--	--	-23	23	-23	23
Pulses & Products: total	**--**	**24671**	**--**	**18845**	**5826**	**21266**	**3405**
2004-05							
	NSS		NAS		Difference	NAS	Adjusted
Item	Quantity	Value	Quantity	Value	(NSS - NAS)	adjusted by NSS price	difference
Arhar	3048	9048	2086	4691	4357	6192	2856
Gram split	825	1974	1316	2727	-752	3149	-1175
Moong	1302	3506	763	1740	1766	2055	1451
Masur	1342	3649	731	1651	1998	1988	1661
Urd	1098	2824	992	1858	966	2551	273
Other Pulses	1272	2806	1288	2931	-125	2841	-35
Pulses: total	**8887**	**23807**	**7176**	**15597**	**8210**	**18776**	**5031**
Besan	483	1242	696	1580	-338	1790	-548
Other Pulses Products	--	--	1561	3156	-3156	4182	4182
Change in Stock	--	--	--	-935	935	-935	935
Pulses & Products: total	**--**	**25049**	**--**	**19399**	**5650**	**23812**	**1237**

The NSS estimate for 'other pulses' includes Khesari, Peas and Soyabeans. Both the NAS and NSS estimates for 'Other pulses products' include gram products.

4.11 This is the only major item-group of food consumption for which the NSS estimates are found to be higher than the NAS estimates. In fact, the NSS estimates are higher than the NAS estimates except for the items such as other pulses, other pulses products, and, split gram.

4.12 The difference between the two sets of estimates is largely due to higher implicit price in NSS estimates. Adjustment for prices of the NAS estimates of value substantially reduces the gap.

4.13 There is another reason for which the NAS value estimates for pulses are affected by a downward bias. The mark-ups applied on *ex-farm* prices of grains retained by the producers, particularly for *arhar*, *moong*, *urad* and *masur*, to arrive at the value of *dal* appear to be low. On the other hand, both the NAS quantity and value estimates without doubt suffer from an upward bias, as the present method makes no provision for intermediate consumption of the *dals* in hotels and restaurants or in other industries**.**

Sugar and Gur

4.14 This item-group has always been one of the major contributors towards the difference between the two sets of estimates of consumption expenditure on food. For 1999-00, the NSS estimate of consumption of sugar and *gur* was about 59 percent of that of the NAS estimate which reduced to 44 percent in 2004-05. The difference was in the range or 38 to 50 percent in the earlier years. For 1999-00 the gap between the estimates is highest as compared to other years.

4.15 The *gur* consumption is the major factor responsible for the difference in NSS and NAs estimates. In 1972-73 and 1977-78 the NAS estimate for *gur* consumption was about 2.5 times of NSS estimate. The difference between the two estimates has widened further - the NAS estimate 5.6 times of the NSS estimate in 1993-94, 7.7 times in 1999-00 and 6 times in 2004-05. The NAS estimates for this group are prepared separately for *gur*, refined sugar and palm *gur*. From the production estimates of sugarcane, available from the DESAg, the estimated amount (i) retained as seed, (ii) used for chewing, (iii) used in production of *Burra* and *Khandsari* and (iv) going as input to sugar factories are deducted to arrive at an estimate of sugarcane available for *gur* making. The estimates of quantity used for chewing and that used for *Burra* and *Khandsari* are obtained by applying certain norms. The quantity of sugarcane consumed by the sugar factories and production of sugar are available from the Directorate of *Vanaspati* and Sugar, M/o Agriculture.

Table 8: Difference Between the NSS and NAS Estimates of Consumption of "Sugar, Gur etc." in Different Years ***(Rs. Crore)***

Year	Item	NSS	NAS	Difference for the group	% Difference	Difference for "all food"
1972-73	Sugar	705	943	-238	-25.24	--
	gur	529	1316	-787	-59.8	--
	Sugar & gur: total	1234	2259	-1025	-45.37	5.43
1977-78	Sugar	935	1066	-131	-12.29	--
	Gur	593	1411	-818	-57.97	--
	Sugar & gur: total	1528	2477	-949	-38.31	-4.34
1993-94	Sugar	8545	11282	-2737	-32.03	--
	Gur	1411	7995	-6584	-82.35	--
	Sugar & gur: total	9956	19881	-9925	-49.92	-28.92
1999-00	Sugar	13321	23733	-10412	-43.87	--

Year	Item	NSS	NAS	Difference for the group	% Difference	Difference for "all food"
	Gur	1602	12335	-10733	-87.01	--
	Sugar & gur: total	14923	36556	-21633	-59.18	-36.49
2004-05	Sugar	16779	26813	-10034	-37.42	--
	Gur	1770	10780	-9010	-83.58	--
	Sugar & gur: total	18549	33125	-14576	-44.00	-35.20

Source: Same as those for Table 5.

Note: Total of sugar & gur does not tally with table 4 and Annexure-III as the NAS estimates excludes sugarcane.

4.16 The reasons for high difference between NAS and NSS estimates of sugar and *gur* consumption are (i) low ratio of intermediate consumption of *gur* and sugar used for deriving the NAS estimates, (ii) under-reporting of consumption of sugar and *gur* in the HCES and (iii) overestimation of sugarcane production. The last two reasons appear to be less likely. It is hard to find a definite reason for under-reporting of sugar or *gur* consumption in the HCES. Likewise, the regular crop reporting system, which covers sugarcane as a principal crop, is not expected to produce overestimates of sugarcane production consistently over the years. Thus, it appears that taking 5 per cent of *gur* and sugar production as intermediate consumption is unrealistic.

Milk and Milk Products

4.17 This item-group is only next to 'fruits and vegetable' group in its contribution towards the discrepancy between the estimates of food consumption. It is seen from *Table 9* that the NAS estimate is higher by about Rs. 41 thousand crore than the NSS estimate in 1999-00 and by 51 thousand crore in 2004-05. The difference was about 5 percent in 1972-73 and 1977-78 which increased to 29 percent in 1993-94. It has further increased to more than 35 percent in 1999-00 and 2004-05.

Table 9: Difference between the NSS and NAS Estimates of Consumption of "Milk & Milk Products" in Different Years (Rs. crores)

Year	NSS	NAS	Difference for the group	% Difference	Difference for "all food"
1972-73	2606	2765	-159	-5.75	5.43
1977-78	4749	5227	-478	-9.14	-4.34
1993-94	33737	46594	-12857	-27.59	-28.92
1999-00	62510	103681	-41171	-39.71	-36.49
2004-05	76334	127114	-50780	-39.95	-35.20

Sources: Same as those for *Table 1*.

4.18 Table 10 gives the comparable item-wise estimates for 1999-00 and 2004-05, as available from the two sources. For the year 1999-00, the NSS estimate of quantity is lower by about 8 per cent that for value is less by about 17 per cent than the respective NAS estimates. For the year 2004-05, the difference further increased to 12 percent in

quantity terms and decreased to 16 percent in value terms. The implicit price of liquid milk worked out from the NAS estimates is higher than that from the NSS estimates. After the adjustment of prices the difference in the value estimates of NSS and NAS has reduced for both the years 1999-00 and 2004-05.

Table 10: Itemwise comparison between NAS and NSS estimates of quantity and value (Rs. crore) of consumption of 'milk & milk products'.

1999-00							
	NSS		**NAS**		**Difference**	**NAS**	**Adjusted**
Item	**Quantity**	**Value**	**Quantity**	**Value**	**(NSS – NAS)**	**Adjusted by NSS price**	**difference**
Liquid Milk (000 Ltrs.)	50606	57123	55229	68521	-11398	62341	-5218
Milk products	--	5387	--	35814	-30427	35814	-30427
CIS				-172	172	-172	172
GFCE				482	-482	482	-482
Milk & Milk Products	**--**	**62510**	**--**	**103681**	**-41171**	**98465**	**-35955**
2004-05							
Liquid Milk (000 Ltrs.)	55923	69699	63807	83352	-13653	79525	-9826
Milk products	--	6635	--	44429	-37794	44429	-37794
CIS				-36	36	-36	36
GFCE				631	-631	631	-631
Milk & Milk Products	**--**	**76334**	**--**	**127114**	**-50780**	**124549**	**-48215**

The NAS estimate of value for 'milk & milk products' are net of government final consumption and changes in stock, which are included in the estimates of the individual components

4.19 Estimation of value of consumption of milk products poses a more serious problem. In fact, for the year 1999-00, this sub-group alone contributes Rs. 30,000 crore in an overall discrepancy of Rs. 236,000 crore between the estimates for the 'food' group as a whole. It is further increased to Rs. 38,000 crore in 2004-05. The NSS estimate for 'milk products' is found to be only 15 percent of that of the NAS estimate for both the years 1999-00 and 2004-05.

4.20 The NAS estimate for milk products is arrived at as the sum of the ASI value estimate of output of dairy products, marked up by 17.7 per cent for 'trade and transport margin' (TTM), and the estimated value of production of butter and *lassi* in the unorganised sector. For the production in the organized segment, CSO takes the ASI estimate for manufacturing of dairy products, which includes production of pasteurised and other forms of liquid milk apart from all kinds of milk products. Thus, the output of the enterprises includes not just milk products but also liquid milk. It is seen from the detailed results of ASI that only a part of the ASI estimate of output is actually milk product and the rest liquid milk. On the other hand, the present procedure altogether ignores intermediate consumption in the unorganised-sector enterprises like *halwais*, tea shops, hotels and restaurants. But for the quantity forming intermediate

consumption in the organised manufacturing and that consumed as liquid milk by the households, the entire volume of milk coming to the market is assumed to be converted only into butter and *lassi*. Thus, the NAS estimate of consumption of liquid milk does not include pasteurised milk output of the factories at the one hand, and includes that which goes in as intermediate consumption in the unorganised sector enterprises on the other. The NAS estimate of liquid milk consumption is, therefore, subject to both upward and downward bias.

4.21 What appears likely from the above discussion is that the consumption of milk products is overestimated by the CSO. A part of the volume of milk assumed to be used for butter and *lassi* production may in fact be used as intermediate consumption in enterprises producing other commodities like sweetmeat, tea and coffee, hotel and restaurant services, consumption of which are estimated separately in the NAS. In addition, the entire output of ASI (NIC-201) is not milk product – a large part of it is in fact pasteurised milk or other forms of processed milk.

Edible oil and Oilseeds

4.22 The NSS estimate of consumption expenditure of 'edible oils and oilseeds' are lower than the NAS estimates by 15 per cent for 1999-00 and 29 percent for 2004-05. The difference was maximum (32 percent) in 1993-94. As seen from *Table 11* the gap between the two estimates was lower in the earlier years.

Table 11: Difference between the NSS and NAS Estimates of Consumption of Edible Oil and oilseeds in different years ***(Rs. crore)***

Year	NSS	NAS	Difference for the group	% Difference	Difference for "all food"
1972-73	1286	1465	-179	-12.22	5.43
1977-78	2243	3077	-834	-27.1	-4.34
1993-94	15674	23204	-7530	-32.45	-28.92
1999-00	25872	30518	-4646	-15.22	-36.49
2004-05	38753	54367	-15614	-28.72	-35.20

4.23 The estimates of edible oils for 1999-00 and 2004-05 have been re-grouped to make the estimates comparable. The oils less commonly used have been clubbed together in the 'others' category for the NSS estimates. These estimates thus arrived at from the two sources and the estimates of oilseeds are given in the *Table 12*.

4.24 For both the years 1999-00 and 2004-05, the estimates from the two sources are fairly close to each other for mustard oil. The major part of the big difference between

the estimates for the group as a whole is caused by *vanaspati*, groundnut, coconut oil and oilseeds.

Table 12: Itemwise comparison between NAS and NSS estimates of quantity (000 tonnes) and value (Rs. Crore) of consumption of 'Edible Oils and Oilseeds'

1999-00							
Item	**NSS**		**NAS**		**Difference (NSS - NAS)**	**NAS adjusted by NSS**	**Adjusted difference**
	Quantity	**Value**	**Quantity**	**Value**			
Vanaspati	555	2087	1269	5239	-3152	4772	-2685
Mustard Oil	2960	9798	2003	8214	1584	6630	3168
Groundnut Oil	1832	7527	969	4184	3343	3981	3546
Coconut Oil	155	826	442	3129	-2303	2355	-1529
Gingelly (*Til*) Oil	246	888	86	442	446	310	578
Linseed Oil: total	182	423	16	93	330	37	386
Edible Oil (Others)	937	3494	102	543	2951	380	3114
Edible Oils: Total	**--**	**25043**		**21844**	**3199**	**18467**	**6576**
Oilseeds	--	829	--	4594	-3765	4594	-3765
Edible oil and oilseeds	**--**	**25872**	**--**	**30518**	**-4646**	**23061**	**2811**
2004-05							
Item	**NSS**		**NAS**		**Difference (NSS - NAS)**	**NAS adjusted by NSS**	**Adjusted difference**
	Quantity	**Value**	**Quantity**	**Value**			
Vanaspati	505	2571	1833	9297	-6726	9332	-6761
Mustard Oil	2871	15608	2388	13455	2153	12982	2626
Groundnut Oil	1276	7152	870	4837	2315	4876	2276
Coconut Oil	136	971	337	3048	-2077	2406	-1435
Gingelly (*Til*) Oil	414	2181	168	1069	1112	885	1296
Linseed Oil: total	307	1039	12	90	949	41	998
Edible Oil (Others)	1575	8587	122	1039	7548	665	7922
Edible Oils: Total	**--**	**38109**		**32835**	**5274**	**31187**	**6922**
Oilseeds	--	644	--	7443	-6799	7443	-6799
Edible oil and oilseeds	**--**	**38753**	**--**	**54367**	**-15614**	**38630**	**123**

Note:
1. The NSS estimate for the group 'other edible oils' includes those for Margarine, 'Refined oil', Palm oil and Rapeseed Oil.

2. NAS estimate for the entire group "Edible oils and oilseeds" include imports and change in stock which are not shown separately in the table

4.25 For the NAS estimates, the CSO uses the estimates of oilseeds production available from the DESAg and those of edible oils production from Ministry of Food and Civil Supplies. These estimates of edible oils are in fact derived on the basis of certain

assumptions on utilisation of oilseeds for different purposes like seed, feed, waste etc. and oil extraction rates.

4.26 For deriving the NAS estimates, varying ratios of intermediate consumption are used for the edible oils, but for *vanaspati* no adjustment is made for its use in other industries. This appears to be an important reason for the difference between the estimates of *vanaspati* consumption, since it is used extensively in commercial establishments like *halwais*, hotels and restaurants. The estimates for individual oils are found to differ substantially in some cases. The difference is most pronounced for coconut oil, coconut oil and oilseeds. The estimates of both quantity and value differ widely. On adjusting the NAS estimates for price differential the gap in the difference narrows down significantly.

4.27 The difference in the estimates of consumption is most pronounced for the oilseeds. It may be noted that groundnuts used as such are not included here. Notwithstanding the possibility of underreporting in the NSS, the NAS estimate for oilseeds appears to be on the higher side, particularly because the latter is based on the assumption that the entire amount of oilseeds retained by the producers is consumed as oilseeds.

Meat, Fish and Egg

4.28 This is another item-group of food items for which the estimates from the two sources vary widely. The estimates were comparable for the year1972-73 and 1977-78. But it increased to 45 percent in 1993-93, 54 percent in 1999-00 and 59 percent in 2004-05.

Table 13: Difference between the NSS and NAS Estimates of Consumption of "Meat, Fish and Egg" in Different Years ***(Rs. crore)***

Year	NSS	NAS	Difference for the group	% Difference	Difference for "all food"
1972-73	891	915	-24	-2.62	5.43
1977-78	1677	1690	-13	-0.77	-4.34
1993-94	11923	21737	-9814	-45.15	-28.92
1999-00	23247	50649	-27402	-54.10	-36.49
2004-05	28395	68999	-40604	-58.85	-35.20

4.29 Table 14 gives the comparable NSS and NAS estimates of consumption of individual items for 1999-00 and 2004-05. The estimates from the two sources are fairly close to each other for the meat sub-group. The NAS estimate exceeds the NSS estimates by about Rs.1548 crore in 1999-00. The NSS estimate is higher than the NAS estimate only for 'goat meat' for 1999-00. The gap between the two value estimates of 'goat meat' widens when the NAS value estimate is adjusted for prices. For all other items NAS estimates are higher than the NSS estimates.

Table 14: Itemwise comparison between NAS and NSS estimates of quantity (000 tonnes) and value (Rs. crore) of consumption of 'Meat, Egg And Fish' item-group

1999-00							
	NSS		NAS		Difference	NAS	Adjusted
Item	Quantity	Value	Quantity	Value	(NSS - NAS)	adjusted by NSS price	difference
Goat Meat	789	5457	520	5322	135	3597	1860
Mutton	165	1458	195	1837	-379	1723	-265
Goat meat *plus* mutton	954	6915	715	7159	-244	5183	1732
Beef	268	1064	308	1141	-77	1223	-159
Pork	87	400	237	1385	-985	1090	-690
Buffalo Meat	268	639	356	989	-350	849	-210
Other Meat	--	108	--		108		108
Meat: total	**--**	**9126**	**--**	**10674**	**-1548**	**8344**	**782**
Other Meat (byproduct)	--		--	738	-738	738	-738
Chicken	--	3130	--	8369	-5239	8369	-5239
Other Birds(No)	--	73	--	992	-919	992	-919
Eggs & egg products	--	2710		5710	-3000	5710	-3000
Fish	--	8208	--	24204	-15996	24204	-15996
Change in Stock	--		--	-38	38	-38	38
Meat Egg Fish : total	**--**	**23247**		**50649**	**-27402**	**48319**	**-25072**
							2004-05
	NSS		NAS		Difference	NAS	Adjusted
Item	Quantity	Value	Quantity	Value	(NSS - NAS)	adjusted by NSS price	Quantity
Goat Meat	587	5564	481	5565	-1	4559	1005
Mutton	123	1487	271	3061	-1574	3276	-1789
Goat meat *plus* mutton	710	7051	752	8626	-1575	7468	-417
Beef	251	1248	368	1528	-280	1830	-582
Pork	76	488	315	1679	-1191	2023	-1535
Buffalo Meat	251	749	419	1414	-665	1250	-501
Other Meat	--	127	--		127		127
Meat: total	**--**	**9663**	**--**	**13247**	**-3584**	**12571**	**-2908**
Other Meat (byproduct)	--		--	966	-966	966	-966
Chicken	--	5050	--	9337	-4287	9337	-4287
Other Birds(No)	--	127	--	1112	-985	1112	-985
Eggs & egg products	--	2866		7137	-4271	7137	-4271
Fish	--	10689	--	36851	-26162	36851	-26162
Change in Stock	--		--	349	-349	349	-349
Meat Egg Fish : total	**--**	**28395**		**68999**	**-40604**	**68323**	**-39928**

4.30 Fish is the main contributor in the divergence followed by the items such as chicken, egg & egg products. In the year 1999-00, difference in the estimates of fish was Rs. 15996 crore, chicken was Rs. 5239 crore, egg and egg products was Rs. 3000 crore in the overall divergence of Rs. 27402 crore for this group. The overall difference for this item group further increased to Rs. 40604 crore in 2004-05.

4.31 The sub-group 'other meat products' comprises glands, other poultry killed and other meat product in the NAS. In the NSS survey no data is collected separately for these items. The expenditure on these items is embodied in the expenditure on meat. In the NAS, this sub-group is also factor for the discrepancy between the two sets of estimates.

4.32 The other reason for the discrepancy may be that the intermediate consumption for most of the items of this group is taken as nil in the NAS. This appears to be the main reason for the wide divergence between the two sets of estimates, particularly for eggs and chicken since a large volume of these is actually used as input in the food processing industries, hotels and restaurants.

Fruits and Vegetables

4.33 The "fruits and vegetables and their products" contributes maximum in the difference between the NAS and NSS estimates of consumption expenditure in the item-groups of food consumption. This contributed 28 percent in 1999-00 which further increased to 35 percent in 2004-05 in the overall divergence in the food consumption. It can be seen from *Table 15* that the difference between the estimates for this group was about 41 percent in 19972-72 and 1977-78, which increased to 54 percent in 1999-00 and 56 percent in 2004-05.

Table 15: Difference between the NSS and NAS Value Estimates of Consumption of 'fruits & vegetables' in different years (Rs. crore)

Year	NSS	NAS	Difference (fruits & vegetable)	% Difference (NSS-NAS) /NAS	Difference (all food)
1972-73	1835	3097	-1262	-40.75	5.43
1977-78	3228	5517	-2289	-41.49	-4.34
1993-94	28851	68036	-39185	-57.59	-28.92
1999-00	56649	122347	-65698	-53.70	-36.49
2004-05	73126	165486	-92360	-55.81	-35.20

4.34 The item-wise estimates for 1999-00 and 2004-05 available from NSS and NAS have been suitably re-grouped to make them comparable. The items of fruits and vegetables for which separate estimates are available from the two agencies have been

reclassified into comparable groups. *Table 16* presents an item-by-item comparison between the estimates of quantities and values of consumption, to the extent the classification schemes adopted by the two agencies permit.

Table 16: Itemwise comparison between NAS and NSS estimates of quantity (000 tonnes) and value (Rs. crore) of consumption of 'fruits & vegetables and their products'

	NSS		NAS		Difference	NAS	Adjusted
Item	**Quantity**	**Value**	**Quantity**	**Value**	**(NSS - NAS)**	**adjusted by NSS price**	**difference**
1999-00							
Potato	18444	8029	16965	7963	66	7385	644
Onion	7492	4853	4240	2930	1923	2746	2107
sweet potato	267	85	--	849	-764	849	-764
other vegetables	--	27682	--	13422	14260	13422	14260
Flowers	--	573	--	5239	-4666	5239	-4666
Kitchen garden	--		--	1882	-1882	1882	-1882
total vegetables	**--**	**41222**	**--**	**32285**	**8937**	**31524**	**9698**
Banana	--	3155	--	5894	-2739	5894	-2739
Coconut (mill.)	4981	2867	8632	5965	-3098	5965	-3098
Mango	1420	1751	6194	9278	-7527	9278	-7527
Grapes	168	695	1016	1698	-1003	1698	-1003
Copra	101	454	--	960	-506	960	-506
Groundnut	643	1176	1413	2819	-1643	2819	-1643
Cashewnut	--	241	142	4738	-4497	4738	-4497
Other fruits	--	4159	--	52848	-48689	52848	-48689
Total fruits (dry & fresh)	**--**	**14498**	**--**	**84200**	**-69702**	**84200**	**-69702**
total fruits & vegetables	**--**	**55720**	**--**	**116485**	**-60765**	**115724**	**-60004**
fruits &veg. products	--	929	--	5862	-4933	5862	-4933
Fruits & veg. and their products	**--**	**56649**	**--**	**122347**	**-65698**	**121586**	**-64937**
2004-05							
Potato	16876	10282	16898	13898	-3616	10295	-13
Onion	8035	5673	5038	4039	1634	3557	2116
sweet potato	180	115	--	936	-821	936	-821
other vegetables	--	36352	--	18105	18247	18105	18247
Flowers	--	752	--	6915	-6163	6915	-6163
Kitchen garden	--		--	2667	-2667	2667	-2667
total vegetables	**--**	**53174**	**--**	**46560**	**6614**	**42475**	**10699**
Banana	--	3565	--	8321	-4756	8321	-4756
Coconut (mill.)	5109	3460	8688	6714	-3254	6714	-3254
Mango	1281	2031	6826	12201	-10170	12201	-10170
Grapes	333	869	1347	2974	-2105	2974	-2105

Item	NSS		NAS		Difference (NSS - NAS)	NAS adjusted by NSS price	Adjusted difference
	Quantity	Value	Quantity	Value			
Copra	274	621	--	1284	-663	1284	-663
Groundnut	759	1622	2052	5148	-3526	5148	-3526
Cashew nut	--	405	106	3606	-3201	3606	-3201
Other fruits	--	6474	--	71290	-64816	71290	-64816
Total fruits (dry & fresh)	**--**	**19047**	**--**	**111538**	**-92491**	**111538**	**-92491**
total fruits & vegetables	**--**	**72221**	**--**	**158098**	**-85877**	**154013**	**-81792**
fruits & vegetable products	--	905	--	7388	-6483	7388	-6483
Fruits & vegetables and their products	**--**	**73126**	**--**	**165486**	**-92360**	**161401**	**-88275**

Note: The category 'other fruits and vegetables', other than horticulture, classified in the NAS has been distributed to 'other vegetables' and 'other fruits' of the table in proportion to the value of their gross value of output. The NAS estimate for the item-group "other fruits" includes that for the "horticulture crops not elsewhere covered".

4.35 For both the years 1999-00 and 2004-05, fruits consumption is the main contributor in the divergence in the estimates of the fruits and vegitables groups. The NSS estimate is very small as compared to NAS estimates for the 'fruits' sub-group. For the 'vegetables' group, NSS estimates are higher than the NAS estimates.

4.36 For both the years 1999-00 and 2004-05, the NSS estimate of quantity of potato consumed compare closely with that of the NAS. The NSS estimates of both quantity and value are substantially higher than those of the NAS estimates for the onion.

4.37 The 'fruits' sub-group is principally responsible for the major part of the big difference between the estimates of quantity and value of consumption of 'fruits and vegetables and their products'. The NSS estimates for mango, banana and cashew nut are by far less than the NAS estimates. For the NAS estimates, however, it is assumed that 30 per cent of the market supplies of mango are inter-industry consumption. For other fruits, inter-industry consumption is almost negligible which is resulting in higher value of consumption of fruits in NAS.

4.38 Divergence in the estimates of 'fruits' consumption are high as compared to consumption estimates of cereals and pulses and those of vegetables and 'meat, fish and eggs' group. The reporting of fruits probably suffers severely from recall lapse in the HCES. Fruits consumed outside home are most likely not captured in the HCES. Thus, on the one hand the NAS estimate of fruits consumption appears to be on the higher side, while on the other the NSS estimate seems to suffer from under-estimation.

Tobacco

4.39 It is observed from *Table 17* that NAS consumption estimates for item-groups have always been substantially higher than the NSS estimates. In fact, for 1972-73, 1993-94 and 2004-05 the NSS estimate is only about a half of the NAS estimate for this item-group. In 1999-00, the NSS estimate was 73% lower than NAS estimate.

Table 17: Difference between the NSS and NAS Estimates of Consumption of Tobacco in different year ***(Rs. Crores)***

Year	NSS	NAS	Difference	% Difference for the group	% Difference for "all food"
1972-73	612	1117	-505	-45.21	5.43
1977-78	1000	1533	-533	-34.77	-4.34
1993-94	5877	12309	-6432	-52.25	-28.92
1999-00	9441	34395	-24954	-72.55	-36.49
2004-05	10971	19946	-8975	-45.00	-35.20

4.40 Item-wise estimates of tobacco consumption from the two sources for the year 1999-00 and 2004-05 are given in the table below.

Table 18: Item wise comparison between NAS and NSS estimates of value of Tobacco consumption ***(Rs. crores)***

	1999-00				2004-05			
Item	**NSS**	**NAS**	**Diff.**	**% diff.**	**NSS**	**NAS**	**Diff.**	**% diff**
Bidi	5388	14895	-9507	-63.83	5799	12489	-6690	-53.57
Cigarettes	2011	11155	-9144	-81.97	2192	10227	-8035	-78.57
Leaf Tobacco	1027	4177	-3150	-75.41	1166	3834	-2668	-69.59
Snuff	45	1369	-1324	-96.71	59	1150	-1091	-94.87
Cheroot	75	291	-216	-74.23	91	267	-176	-65.92
Other Tobacco Products (incld. that for hookah and zarda)	895	1482	-587	-39.61	1664	1360	304	22.35
Change in stocks		1026	-1026	-100.00		-9381	9381	-100.00
Tobacco : total	**9441**	**34395**	**-24954**	-72.55	**10971**	**19946**	**-8975**	-45.00

4.41 It is observed that 'bidi' and 'cigarettes' have major shares in the difference between the estimates for this item-group. The NSS estimates are

likely to be on the lower side, as the data collected through interviews are expected to be adversely affected by under-reporting resulting from the inhibitions against consumption of tobacco. Moreover, in the HCES, information is usually collected from a member of the household, who is often unaware of tobacco consumption habits of the other members of the household.

Hotel and Restaurant

4.42 The Hotel and Restaurant -group was classified in the category of services till the 1970-71 series of the NAS. As the receipts from sale of food constitute a major share of the total receipts by the hotel and restaurant industry this is taken as a part of the food consumption since the 1980-81 series.

4.43 The NAS estimate for this group is obtained from the estimate of gross value added (GVA). First, an estimate of output of hotel and restaurants is derived from the estimate of GVA. Private consumption is assumed to be 33 per cent of the output. This NAS estimate of private consumption includes the accommodation charges in addition to the value of food. It is important to note that hotels and restaurants also serve other food items like tea, snacks and beverages. The NSSO, on the other hand, does not provide any estimate of consumption for this item-group as such. Instead it provides estimates of value of "cooked meals", snacks, beverages and "other processed food" purchased by the households. Thus the comparison here is restricted to the NAS estimate for 'hotels and restaurants' and the NSS estimate of purchased 'cooked meals', other processed food, tea(cups) and coffee(cups). The comparability of these two estimates is severely constrained by the difference in coverage. These estimates for different years are placed in *Table 19* to illustrate how the two estimates differ from each other.

4.44 It is seen that NSS estimate for this group was higher than the NAS estimate in both 1972-73 and 1977-78. But, for 1993-94 onwards the trend is reversed. The NAS estimate is expected to be higher due to the larger coverage than NSS. But the high magnitude of difference may not be only because of the receipts from accommodation charges. However, the food served includes snacks and beverages that are not counted as "cooked meals" in the HCES. The difference in two estimates can mainly be attributed to the non-comparable coverage.

Table 19: Difference between the NSS and NAS estimates for Hotel and Restaurant in different Years ***(Rs. Crores)***

Year	NSS	NAS	Difference for the group	% Difference	Difference for "all food"
1972-73	839	444	395	88.96	5.43
1977-78	1125	757	368	48.61	-4.34
1993-94	3765	6142	-2377	-38.70	-28.92
1999-00	16582	22935	-6353	-27.70	-36.49
2004-05	24053	40764	-16711	-40.99	-35.20

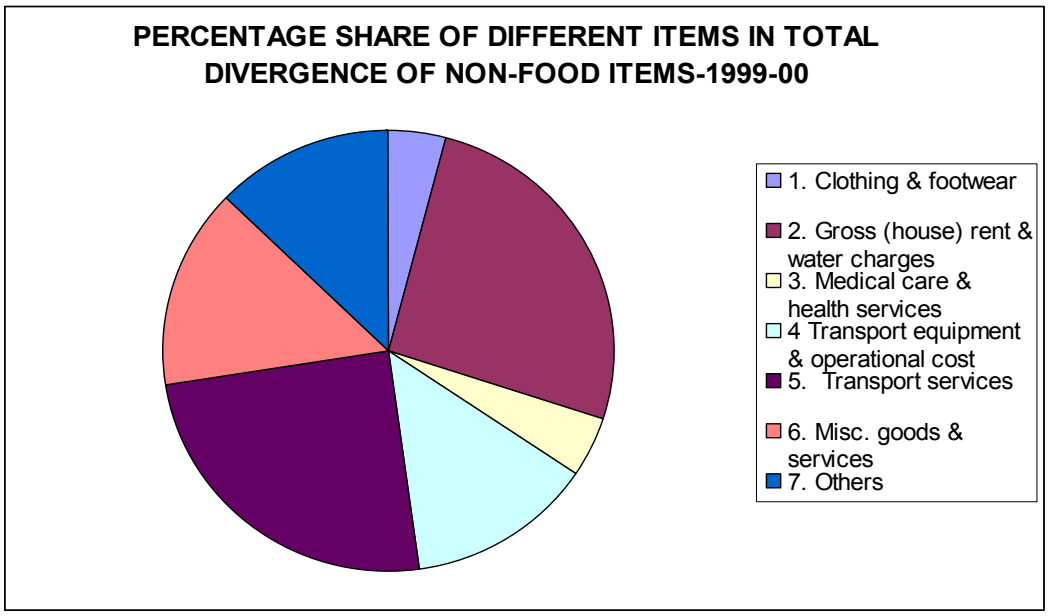
CHAPTER V
COMPARISON OF ESTIMATES OF NON-FOOD CONSUMPTION

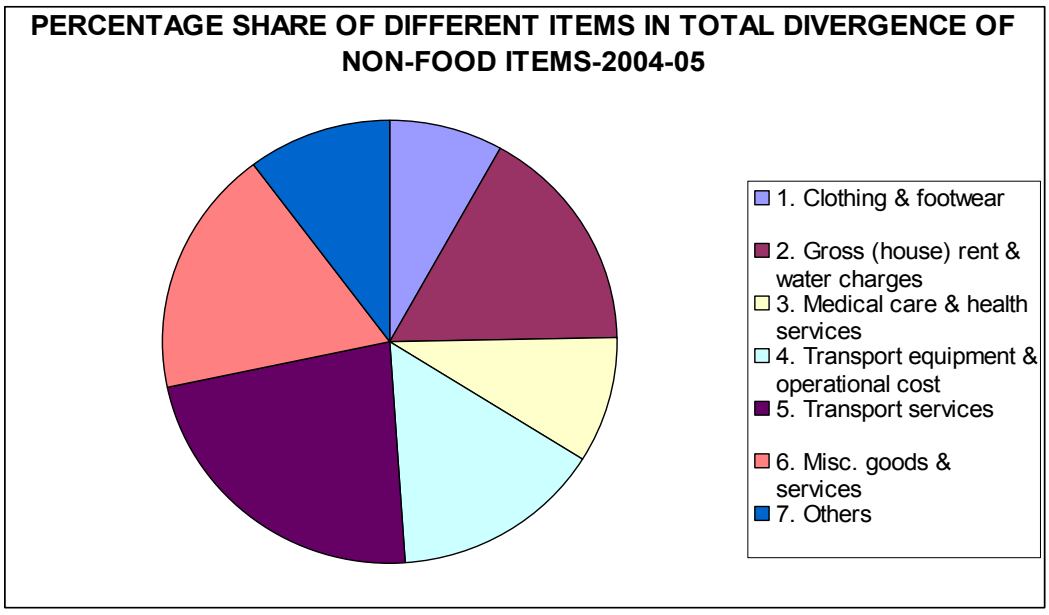
5.1 Private final consumption expenditure on fuel, clothing and footwear, other manufactured goods and services constitute 'non-food consumption'. Individual items have been appropriately regrouped into comparable item-groups using the detailed and disaggregated NAS and NSS estimates for 1999-00 and 2004-05. The NSS estimates used for this purpose are based on the data collected in the HCES with 30 days reference period. The item-group level difference in the NSS and the NAS estimates are presented in the table below (*Table 20).*

Table 20: Comparison of NAS and NSS estimates of consumption expenditure on different non-food item-groups **(Rs. Crores)**

Item-group	NSS	NAS	NSS - NAS	% difference	% share
					1999-00
1. Clothing & footwear	53652	66292	-12640	-19.07	4.14
2. Gross (house) rent & water charges	20815	99270	-78455	-79.03	25.72
3. Fuel & power	53139	44288	8851	19.99	-2.90
4. Furniture, furnishings, appliances & services	17516	42411	-24895	-58.70	8.16
5. Medical care & health services	40672	54825	-14153	-25.81	4.64
6. Transport equipment & operational cost	16144	56259	-40115	-71.30	13.15
7. Transport services	18127	93727	-75600	-80.66	24.78
8. Communication	5077	14538	-9461	-65.08	3.10
9. Recreation, Education & Cultural services	26725	42570	-15845	-37.22	5.19
10. Misc. goods & services	51638	96350	-44712	-46.41	14.66
11. Others (which concordance not found)	1968	-	-	-	
Total non-food	**305473**	**610530**	**-305057**	**-49.97**	**100.00**
					2004-05
1. Clothing & footwear	45657	100164	-54507	-54.42	8.01
2. Gross (house) rent & water charges	38059	152612	-114553	-75.06	16.82
3. Fuel & power	91762	76204	15558	20.42	-2.28
4. Furniture, furnishings, appliances & services	25839	66890	-41051	-61.37	6.03
5. Medical care & health services	55682	117438	-61756	-52.59	9.07

Item-group	NSS	NAS	NSS - NAS	% difference	% share
6. Transport equipment & operational cost	30051	131867	-101816	-77.21	14.95
7. Transport services	26169	181455	-155286	-85.58	22.81
8. Communication	19777	31639	-11862	-37.49	1.74
9. Recreation, Education & Cultural services	41713	76037	-34324	-45.14	5.04
10. Misc. goods & services	72944	196814	-123870	-62.94	18.19
11. Others (which concordance not found)	2573	-	-	-	
Total non-food	**450226**	**1131120**	**-680894**	**-60.20**	**100.00**





5.2 It is observed that NSS estimate for non-food consumption is 50 percent lower than NAS estimate of non-food consumption for the year 1999-00 which became 60 percent in 2004-05. As discussed earlier, the NAS estimate includes three components of consumption that cannot be obtained directly from the reported consumption of the households. The NAS estimate of 'gross rent' includes the notional element of imputed rent of owner-occupied dwellings and 'furniture, furnishings, appliances and services' includes the notional element of general insurance services. The 'miscellaneous goods and services' includes the notional element of FISIM embodied in the banking and insurance services. For comparing the two sets of estimates, adjustment of the NSS estimate for the notional elements is required. After the adjustment the NSS estimates for the items house rent, banking services and insurance services the comparative figures are presented in the table below (*Table 21*).

Table 21: Comparison of NAS and NSS estimates of consumption expenditure on different non-food consumption adjusted for the notional elements

(Rs. crore)

Item-group	1999-00			2004-05		
	Adjusted NSS	**NAS**	**% difference**	**Adjusted NSS**	**NAS**	**% difference**
1. Clothing & footwear	53652	66292	-19.07	45657	100164	-54.42
2. Gross (house) rent & water charges	*89252*	*99270*	*-10.09*	*139749*	*152612*	*-8.43*
3. Fuel & power	53139	44288	19.99	91762	76204	20.42
4. Furniture, furnishings, appliances & services	*17596*	*42411*	*-58.51*	*26017*	*66890*	*-61.10*
5. Medical care & health services	40672	54825	-25.81	55682	117438	-52.59
6. Transport equipment & operational cost	16144	56259	-71.30	30051	131867	-77.21
7. Transport services	18127	93727	-80.66	26169	181455	-85.58
8. Communication	5077	14538	-65.08	19777	31639	-37.49
9. Recreation, Education & Cultural services	26725	42570	-37.22	41713	76037	-45.14
10. Misc. goods & services	*76230*	*96350*	*-20.88*	*138161*	*196814*	*-29.80*
11. Others (which concordance not found)	1968	-	-	2573	-	-
Total non-food(adjusted)	**398582**	**610530**	**-34.72**	**617311**	**1131120**	**-45.42**
Total food	**410918**	**647011**	**-36.49**	**481189**	**742609**	**-35.20**
Total consumption expenditure(adjusted)	**809500**	**1257541**	**-35.63**	**1098500**	**1873729**	**-41.37**

5.3 It is observed that the difference in the NSS and NAS estimates have reduced from 50 percent to 35 percent for 1999-00. Similarly, for 2004-05, the difference has reduced to 45 percent from 60 percent. Difference for rent &

water charges and miscellaneous goods & services has also reduced considerably after the adjustment.

5.4 Comparison of individual item-groups reveals that for all item-groups, except 'fuel and light', the NAS estimate is much higher than the NSS estimate. Three items namely, gross (house) rent & water charges, transport services and miscellaneous goods & services are main contributors of the difference.

5.5 Different approaches are adopted for different item-groups for NAS estimates on non-food consumption. The estimates for the manufactured goods are obtained by the commodity flow approach, while those for fuel and services are derived by various other approaches. The commodity-wise value of consumption of manufactured goods is derived from the estimate of value of production, by applying various ratios and norms representing (i) percentage share of consumables, (ii) gross distributive margins, (iii) percentage shares used for fixed capital formation and inter-industry consumption and (iv) Government consumption. For the registered manufacturing, the commodity-wise shares of consumable items in the total output (of product and by-product) have been obtained for the base year, 1999-2000, from the detailed results of ASI for the year 1999-00. For the unregistered manufacturing, product and by-product ratio to value added have been worked out from the Enterprise Survey on Unorganised Manufacturing. The percentage shares of capital formation are based on the norms worked out on the basis of the results of All India Debt and Investment Survey. The ratios obtained for the base year are used for subsequent years i.e., 2004-05. The data on government consumption are available every year from the budget documents.

Clothing and Footwear

5.6 The NSS estimate of clothing and footwear has always been less than the NAS estimate (*Table 22*). It is 19 per cent less in 1999-2000. In 2004-05, the difference in NSS and NAS estimate has widened to 54 per cent.

Table 22: Difference between the NSS and NAS Estimates of Consumption of Cothing and Footwear in different Years **(*Rs. crores*)**

Year	item	NSS	NAS	Difference for the group	% Difference	Difference for "all non-food"
1972-73	Clothing	2319	2563	-244	-9.52	
	Footwear	163	192	-29	-15.1	
	Clothing & Footwear	2482	2755	-273	-9.91	-24.38
1977-78	Clothing	5068	5888	-820	-13.93	
	Footwear	407	353	54	15.3	
	Clothing & Footwear	5475	6241	-766	-12.27	-19.63

Year	item	NSS	NAS	Difference for the group	% Difference	Difference for "all non-food"
1993-94	Clothing	18203	30937	-12734	-41.16	
	Footwear	3179	4062	-883	-21.74	
	Clothing & Footwear	21382	34999	-13617	-38.91	-49.25
1999-00	Clothing	45532	57936	-12404	-21.41	
	Footwear	8120	8356	-236	-2.82	
	Clothing & Footwear	53652	66292	-12640	-19.07	-49.97
2004-05	Clothing	38929	90052	-51123	-56.77	
	Footwear	6728	10112	-3384	-33.47	
	Clothing & Footwear	45657	100164	-54507	-54.42	-60.20

Note: Sources are same as that for *Table 1*.

5.7 In national accounting, the estimates for clothing are prepared separately for cotton, silk and woolen fabrics and miscellaneous textiles. In the 1980-81 series of NAS estimates, the data from the Office of the Textile Commissioner was used for estimation of private consumption. From1993-94 series onwards, the estimates of private consumption of textile products, consistent with the GDP estimates, are based both on the results of ASI and on the results of the All-India Census of SSI units.

5.8 While the NAS estimate of 'clothing & footwear' has increased by 51% between 1999-2000 and 2004-05, the NSS estimate shows a decline of 15% in 2004-05 over 1999-00. The NSS estimates for 1999-2000 were based on 365 days' data, which in recent years have been yielding higher estimates than 30 days' data for clothing, footwear, education and durables. This explains the apparently haphazard behaviour (a rise and then a fall) of the NSS estimates between 1993-94 and 2004-05. Using 365 days' data for 2004-05 wipes out the observed decline in the NSS estimate of clothing and footwear between 1999-2000 and 2004-05 and shows the NSS estimate to have increased since 1999-2000, but at a slow pace. Nevertheless, the gap between NSS and NAS estimates has undeniably widened. The NSS estimate of this sector for 2004-05 seems to suffer from under-reporting. However, the NSS estimate for 2004-05 would increase by 50% of its present value if data obtained by the last 365 days recall period method were used instead of the last 30 days recall period.

Fuel and Light

5.9 For this item-group, the NSS estimate is higher than NAS estimate by Rs. 8851 crore in 1999-2000 and Rs. 15558 crore in 2004-05. The NSS estimate of consumption expenditure on fuel and light has always been higher than that of the NAS. The gap between the two estimates, it is seen from *Table 23*, has progressively closed from 49 per cent in 1972-73 to 15 per cent in 1993-94, rising again to 20 per cent in 1999-2000 and 2004-05. In 1972-73, the NSS

estimate was higher than the NAS estimate by about 49 per cent and in 1977-78 by about 62 per cent.

Table 23: Difference between the NSS and NAS Estimates of Consumption of Fuel and Light in different Years

(*Rs. crore*)

Year	item	NSS	NAS	Difference for the group	Percentage Difference	Difference for "all non-food"
1972-73	*Electricity*	*102*	*82*	*20*	*24.39*	
	L.P.G	*26*	*17*	*9*	*52.94*	
	Kerosene	*308*	*401*	*-93*	*-23.19*	
	Other fuel	*1370*	*715*	*655*	*91.61*	
	Total fuel & light	1806	1215	591	48.64	-24.38
1977-78	*Electricity*	*233*	*272*	*-39*	*-14.34*	
	L.P.G	*64*	*67*	*-3*	*-4.48*	
	Kerosene	*655*	*538*	*117*	*21.75*	
	Other fuel	*2471*	*1238*	*1233*	*99.6*	
	Total fuel & light	3423	2115	1308	61.84	-19.63
1993-94	*Electricity*	*4797*	*3926*	*871*	*22.19*	
	L.P.G	*1961*	*1521*	*440*	*28.93*	
	Kerosene	*3648*	*2906*	*742*	*25.53*	
	Other fuel	*14121*	*13032*	*1089*	*8.36*	
	Total fuel & light	24527	21385	3142	14.69	-49.25
1999-00	*Electricity*	*15855*	*9859*	*5996*	*60.82*	
	L.P.G	*6931*	*5971*	*960*	*16.08*	
	Kerosene	*6785*	*4036*	*2749*	*68.11*	
	Other fuel	*23568*	*24422*	*-854*	*-3.50*	
	Total fuel & light	53139	44288	8851	19.99	-49.97
2004-05	*Electricity*	29337	18666	*10671*	*57.17*	
	L.P.G	17017	16288	*729*	*4.48*	
	Kerosene	10113	8738	*1375*	*15.74*	
	Other fuel	35295	32512	*2783*	*8.56*	
	Total fuel & light	91762	76204	15558	20.42	-60.20

5.10 Separate estimates of consumption of different items of fuel and light available from both the sources are given in Table *23*. The item 'other fuel' consists of coal, firewood, vegetable waste, dung cake, lignite, gas coke, bagasse, charcoal and gobar gas. Electricity has major share in the difference in the 'fuel and light' group. A detailed comparison of the estimates for the constituents of domestic fuel consumption for 1999-2000 and 2004-05 is given below in Table 24.

Table 24: Comparison between NAS Estimates and NSS Adjusted and Unadjusted Estimates of Consumption of Fuel and Light. (Rs. Crore)

							1999-00
Item	**NSS**		**NAS**		**Difference (NSS - NAS)**	**NAS adjusted by NSS price**	**Adjusted difference**
	Quantity	**Value**	**Quantity**	**Value**			
Electricity (MKwh)	110142	15855	72600	9859	5996	10451	5404
L.P.G (000 tonnes)	5627	6931	5297	5971	960	6525	406
Kerosene (000 tonnes)	11742	6785	11898	4036	2749	6875	-90
Coal (mill. Tonnes)	1541	346	3451	759	-413	775	-429
Firewood, chips	--	16902	--	17490	-588	17490	-588
Dung cake	--	5222	--	3923	1299	3923	1299
Coal gas / gas coke	--	130	--	5	125	5	125
Charcoal (000 tonnes)	--	57	--	862	-805	862	-805
Gobar gas	--	136	--	585	-449	585	-449
Others	--	775	--	798	-23	798	-23
Total fuel & light	**--**	**53139**	**--**	**44288**	**8851**	**48288**	**4851**
							2004-05
Electricity (MKwh)	129247	29337	95659	18666	10671	21713	7624
L.P.G (000 tonnes)	8123	17017	8452	16288	729	17706	-689
Kerosene (000 tonnes)	8198	10113	9395	8738	1375	11590	-1477
Coal (mill. Tonnes)	2355	470	4328	1389	-919	864	-394
Firewood, chips	--	25989	--	23075	2914	23075	2914
Dung cake	--	6802	--	4355	2447	4355	2447
Coal gas / gas coke	--	222	--	7	215	7	215
Charcoal (000 tonnes)	210	91	1640	1703	-1612	711	-620
Gobar gas	--	112	--	1249	-1137	1249	-1137
Others	--	1609	--	734	875	734	875
Total fuel & light	**--**	**91762**	**--**	**76204**	**15558**	**82003**	**9759**

5.11 It is seen from Table 24, that electricity, kerosene, dung cake and 'firewood and chips' are major contributors in the difference. The NSS estimates of quantity consumed for electricity is substantially higher than the NAS estimates. The NAS estimates of quantity and value of electricity consumption are based on the data on electricity sold to domestic consumers and average electricity rates available from the Central Electricity Authority. For kerosene, the data on quantity and retail prices are taken from Ministry of Petroleum and Natural Gas. The prices used for evaluating the consumption in NAS are obtained from the official sources and thus represent the prices set by the regulatory authorities, rather than the prices actually paid by the consumers. The prices implicit in the NSS estimates of quantity and value on the other hand, are expected to be closer estimates of average prices actually paid by the customers.

The implicit prices of NSS estimates are higher than the implicit prices of NAS estimates. This has resulted in higher value of NAS estimates of kerosene when evaluated at NSS prices and hence changing the trend in the difference in two estimates.

5.12 The NAS consumption estimates of firewood are based on the consumption data available from the HCES of the NSSO. The minor difference in the estimates from the two sources for the base year i.e., 1999-2000 is on account of adjustments made for agricultural waste and bagasse and value of firewood used in the funerals. The difference between the estimates of firewood consumption owes itself to the adjustments made for the NAS estimate under the assumption that vegetable wastes, bagasse are included, while fire wood used in funerals are not included in the NSS estimate for 'firewood & chips'. The difference in two estimates has increased in 2004-05. This is because for 2004-05, the NAS estimates have been computed applying the growth rate observed during last two quinquennial surveys on the value of base year estimates.

Medical care & Health Services

5.13 The difference in the two estimates was around 6% in 1993-94. The NSS estimate was lower than NAS estimate. The difference increased to 26% in 1999-00 and 53% in 2004-05. The NAS estimates based on 1999-2000 series are not comparable with the estimates of earlier series. The estimates of expenditure of the households on medical care and health services were prepared on the basis of the NSSO Consumer Expenditure Survey (CES, 50th round) 1993-94 for the old series. For subsequent years the estimates were built on the basis of inter-survey growth observed in the 43rd (1987-88) and 50th (1993-94) round survey results. For the present series i.e., 1999-2000, the PFCE estimates are based on the 52nd round NSS Health Care Survey. PFCE for subsequent years is projected using the growth rate in the per capita consumption expenditure between 52nd and 57th round HCES of NSS. The receipt by Central government on account of Central Government Health Scheme compiled from the Central government budget is also taken as an item of household consumption.

5.14 Since the Health Care Survey of the 52nd round of NSS was focused on medical care, it is presumed to have collected the data more accurately compared to the household consumer expenditure surveys. This has resulted in wide gap between the two sets of estimates for the year 1999-2000. The gap

has widened due to use of higher growth rate observed between per capita consumption expenditure of 52nd and 57th round HCES, 15 % per annum, as compared to the growth of 6% observed between 55th and 61st round. It may be noted that 52nd and 57th round of NSS are annual surveys whereas 55th and 61st round are quinquennial rounds.

Furniture, Furnishing, Appliances and Services

5.15 This item-group consists of a wide variety of consumer goods and services. In the NAS, this is further classified into the sub-groups of 'furniture, furnishing & repairs', 'refrigerator, cooking and washing appliances', 'glassware, tableware and utensils' a residual category of 'other goods' and 'services consumed at the household level'. For 1993-94, 1999-00 and 2004-05, the NAS estimate for this group is substantially higher than the NSS estimates. In 1972-73 and 1977-78 too the NAS estimate for this group was higher than the NSS estimate, but the difference between the two was less pronounced (Table 25).

Table 25: Difference between the NSS and NAS Estimates of Consumption of furniture, furnishing, appliances and services in different Years

(***Rs. Crores***)

Year	NSS	NAS	Difference for the group	% Difference	Difference for "all non-food"
1972-73	652	1003	-351	-35	-24.38
1977-78	1480	1984	-504	-25.4	-19.63
1993-94	6007	17610	-11603	-65.89	-49.25
1999-00	17516	42411	-24895	-58.70	-49.97
2004-05	25839	66890	-41051	-61.37	-60.20

5.16 From the detailed item-wise comparison of the estimates for 1999-00 and 2004-05 given in Table 26, it is seen that the sub-group 'freezing, cooking, washing appliances' and 'glassware, tableware & utensils' are the main contributors towards the group-level divergence between the two sets of estimates. For both the years, 1999-00 and 2004-05, about two-third of the group-level difference is accounted for by these two sub-groups. The services sub-group too has a significant contribution to the group-level divergence between the estimates.

Table 26: Comparison between NAS and NSS Estimates of Consumption of Furniture, furnishings, appliances and services

(Rs. Crores)

Items	1999-00			2004-05		
	NSS	**NAS**	**% difference**	**NSS**	**NAS**	**% difference**
Carpet	19	430	-95.58	38	731	-94.80
Coir product	195	244	-20.08	238	371	-35.85
Wooden & steel furniture	868	974	-10.88	1850	513	260.62
Furniture, furnishing & repairs	**1082**	**1648**	-34.34	**2126**	**1615**	31.64
Non-electrical mach.	186	877	-78.79	199	1410	-85.89
Electrical mach.	1324	2441	-45.76	1654	4700	-64.81
Refg'tr & AC	651	2939	-77.85	864	4477	-80.70
Freezing, cooking, washing appliances	**2161**	**6257**	-65.46	**2717**	**10587**	-74.34
Glass, earthenware & chinaware	544	12182	-95.53	893	16595	-94.62
Metal utensils	1180	2089	-43.51	1447	3422	-57.71
other metal / household utensils	157	1013	-84.50	212	1059	-79.98
Glassware, tableware& utensils	**1881**	**15284**	-87.69	**2552**	**21076**	-87.89
Matches	1391	2489	-44.11	1667	3669	-54.57
Misc. personal goods	6644	5829	13.98	9708	10210	-4.92
Plastic products	453	1176	-61.48	727	2937	-75.25
Rubber products	22	213	-89.67	55	585	-90.60
Batteries	402	1275	-68.47	566	2583	-78.09
Other goods	**8912**	**10982**	-18.85	**12723**	**19984**	-36.33
Domestic services	2195	3845	-42.91	3782	6465	-41.50
Laundries, dry cleaners	1285	4315	-70.22	1939	6985	-72.24
Insurance	x	80	--	x	178	--
Services	**3480**	**8240**	-57.77	**5721**	**13628**	-58.02
Furniture, furnishings, appliances & services	**17516**	**42411**	**-58.70**	**25839**	**66890**	**-61.37**

Transport

5.17 This head includes purchase and repairs of transport equipment and consumption of transport services. This group accounts for about 38 percent of the difference between the NAS and NSS estimates of non-food consumption for both the years 1999-00 and 2004-05 (Table 20). Divergence between the estimates for this head has been high even in the past. *Table 27* shows that the divergence, which was of the order of over 60 per cent in the early 1970's increased to 77 percent in 1999-00 and 82 percent in 2004-05.

Table 27: Difference between the NSS and NAS Estimates of Consumption of transport in different Years **(*Rs. Crore*)**

Year	Item	NSS	NAS	Difference for the group	% Difference	Difference for "all non-food"
1972-73	transport equipment	117	381	-264	-69.29	
	transport services	489	1257	-768	-61.1	
	Transport: total	**606**	**1638**	**-1032**	**-63**	**-24.38**
1977-78	transport equipment	211	853	-642	-75.26	
	transport services	900	2971	-2071	-69.71	
	Transport: total	**1111**	**3824**	**-2713**	**-70.95**	**-19.63**
1993-94	transport equipment	7178	24592	-17414	-70.81	
	transport services	8450	36143	-27693	-76.62	
	Transport: total	**15628**	**60735**	**-45107**	**-74.27**	**-49.25**
1999-00	transport equipment	16144	56259	-40115	-71.30	
	transport services	18127	93727	-75600	-80.66	
	Transport: total	**34271**	**149986**	**-115715**	**-77.15**	**-49.97**
2004-05	transport equipment	30051	131867	-101816	-77.21	
	transport services	26169	181455	-155286	-85.58	
	Transport: total	**56220**	**313322**	**-257102**	**-82.06**	**-60.20**

5.18 The share of 'transport services' in the estimates of non-food consumption as a whole being higher, its contribution to the divergence too is of greater significance. The item-group 'transport services' alone is responsible for about 25 percent of the divergence observed between the NAS and NSS estimates of total non-food consumption for 1999-00 and 23 percent in 2004-05.

Transport Services

5.19 Table 28 gives a detailed comparison between the NAS and NSS estimates of consumption of different types of transport services for 1999-00 and 2004-05. It is seen that the NSS estimate for this group are less by about 81 percent in 1999-00 and 86 percent in 2004-05 of the corresponding NAS estimates.

Table 28: Comparison between NAS and NSS Estimates of Consumption of Transport Services ***(Rs. Crore)***

Items	1999-00			2004-05		
	NSS	NAS	% difference	NSS	NAS	% difference
Air fare	253	1492	*-83.04*	784	2370	*-66.92*
Rail fare	1656	7665	*-78.40*	2656	11250	*-76.39*
Bus (including tram) fare	13155	40577	*-67.58*	16955	88480	*-80.84*
Taxi, auto-rickshaw fare etc.	1995	36599	*-94.55*	4307	68731	*-93.73*
Others with incidental services	1068	7394	*-85.56*	1467	10624	*-86.19*
Transport services: Total	**18127**	**93727**	**-80.66**	**26169**	**181455**	**-85.58**

5.20 In national accounting, estimates of total passenger earnings are worked out separately for each mode and a proportion of each is attributed to private consumption. For rail, air and organised water transport the data are directly available from the annual reports. Of the gross passenger earnings, 80 per cent for rail, 25 per cent for air are taken as private consumption. For the other modes of mechanised road transport, the gross passenger earnings are estimated as the product of an estimated average 'earnings per vehicle' and total number of vehicles. Of the gross passenger earnings, 50 per cent for taxi, 90 per cent each for auto-rickshaws and buses are taken as private consumption.

5.21 The NSS estimate includes expenditure incurred on account of journeys undertaken and transportation of goods made by air, rail, bus, steamer, car, taxi, and other mechanised and non-mechanised means of conveyance. It includes all expenses on account of conveyance for the households' domestic purposes and excludes that incurred for official and business purposes. As far as coverage is concerned, the NSS estimates are by and large comparable with the NAS estimates.

5.22 The NSS estimates are by far lower than the corresponding NAS estimates. Clearly, the NSS estimates for air and rail appear to be on the lower side, as the NAS estimates are based on reliable accounting data of gross receipts. On the other side, the ratios used for arriving at the NAS estimates of private consumption from the gross earnings were revised in the recent base revision (1999-2000) to make them more realistic. In view of this, the following issues need to be investigated further to validate the NAS estimates:

- The estimates of number of vehicles available from the Ministry of Surface Transport (MoST) are based on registration of vehicles. It may not represent the actual number in operation.
- Validity of the estimates of per vehicle earnings used at present for the NAS estimates.
- Validity of the assumed ratios of private consumption of these services used for deriving the NAS estimates.

Transport Equipment and Operational Cost

5.23 Table 29 gives the comparable item-wise estimates of 'transport equipment and operational costs', as available from the two sources for 1999-00

and 2004-05. It is seen that the difference in the NSS and NAS estimates for this group was 71 percent in 1999-00 which further increased to 77 percent in 2004-05.

Table 29: Comparison between NAS and NSS Estimates of expenditure on Transport equipment & operational costs

(Rs. crore)

Items	1999-00			2004-05		
	NSS	NAS	% difference	NSS	NAS	% difference
Purchase and repairs of motor vehicles	2234	11530	-80.62	3809	21373	-82.18
Purchase and repairs of motor bike, scooter & cycle	4051	5582	-27.43	7417	10876	-31.80
I-Total(equipment & repairs)	**6285**	**17112**	**-63.27**	**11226**	**32249**	**-65.19**
Tyres & tubes	341	1714	-80.11	575	3774	-84.76
Petrol & diesel	9518	37433	-74.57	18250	95844	-80.96
II-Total Operational costs	**9859**	**39147**	**-74.82**	**18825**	**99618**	**-81.10**
Total(I+II)	**16144**	**56259**	**-71.30**	**30051**	**131867**	**-77.21**

5.24 This group includes expenses incurred for purchase and repairs of owned transport equipment and their operational costs, viz. expenses incurred for replacement of tyres and tubes and purchase of fuel. As for the mechanised transport equipment, it is seen that the estimates of purchase of two-wheelers (including bicycle) compare closely with each other, but those of motor cars and their parts differ by more than 80 per cent for both the years 1999-00 and 2004-05. From the persistent differences between the NAS and NSS estimates observed in the past, it is suspected that the household expenditure on durables is not fully captured in the NSS estimates, as the expensive durables are purchased more by the relatively affluent households and suffers from non-response from this segment of population.

5.25 In national accounting, the estimate of purchase of vehicles by the private households and NPISHs are derived by commodity flow approach, while those of repair services and maintenance costs pertaining to owned transport are derived as the product of per vehicle average repair cost per year and number of vehicles. The per vehicle average cost is estimated on the basis of the allowance prescribed for computing rebate on income tax in respect of repairs and maintenance of different vehicles. The average costs are estimated separately for repairs and fuel consumption. The estimates of number of cars and two-wheelers other than bicycles are available from the MoST. The estimate of number of bicycles is derived from the production data under the assumption of an average road life of ten years.

5.26 Evidently, the reliability of the NAS estimate depends not only on the validity of the assumptions made regarding share of the private consumption in the total production of motor vehicles and the per vehicle average costs of repairs and fuel, but also on the reliability of the estimates of number of different kinds of vehicles on which the NAS estimate is based.

Recreation, Education and Cultural Services

5.27 This group includes a wide variety of goods like TV & Radio, musical instrument, photographic goods, equipment for sports, stationery, books and other reading materials on the one hand and educational, recreational and cultural services on the other. The difference in the NSS and NAS estimates of expenditure on education is about 44 percent in both the years 1999-00 and 2004-05. The NSS estimates for 1972-73 and 1977-78 and 19993-94 were also substantially lower than the corresponding NAS estimates.

Table 30: Difference between the NSS and NAS Estimates (Rs. crore) of Consumption of Recreation, Education and Cultural services in different Years

(Rs. crore)

Year	item	NSS	NAS	Difference for the group	% Difference	Difference for "all non-food"
1972-73	education	347	790	-443	-56.08	
	others	256	612	-356	-58.17	
	total	**603**	**1402**	**-799**	**-56.99**	**-24.38**
1977-78	education	492	1214	-722	-59.47	
	others	808	870	-62	-7.13	
	total	**1300**	**2084**	**-784**	**-37.62**	**-19.63**
1993-94	education	5362	10092	-4730	-46.87	
	others	6449	7534	-1085	-14.4	
	total	**11811**	**17626**	**-5815**	**-32.99**	**-49.25**
1999-00	education	13244	23781	-10537	-44.31	
	others	13481	18789	-5308	-28.25	
	total	**26725**	**42570**	**-15845**	**-37.22**	**-49.97**
2004-05	education	24043	43040	-18997	-44.14	
	others	17670	32997	-15327	-46.45	
	total	**41713**	**76037**	**-34324**	**-45.14**	**-60.20**

5.28 For recreation and entertainment services, NAS estimates are built up on the basis of rates of entertainment taxes and revenues of the State Governments under this head. In the above table these items are included in 'others'. The main contributor to the divergence between the NAS and NSS estimate for this item-group is 'education'. The NSS estimate for education includes expenses incurred on tuition fees, private tuition, books etc. by the households. The NAS estimate, in addition, covers the expenses of the NPISHs on education and related activities. The difference between the estimates on education is thus expected to be substantial, as the NPISHs have fairly large share in educational activities.

CHAPTER-VI
MAJOR FINDINGS ON COMPARABILITY OF TWO SETS OF ESTIMATES

6.1 The estimates of private final consumption expenditure available from two sources, one from household consumer expenditure surveys of NSSO and other from National Accounts Statistics of CSO, are different due to the procedures followed to compile them. NSS estimate is compiled from the data collected through household surveys. The monthly per capita consumer expenditure available separately for rural and urban areas from the surveys is multiplied by the respective population to arrive at total PFCE estimate. Whereas the CSO estimate is prepared as one of the macro-aggregates of National Accounts Statistics following "commodity flow" approach. This approach consists of netting out *intermediate consumption*, change in stocks and exports net of imports from the total value of output to get the *net availability of the commodities* in the domestic economy. An amount is also discounted for the wastage of agricultural produce. From the *net availability*, the part used for capital formation and that used by the general government administration for current consumption are deducted to arrive at the commodity-wise estimates of *private final consumption expenditure* (PFCE) at current market prices. This represents the value of goods and services consumed by the households and NPISHs.

6.2 The NSS estimate of total household consumption was lower than the NAS estimate of private final consumption expenditure by only 5 per cent in 1972-73 and about 10 per cent in 1977-78. The divergence increased to a level of about 25 per cent by 1983-84, remained at almost the same level in 1987-88, and then became as high as 38 per cent in 1993-94.The difference further increased to about 43 percent in 1999-00 and 50 percent in 2004-05.

6.3 The difference in the expenditure of non-food items is more than the difference of expenditure on food items. For the year 1972-73, the expenditure on food items from both the sources is almost same. The estimate of PFCE of NAS increased faster than that the NSS estimates thereafter. The difference between the NSS and NAS estimates was 8 per cent in 1977-78, became 19 per cent in 1983-84 and 29 per cent in 1993-94. It ranged between 35 to 40 percent during 1999-00 to 2004-05. Whereas the difference in the consumption of non-food items was 17 per cent in 1972-73, increased manifold to around 50 per cent in 1993-94 and 1999-00. The difference is 60 percent in 2004-05.

6.4 The comparison of the two sets of estimates is constrained by certain differences inherent in the approaches adopted by the two agencies. The following is a brief discussion on the identified possible reasons for differences that are inherent in the methods of estimation used by the two agencies.

i). The Household Consumer Expenditure Surveys (HCES) of the NSSO excludes the houseless and the institutional population and consumption expenditure on account of NPISHs while the consumption of these persons is included in NAS estimate. As for the consumption expenditure of NPISHs, it is not possible to derive any reasonable estimate of its share in the NAS estimate of PFCE. Since the activities of NPISHs have increased significantly in the recent years, it could be one of the factors for widening of the gap.

ii). The agricultural items produced during an agricultural year are not necessarily consumed during the same period, nor is the current year's consumption drawn entirely from the current year's production. As the NSS survey period is generally an agricultural year and the NSS estimates represent the actual consumption during the agricultural year where as the NAS estimates refer to the financial year. Therefore, the NAS estimates are strictly not comparable with the NSS estimates. The comparability, however, should not be seriously affected if the difference in the output of food crops in two successive years is not significant.

iii). The classification schemes adopted by NSS and NAS differ considerably in many respects. Previous to 1980-81 series, expenditure on 'hotels & restaurants' was used to be classified under non-food consumer services in the NAS while it was included in the food group in the NSS estimate. Expenditure on purchase and repairs of transport equipment is classified under 'durables' in the NSS estimates, while it is included in the transport-group in the NAS estimates of PFCE.

iv). The value of the "cooked meals" served to a domestic help by an employer household forms a part of 'food' consumption of the employer household in NSS. On the other hand, in NAS estimate it forms consumption of 'services' for the employer households.

v). Estimates of rent on dwellings include all imputed rentals of owner-occupied dwellings in NAS while in NSS the rent actually paid is taken. NSS has recently started collecting the imputed rentals for the owner occupied dwellings for urban areas only. However, for comparison purposes this information is not taken into account. The adjustment in NSS estimates is made as per the procedure followed in the earlier years i.e., adding NAS estimates of imputed rentals for owner occupied dwellings both in rural and urban areas. The *Financial*

Intermediation Services Indirectly Measured (FISIM) is another such notional component in the NAS estimate. The NSS estimates adjusted for the 'notional' elements and the NAS estimates adjusted for prices are given in *Appendix II*. It is seen that the adjustments, on the whole, closes the gap by about 9 percentage points in both the years 1999-2000 and 2004-05. The difference due to notional elements i.e., imputed rentals and FISIM and due to price differential is given below:

Overall difference in NAS and NSS estimates (%age points)

		1999-2000			2004-05		
S.No.		**Food**	**Non Food**	**Total**	**Food**	**Non Food**	**Total**
1.	Without Adjustment	36.49	49.97	43.03	35.20	60.20	50.29
2.	Adjustment for FISIM and Imputed Rental	36.49	34.73	35.63	35.20	45.44	41.38
3.	Adjusted for Price and notional elements	32.93	35.15	34.04	34.84	45.72	41.44
4.	Adjustment due to price alone	-3.56	0.42	-1.59	-0.36	0.28	0.06

vi). The difference due to the 'notional' elements like imputed rent and FISIM in the NAS estimate is 7.4% in 1999-2000 and 8.9% in 2004-05. On removing these components, the overall difference between two sets of estimates comes down from 43.03% to 35.63% in 1999-2000 and from 50.29% to 41.38% in 2004-05. As these components are from non-food category, the difference in non-food expenditure after adjusting for imputed rent and FISIM comes down from 49.97% to 34.73% in 1999-00 and from 60.20% to 45.44% in 2004-05.

vii). After adjusting NAS estimates of expenditure by the implicit prices of NSS, the difference in food expenditure came down by 3.56 percentage points and non-food expenditure increased by 0.42 percentage points. The total expenditure after adjusting for prices came down by 1.59 percentage points in 1999-2000. In 2004-05, there is not much impact of price differential on food and non-food expenditure.

6.5 The item-wise comparison of NSS and NAS estimates of food and non-food consumption is summarized below:

6.6 The NSS estimates of *food sub-group* are lower than NAS estimates by 35 to 36 percent in the years, 1999-2000 and 2004-05. In 1999-2000, NSS estimate of consumption of '*Cereals & Cereal Products'* was 21 percent lower than NAS estimate. Where as the trend is reverse in 2004-05. The NSS estimate is 16 per cent higher than NAS estimate. The major contributors in the difference in this group are 'fruits & vegetable', followed by 'milk & milk products' and 'cereals & cereal products'. These three commodity groups contribute about 60% in difference in the estimates of food consumption from two sources in both the years

6.7 The NSS estimate of expenditure on *food grains* consumption was higher than that of the NAS for the years 1972-73 and 1977-78. But it is important to note that unlike the estimates for earlier years, the NAS estimate for 1993-94 and 1999-00 exceeds the corresponding NSS estimate. The trend has reversed in the year 2004-05.

6.8 For the year 1999-00, the unadjusted NAS estimate of total *cereals* consumption is higher than the NSS estimate by Rs. 34390 crore, which reduces to Rs 19331 crore once the NAS quantity estimates are evaluated at NSS implicit prices. In 2004-05, the NSS estimates which are higher by Rs. 19071 crore than the NAS estimate reduces to Rs 9087 crore on adjusting NAS estimates for NSS prices.

6.9 *Pulses and Pulses Products* is the only major item-group of food consumption for which the NSS estimates are found to be higher than the NAS estimates. The difference between the two sets of estimates is largely due to higher implicit price in NSS estimates. Adjustment for prices of the NAS estimates of value substantially reduces the gap.

6.10 *Milk and Milk products* item-group is only next to 'fruits and vegetable' group in its contribution towards the discrepancy between the estimates of food consumption. The consumption of milk products is overestimated by the CSO. A part of the volume of milk assumed to be used for butter and *lassi* production may in fact be used as intermediate consumption in enterprises producing other commodities like sweetmeat, tea and coffee, hotel and restaurant services, consumption of which are estimated separately in the NAS.

6.11 The NSS estimate of consumption expenditure of *'edible oils and oilseeds'* are lower than the NAS estimates. For vanaspati no adjustment is made for its

use in other industries in NAS estimates. This appears to be an important reason for the difference between the estimates of *vanaspati* consumption, since it is used extensively in commercial establishments like *halwais*, hotels and restaurants.

6.12 The difference in the estimates of consumption is most pronounced for the oilseeds. It may be noted that groundnuts used as such are not included here. Notwithstanding the possibility of underreporting in the NSS, the NAS estimate for oilseeds appears to be on the higher side, particularly because the latter is based on the assumption that the entire amount of oilseeds retained by the producers is consumed as oilseeds.

6.13 *Meat, Fish and Egg* is another item-group of food items for which the estimates from the two sources vary widely. The estimates were comparable for the year 1972-73 and 1977-78. But the difference increased to 45 percent in 1993-93, 54 percent in 1999-00 and 59 percent in 2004-05. The items such as chicken, egg and egg products and the fish are the main contributors in the divergence. The important reason for the discrepancy may be that the intermediate consumption for most of the items of this group is taken as nil in the NAS.

6.14 The *"fruits and vegetables and their products"* contributes maximum in the difference between the NAS and NSS estimates of consumption expenditure in the the item-groups of food consumption. The reporting of fruits probably suffers severely from recall lapse in the HCES. Fruits consumed outside home are most likely not captured in the HCES.

6.15 NAS consumption estimates for *Tobacco* item-group always been substantially higher than the NSS estimates. The NSS estimates are likely to be on the lower side, as the data collected through interviews are expected to be adversely affected by under-reporting resulting from the inhibitions against consumption of tobacco. Moreover, in the HCES, information is usually collected from a member of the household, who is often unaware of tobacco consumption habits of the other members of the household.

6.16 *The Hotel and Restaurant -group* was classified in the category of services till the 1970-71 series of the NAS which is taken as a part of the food consumption since the 1980-81 series. NSS estimate for this group was higher than the NAS estimate in both 1972-73 and 1977-78. But, for 1993-94 onwards the trend is reversed. The NAS estimate is expected to be higher due to the larger coverage than NSS. The receipts from accommodation charges may be one of the major causes of divergence in the estimates for this item.

6.17 In non-food group, except 'fuel and light', the NSS estimate for all items is much lower than the NAS estimate. Three items namely, gross (house) rent & water charges, transport services and miscellaneous goods & services are main contributors to the difference.

6.18 In the 'Clothing and footwear', gap in the two estimates has increased from 19% in 1999-00 to 54% in 2004-05. A significant decline of 15% in the NSS estimates of 'clothing & footwear' from 1999-2000 to 2004-05 and an increase of 51% in NAS estimates has resulted in the widening of the gap. The reason for decline in the estimate of 'clothing & footwear' in 2004-05 is that the NSS estimates for 1999-2000 were based on 365 days' data, which in recent years have been yielding higher estimates than 30 days' data for clothing, footwear, education and durables. The 365 days' data for 2004-05 wipes out the observed decline in the NSS estimate of clothing and footwear between 1999-2000 and 2004-05 and shows the NSS estimate to have increased since 1999-2000, but at a slow pace than NAS estimates. Nevertheless, the gap between NSS and NAS estimates has widened in 2004-05. The NSS estimate of this sector for 2004-05 seems to suffer from under-reporting.

6.19 The item sub-groups 'firewood & chips' are mainly responsible for the difference between the two estimates of **'***fuel and light'.* The implicit prices of NSS estimates of 'electricity', 'kerosene' and 'L.P.G' are higher than the implicit prices of NAS estimates. This has resulted in higher value of NAS estimates of kerosene when evaluated at NSS prices and hence changing the trend in the difference in two estimates.

6.20 *In 'medical care & health services',* difference between the NSS and NAS estimates has increased from 26% in 1999-00 to 53% in 2004-05. The NAS estimates for 1999-00 are based on the 52nd round NSS Health Care Survey and

for subsequent years it is projected using the growth rate in the per capita consumption expenditure between 52nd and 57th round HCES of NSS. Since the Health Care Survey of the 52nd round of NSS was focused on medical care, it is presumed to have collected the data more accurately compared to the household consumer expenditure surveys. This has resulted in wide gap between the two sets of estimates for the year 1999-2000. The gap has widened due to use of higher growth rate observed between per capita consumption expenditure of 52nd and 57th round HCES which is 15 % per annum, as compared to the growth of 6% observed between 55th (1999-00) and 61st(2004-05) round. As a result the difference which was Rs. 14000 crore in 1999-00 became Rs. 62,000 crore in 2004-05.

6.21 *Transport* includes purchase and repairs of transport equipment and consumption of transport services. In non-food items, item-group Transport is the major contributor. 'Transport equipments & operation cost' and 'Transport services' contribute about 38% of the total difference in both the years i.e., 1999-2000 and 2004-05. The NAS does not include transportation of goods made by the private consumption units, which undeniably forms an insignificant part of the whole. Besides under-reporting in the HCES, the estimates of number of vehicles, per vehicle earnings and ratios of private consumption are perhaps important reasons for divergence.

6.22 The difference in the NSS and NAS estimates for '*transport equipment and operational cost'* was 71 percent in 1999-00 which further increased to 77 percent in 2004-05. It is suspected that the household expenditure on durables is not fully captured in the NSS estimates, as the expensive durables are purchased more by the relatively affluent households, which do not respond properly or adequately to the NSS surveys.

6.23 The difference in the NSS and NAS estimates of expenditure on '*education'* is about 44 percent in both the years 1999-00 and 2004-05. The NSS estimates for 1972-73 and 1977-78 and 19993-94 were also substantially lower than the corresponding NAS estimates. The NAS estimate, in addition, covers the expenses of the NPISHs on education and related activities. The difference between the estimates on education is thus expected to be substantial, as the NPISHs have fairly large share in educational activities.

6.24 In the above paragraphs the reasons for the divergence between NAS and NSS estimates of private consumption expenditure have been discussed in detail. Besides the difference in the two estimates, the more concerning issue is the widening of this gap over the years. It has been observed that the difference is more in non-food items as compared to food items and the share of non-food items is increasing over the years. The share of different commodity groups from 1972-73 is given below to highlight the changing share of these commodities over the years.

Expenditure as % of total Consumer Expenditure (Rural & Urban Combined)

S. No	**Item Group**	**27th round**	**32nd round**	**38th round**	**43rd round**	**50th round**	**55th round**	**61st round**
		(1972-73)	(1977-78)	(1983-84)	(1987-88)	(1993-94)	(1999-00)	(2004-05)
1	Cereals	37.1	30.1	29.2	23.5	21.5	19.5	15.7
2	**Food (total)**	**71.2**	**63.3**	**64.0**	**62.1**	**61.0**	**56.3**	**51.4**
3	Fuel & Light	5.6	6.1	7.0	7.3	7.2	7.6	10.1
4	Misc goods & services	10.8	11.3	14.4	16.7	20.0	22.8	27.3
5	Durables	2.2	7.4	2.3	3.3	2.9	2.9	3.6
6	**Non-food (total)**	**28.8**	**36.7**	**36.0**	**37.9**	**39.0**	**43.7**	**48.6**

6.25 Misc. goods and services include education, medical care and rent & taxes. The share of food items has come down from 71% in 1972-73 to 61% in 1993-94 and to 51% in 2004-05. The non-food items which have larger contribution in the difference have increased from 29% in 1972-93 to almost 49% in 2004-05. Increasing share of those items whose contribution in total expenditure is more is one of the reasons for widening of the gap.

CHAPTER-VII
CONCLUDING REMARKS AND SUGGESTIONS

7.1 The difference in the two sets of estimates is inherent in the methodologies adopted for preparing the estimates. It is difficult to say which one is more accurate. The NSS estimates suffer from difference in coverage, under-reporting, recall lapse in case of non-food items or for the items which are less frequently consumed and increase in non-response particularly from affluent section of population. It is suspected that the household expenditure on durables is not fully captured in the NSS estimates, as the expensive durables are purchased more by the relatively affluent households, which do not respond accurately to the NSS surveys.

7.2 Moreover, the NSS schedule is not modified to capture the new items entering into the economy like electronic and communication equipments. They are covered in the category of 'others'. Expenditure on these items may not be getting reflected adequately.

7.3 The NAS estimate also covers the expenses of the NPISHs on education and related activities which are not captured adequately in NSS estimates. It is not possible to segregate the share of these components in the total difference between PFCE of NAS and NSS as no data is available for NPISH sector.

7.4 After adjusting for the notional components like FISIM and imputed rentals, 35-40% of the difference still remains to be reconciled. For this, there is a need to conduct fresh studies to update rates and ratios used for improving NAS estimates of PFCE. At the same time measures have to be taken to improve the under reporting of NSS estimates.

7.5 The following are some suggestions for improvement in the methods of deriving NAS estimates and data collection in the HCES:

(i) The NAS and NSS estimates for the important sub-groups of food items like major cereals, more commonly used pulses and edible oils, liquid milk and

vegetables do not differ much. The recall lapse in NSS estimates could be the main reason for the under reporting of these items. The gap can be narrowed down by using a shorter reference period of 7-days for these items. The experiment with different reference periods carried out during 51st to 54th rounds of HCES shows that 7-day reference period captures more accurately the consumption expenditure on food items. It has been observed that the 7-day reference period yields higher estimates of food items as compared to 30-day reference period.

(ii) The NAS estimates of food items are prepared using average prices which are based on the data collected in the regular price collection schemes. The qualities of these commodities vary over a wide range. But, for each commodity, prices of only fixed set specified qualities are collected in the price collection schemes, notwithstanding the changes in the market shares of different qualities that take place over time. The NSS implicit prices, on the other hand, represent the average price of the commodities appropriately weighted by the actual shares of different qualities in the current consumption basket. Thus, the prices used for NAS estimates may often not be appropriate for evaluating the value of consumption. For this purpose, the NSS implicit prices can be generated from the data collected in the HCES, separately for consumption out of home-grown stock and that out of quantity purchased. The feasibility of deriving NAS value estimates using NSS implicit prices requires a comprehensive study.

(iii) The accuracy of the NAS estimates, being derived by commodity flow approach, depends heavily on the accuracy of rates, ratios and norms applied on the production estimates for netting out the amounts used for further production in the form of seeds, feeds and inter-industry consumption. The NAS estimates also depend on the estimated ratio of marketable surplus. These rates and ratios are not revised at regular intervals and hence not capturing the current pattern of their use. For example, the NAS estimates of pulses suffer from an upward bias, as the present method makes no provision for intermediate consumption of the *dals* in hotels and restaurants or in other industries**.** Similarly, for *vanaspati* no adjustment is made for its use in other industries. This appears to be an important reason for the difference between the estimates of *vanaspati* consumption, since it is used extensively in commercial establishments like *halwais*, hotels and restaurants. Therefore, the rates –ratios used in NAS estimates needs to be revised by carrying out fresh studies.

(iv) A comprehensive study needs to be undertaken to assess the amount of pulses, fruits and vegetables, vanaspati and meat, egg and fish etc. used as inputs in Hotels and Restaurants industry. The ratios of these commodities used as intermediate consumption in the existing methodology of NAS estimates do not capture correctly their use in Hotels and Restaurants sector, which has grown fast in recent years. This may help in correcting the NAS estimates of these items.

(v) The entire amount of output of manufacturing of dairy products is at present, assumed to be milk products, whereas a large part of it is in fact liquid milk of different kinds. Though this does not affect the aggregate estimate for the item-group 'milk & milk products', it understates the consumption of liquid milk. The estimates of milk products like butter and *lassi* are based on norms worked out in the past for the practices prevalent at that time. These too require revision, as the methods of disposal of milk produce have undergone vast changes in the recent past.

(vi) The underestimation of fruit consumption in the HCES may be due to non-cooperation of the affluent section of population. The reporting of fruits probably suffers severely from recall lapse also. Fruits consumed outside home are most likely not captured in the HCES. A comprehensive study needs to be undertaken to investigate possible reasons for underestimation in the HCES.

(vii) The data on change in stock used at present are not appropriate. There is hardly any reliable data on change in stock for the household sector. So far the enterprise surveys have failed to provide useable estimates of change in stock. Thus, special studies need to be undertaken to explore alternative ways of estimating the change in stock in the household sector.

(viii) The under estimation of consumption of durables has been suggested by a number of scholars in the past. The non-cooperation from the affluent households could be the main reason for the downward bias. Further investigation needs to be done for estimating the extent of under estimation in NSS estimates. A separate survey with more detailed schedule for some of these items may provide better estimates in HCES.

(ix) The NSS estimates of traveling expenses incurred by the households are grossly underestimated. A study is required to be undertaken to explore alternative means of collecting data particularly on rail and bus fares paid by the households.

(x) The NAS estimate on 'medical and health care' based entirely on the NSS estimate, excludes the consumption of the NPISHs. The consumption expenditure of the NPISHs is not expected to be distributed over all the food and non-food item-groups as the household consumption expenditure. In fact, NPISHs, being more active in the fields of health and education, are expected to have proportionately larger shares in these two item-groups. To estimate the magnitude and distribution of consumption expenditure of the NPISHs, it is necessary to take up a special study to examine the consumption pattern of NPISHs. The recent study on Satellite Accounts of NPIs being conducted by the CSO may give some information on the pattern of their expenditure on education and health.

(xi) The value of the "cooked meals" served to a domestic help by an employer household forms a part of 'food' consumption of the employer household in NSS. On the other hand, in NAS estimate it forms consumption of 'services' for the employer households. A study/survey may be undertaken for collecting the data on cooked meals received, as part of wages, by workers engaged in providing services to the employer household. This may help in making necessary correction for the omission in the NSS estimate of domestic services.

(xii) For some of the item-groups belonging to the service sector, the NAS estimates of gross value added (GVA) and private consumption are based on independent sources of data. The NAS estimate for consumption of road transport services by bus, taxi and auto-rickshaw as well as that of repair services of owned conveyance is derived using the data on number of vehicles available from the MoST. For the item-group 'medical and health services', 'salt', 'spices' and 'pan', the NAS estimates are derived from the NSS estimates. Thus, for these item-groups, the estimates of output, which are required for PFCE estimates may not be consistent with the estimates of GVA. Use of common data sets for both GVA and PFCE estimates for these item-groups may be attempted.

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Appendix- I

Implicit Prices (Rs.) of Food and Fuel Items/Item-Groups Derived from the NAS and NSS Estimates of Quantity and Value of Consumption

1999-00

Item / item-group	NSS	NAS		Item / item-group	NSS	NAS
Rice	10.29	13.99		*Vanaspati*	37.41	41.29
				Mustard Oil	33.14	41.01
Wheat	7.39	9.31		Groundnut Oil	40.83	43.18
Atta	-	-		Coconut Oil	56.36	70.79
Maida	-	-		Gingelly (*Til*) Oil	-	51.41
Suji,Rawa	-	-		Linseed Oil	-	56.80
Wheat & its products	-	-		Edible Oil (Others)	34.33	53.15
Jowar & its products	7.52	10.01		Goat Meat	70.61	102.34
Bajra & its products	7.02	8.01		Mutton	70.61	94.18
Maize & its products	5.94	7.37		Goat meat plus mutton	70.61	98.26
Barley & its products	-	-		Beef	29.53	37.05
Small Millets & its products	-	-		Pork	-	58.44
Ragi & its products	6.00	8.39		Buffalo Meat	29.53	27.78
Gram(Whole Grain)	17.48	22.69				
				Potato	4.33	5.43
Arhar	28.68	35.82		Onion	6.42	6.97
Gram split	19.04	17.43		Coconut	5.36	9.05
Moong	25.18	32.60		Mango	11.80	15.52
Masur	22.29	24.78		Grapes	23.00	17.34
Urd	24.74	29.46		Groundnut	18.09	26.74
Other Pulses	19.70	24.62				
Besan	19.23	19.26		Coke	-	-
				Electricity	1.39	1.36
Sugar & khandsari	14.22	16.30		Kerosene	5.69	3.28
Gur: Cane	11.82	15.90		Coal	1.50	1.14
				L.P.G	12.48	11.27
Liquid Milk (Litre)	10.72	14.27		Charcoal	-	-

2004-05

Item / item-group	NSS	NAS		Item / item-group	NSS	NAS
Rice	10.13	14.08		*Vanaspati*	50.40	50.72
				Mustard Oil	54.37	56.36
Wheat	7.74	9.65		Groundnut Oil	55.75	55.61
Atta	7.63	10.29		Coconut Oil	71.23	90.36
Maida	11.90	11.45		Gingelly (*Til*) Oil	-	63.55
Suji,Rawa	13.57	11.78		Linseed Oil	-	72.75
Wheat & its products	14.64	11.17		Edible Oil (Others)	50.99	84.92
Jowar & its products	7.25	8.32		Goat Meat	97.55	115.70

Bajra & its products	6.39	6.68		Mutton	97.55	112.94
Maize & its products	6.06	6.84		Goat meat plus mutton	97.55	114.32
Barley & its products	7.62	10.48		Beef	42.41	41.52
Small Millets & its products	10.48	9.23		Pork	64.19	53.30
Ragi & its products	6.14	7.57		Buffalo Meat	42.41	33.74
Gram(Whole Grain)	22.85	19.79				
				Potato	6.12	9.82
Arhar	29.18	30.65		Onion	7.06	8.08
Gram split	23.83	20.62		Coconut	6.27	9.77
Moong	26.77	29.26		Mango	15.61	19.13
Masur	27.25	26.31		Grapes	26.46	25.44
Urd	25.63	25.20		Groundnut	21.39	34.86
Other Pulses	21.87	28.20				
Besan	25.57	22.78		Coke	2.03	3.21
				Electricity	2.15	1.95
Sugar & khandsari	18.13	19.06		Kerosene	12.34	8.99
Gur: Cane	17.12	16.20		Coal	1.86	1.70
				L.P.G	20.96	19.27
Liquid Milk (Litre)	12.29	17.62		Charcoal	3.94	10.38

Note:

1. The prices given in the table are for one kilogram of the item / item-group, unless otherwise specified in parentheses.

2. Prices for the item-groups like 'barley and its products' and 'goat meat plus mutton' given in the table represent the weighted average of the prices of the constituent individual items.

Appendix II

Comparison between Estimates of Private Consumption Expenditure - NSS Estimates Adjusted for 'Notional' Elements and NAS Estimates Adjusted for Prices.

Rs. Crore

Item-group	1999-00			2004-05		
	NSS estimate	NAS estimate	% difference	NSS estimate	NAS estimate	% difference
1. Cereals & Cereal Products	129257	148588	-13.01	133550	124463	7.30
2. Bread	4538	5883	-22.86	6100	5657	7.83
3. Gram (Whole)	702	371	89.22	854	520	64.23
4. Pulses & pulses product	24671	21266	16.01	25049	23812	5.19
5. Cereal substitute (tapioca etc)	488	1724	-71.69	566	1756	-67.77
6. Sugar and *Gur*	14923	31155	-52.10	18549	38024	-51.22
7. Milk & milk products	62510	98465	-36.52	76334	124549	-38.71
8. Edible oils & oilseeds	25872	23061	12.19	38753	38630	0.32
9. Meat, egg & fish	23247	48319	-51.89	28395	68323	-58.44
10. Fruits, vegetables & their products	56649	121586	-53.41	73126	161401	-54.69
11. Salt	1426	1426	0.00	1605	1382	16.14
12. Spices	16884	17715	-4.69	14378	20080	-28.40
13. Non-alcoholic Beverages	10738	15310	-29.86	11409	28633	-60.15
14. Processed / Other food	4639	6914	-32.90	7779	14672	-46.98
15. Pan	2420	3333	-27.39	2576	5907	-56.39
16. Tobacco	9441	34395	-72.55	10971	19946	-45.00
17. Alcoholic bevrages and other intoxicants	5931	10247	-42.12	7142	19987	-64.27
18. Hotel & restaurant / cooked meals	16582	22935	-27.70	24053	40764	-40.99
Food: Total	**410918**	**612693**	**-32.93**	**481189**	**738506**	**-34.84**
1. Clothing & footwear	53652	66292	-19.07	45657	100164	-54.42
2. Gross (house) rent & water charges	89252	99270	-10.09	139749	152612	-8.43
3. Fuel & power	53139	48288	10.05	91762	82003	11.90
4. Furniture, furnishings, appliances & services	17596	42411	-58.51	26017	66890	-61.10
5. Medical care & health services	40672	54825	-25.81	55682	117438	-52.59
6. Transport equipment & operational cost	16144	56259	-71.30	30051	131867	-77.21
7. Transport services	18127	93727	-80.66	26169	181455	-85.58
8. Communication	5077	14538	-65.08	19777	31639	-37.49
9. Recreation, Education & Cultural services	26725	42570	-37.22	41713	76037	-45.14
10. Misc. goods & services	76230	96350	-20.88	138161	196814	-29.80
11. Others (which concordance not found)	1968	-	-	2573	-	-
Non-food: Total	**398582**	**614530**	**-35.14**	**617311**	**1136919**	**-45.70**
Total consumption expenditure	**809500**	**1227223**	**-34.04**	**1098500**	**1875425**	**-41.43**

Appendix III

A Disaggregated-Level Comparison between Unadjusted NAS and NSS Estimates of Private Consumption Expenditure

Rs. Crore

item	1999-00			2004-05		
	NSS	NAS	% difference	NSS	NAS	% difference
1. FOOD BEVERAGES AND TOBACCO	***410918***	***647011***	***-36.49***	***481189***	***742609***	***-35.20***
1.1 FOOD	**375074**	**570005**	***-34.20***	**434634**	**640888**	***-32.18***
1.1.1 Cereals and Bread	**134497**	**169986**	***-20.88***	**140504**	**120570**	***16.53***
Rice-PDS	5389	11435	*-52.87*	5038	24426	*-79.37*
Rice - other sources	70682	71257	*-0.81*	71985	37065	*94.21*
Rice Products	3080	8964	*-65.64*	3112	8303	*-62.52*
2. Wheat	41093	49854	*-17.57*	44608	36682	*21.61*
3. Jowar	3782	7302	*-48.21*	3467	5177	*-33.03*
4. Bajara	2499	4171	*-40.09*	2561	4770	*-46.31*
5. Maize	1741	7656	*-77.26*	1696	8413	*-79.84*
6. Ragi	840	1387	*-39.44*	920	1518	*-39.39*
7. Barley	39	1216	*-96.79*	42	954	*-95.60*
8. Small millets	60	380	*-84.21*	64	222	*-71.17*
9. Other cereals	52	365	*-85.75*	57	146	*-60.96*
10.Gram whole	702	456	*53.95*	854	434	*96.77*
11.Bread & Biscuit	4538	5883	*-22.86*	6100	5657	*7.83*
12.Change in stocks		-340	*-100.00*		-13197	*-100.00*
1.1.2 Pulses	**24671**	**18845**	***30.92***	**25049**	**19399**	***29.13***
1. Arhar	9047	5053	*79.04*	9048	4691	*92.88*
2. Moong	3478	1646	*111.30*	3506	1740	*101.49*
3. Urad	2898	1930	*50.16*	2824	1858	*51.99*
4. Masoor	3730	1604	*132.54*	3649	1651	*121.02*
5. Gram Products	3326	5874	*-43.38*	3470	7463	*-53.50*
6. Other Pulses	2192	2761	*-20.61*	2552	2931	*-12.93*
7. Change in stocks		-23	*-100.00*		-935	*-100.00*
1.1.3 Sugar and Gur	**14923**	**36986**	***-59.65***	**18549**	**33547**	***-44.71***
1. Sugar cane	1602	12765	*-87.45*	1770	11202	*-84.20*
2. Gur						
Sugar-PDS	3754	6293	*-40.35*	1085	3347	*-67.58*
Sugar-Other Sources	9567	17440	*-45.14*	15694	23466	*-33.12*
4. Palm gur						
5. Change in stock		488	*-100.00*		-4468	*-100.00*
1.1.4 Oils and oilseeds	**25872**	**30518**	***-15.22***	**38753**	**54367**	***-28.72***
1. Vanaspati	2087	5239	*-60.16*	2571	9297	*-72.35*
2. Mustard oil	9798	8214	*19.28*	15608	13455	*16.00*
3.Coconut oil	826	3129	*-73.60*	971	3048	*-68.14*
4. Gingelly oil						
5. Groundnut oil	7527	4184	*79.90*	7152	4837	*47.86*
6. Linseed oil						
7. Castor oil						
8. Other edible oils	4805	6210	*-22.62*	11807	6662	*77.23*

9. Sesamum seed	829	4594	*-81.95*	644	7443	*-91.35*
10.Linseed						
11.Rapeseed and mustard						
12.Other oilseeds						
13.Imported oils						
14. Change in stocks		-1052	*-100.00*		9625	*-100.00*
1.1.5 Fruits and vegetables	**48535**	**113535**	***-57.25***	**62729**	**150652**	***-58.36***
1. Banana	3155	5894	*-46.47*	3565	8321	*-57.16*
2. Mango	1751	9278	*-81.13*	2031	12201	*-83.35*
3. Grapes	695	1698	*-59.07*	869	2974	*-70.78*
4. Citrus fruits	1158	6168	*-81.23*	1386	9313	*-85.12*
5. Cashew kernels	241	4738	*-94.91*	405	3606	*-88.77*
6. Onion	4853	2930	*65.63*	5673	4039	*40.46*
7. Other fruits & vegetables	31256	67223	*-53.50*	42192	89664	*-52.94*
8. Groundnut	1176	2819	*-58.28*	1622	5148	*-68.49*
9. Fruits & veg. products	929	5862	*-84.15*	905	7388	*-87.75*
10.Coconut	2867	5965	*-51.94*	3460	6714	*-48.47*
11.Copra	454	960	*-52.71*	621	1284	*-51.64*
1.1.6 Potatoes & other tubers	**8602**	**10536**	***-18.36***	**10963**	**16590**	***-33.92***
1. Potato	8029	7963	*0.83*	10282	13898	*-26.02*
2. Sweet potato	85	849	*-89.99*	115	936	*-87.71*
3. Tapioca	488	1724	*-71.69*	566	1756	*-67.77*
1.1.7 Milk and milk products	**62510**	**103681**	***-39.71***	**76334**	**127114**	***-39.95***
1.1.8 Meat, Egg & Fish	**23247**	**50649**	***-54.10***	**28395**	**68999**	***-58.85***
1. Beef	1811	2130	*-14.98*	2124	2942	*-27.80*
2. Pork	400	1385	*-71.12*	488	1679	*-70.94*
3. Mutton	6915	7159	*-3.41*	7051	8626	*-18.26*
4. Goatmeat						
5. Buffalomeat						
6. Other meat products	73	1730	*-95.78*	127	2078	*-93.89*
7. Duck						
8. Fowl						
9. Chicken	3130	8369	*-62.60*	5050	9337	*-45.91*
10.Eggs	2710	5710	*-52.54*	2866	7137	*-59.84*
11.Fish & fish products	8208	24204	*-66.09*	10689	36851	*-70.99*
12.Change in stocks		-38	*-100.00*		349	*-100.00*
1.1.9 Coffee, Tea & Coco	**9268**	**9214**	***0.59***	**9596**	**13516**	***-29.00***
1. Coffee	636	908	*-29.96*	680	727	*-6.46*
2. Tea	8632	8991	*-3.99*	8916	6521	*36.73*
3. Cocoa						
4. Change in stocks		-685	*-100.00*		6268	*-100.00*
1.1.10 Spices	**16884**	**17715**	***-4.69***	**14378**	**20080**	***-28.40***
1.1.11 Other Food	**6065**	**8340**	***-27.28***	**9384**	**16054**	***-41.55***
1. Salt	1426	1426	*0.00*	1605	1382	*16.14*
2. Sugar confectionery						
3 Other food	4639	7697	*-39.73*	7779	7512	*3.55*
4. Change in stocks		-783	*-100.00*		7160	*-100.00*
1.2 BEVERAGES,PAN & INTOXICANT	**9821**	**19676**	***-50.09***	**11531**	**41011**	***-71.88***
1.2.1 Beverages	**6175**	**9667**	***-36.12***	**7904**	**29904**	***-73.57***
1. Non-alcoholic beverages	1470	6096	*-75.89*	1813	15117	*-88.01*
2. Alcoholic beverages	4705	4081	*15.29*	6091	10119	*-39.81*

3. Change in stocks		-510	*-100.00*		4668	*-100.00*
1.2.2 Pan & other intoxicants	**3646**	**10009**	***-63.57***	**3627**	**11107**	***-67.34***
1. Pan	2420	3333	*-27.39*	2576	5907	*-56.39*
2. Arecanut	915	6558	*-86.05*	761	5182	*-85.31*
3. Opium	311	118	*163.56*	290	18	*1511.11*
1.3 TOBACCO & ITS PRODUCTS	**9441**	**34395**	***-72.55***	**10971**	**19946**	***-45.00***
1. Tobacco raw	1027	4177	*-75.41*	1166	3834	*-69.59*
2. Cigarettes	2011	11155	*-81.97*	2192	10227	*-78.57*
3. Bidi	5388	14895	*-63.83*	5799	12489	*-53.57*
4. Snuff	45	1369	*-96.71*	59	1150	*-94.87*
5. Cigar & cheroots	75	291	*-74.23*	91	267	*-65.92*
6. Other tobacco products	895	1482	*-39.61*	1664	1360	*22.35*
7. Change in stocks		1026	*-100.00*		-9381	*-100.00*
1.4 HOTELS & RESTAURANTS	**16582**	**22935**	***-27.70***	**24053**	**40764**	***-40.99***
2. CLOTHING AND FOOTWEAR	***53652***	***66292***	***-19.07***	***45657***	***100164***	***-54.42***
2.1 Clothing	**45532**	**57936**	***-21.41***	**38929**	**90052**	***-56.77***
1. Cotton textiles						
2. Silk textiles						
3. Woollen textiles						
4. Miscellaneous textiles						
2.2 Footwear	**8120**	**8356**	***-2.82***	**6728**	**10112**	***-33.47***
3. GROSS RENT,FUEL & POWER	***73954***	***143558***	***-48.48***	***129821***	***228816***	***-43.26***
3.1 Gross Rent	**20815**	**99270**	***-79.03***	**38059**	**152612**	***-75.06***
Gross (house) rent	14456	92983	*-84.45*	25130	141568	*-82.25*
Repairs & maintenance	5117	4683	*9.27*	10723	8367	*28.16*
Water charges	1242	1604	*-22.57*	2206	2677	*-17.59*
3.2 FUEL & POWER	**53139**	**44288**	***19.99***	**91762**	**76204**	***20.42***
3.2.1 Electricity	15855	9859	*60.82*	29337	18666	*57.17*
3.2.2 LPG	6931	5971	*16.08*	17017	16288	*4.48*
3.2.3 Kerosene	6785	4036	*68.11*	10113	8738	*15.74*
3.2.4 Other Fuel	**23568**	**24422**	***-3.50***	**35295**	**32512**	***8.56***
1. Coal	346	663	*-47.81*	470	1239	*-62.07*
2. Firewood	16902	17490	*-3.36*	25989	23075	*12.63*
3. Vegetables waste	775	894	*-13.31*	1609	884	*82.01*
4. Dung cake	5222	3923	*33.11*	6802	4355	*56.19*
5. Lignite						
6. Gas coke	130	5	*2500.00*	222	7	*3071.43*
7. Bagasse						
8. Charcoal	57	862	*-93.39*	91	1703	*-94.66*
9.Gobar gas	136	585	*-76.75*	112	1249	*-91.03*
4.FURNITURE, FURNISHINGS, APPLIANCES & SERVICES	***17516***	***42411***	***-58.70***	***25839***	***66890***	***-61.37***
4.1 FUR',FURNISHIGS & REPAIRS	**1082**	**1648**	***-34.34***	**2126**	**1615**	***31.64***
1. Carpet	19	430	*-95.58*	38	731	*-94.80*
2. Coir products	195	244	*-20.08*	238	371	*-35.85*
3. Wooden furniture	868	974	*-10.88*	1850	513	*260.62*
4. Steel furniture						
4.2 REFG'TR,COOKNG,WASHNG,APP.	**2161**	**6257**	***-65.46***	**2717**	**10587**	***-74.34***
1. Non-electrical machinery	186	877	*-78.79*	199	1410	*-85.89*
2. Electrical appliances	1324	2441	*-45.76*	1654	4700	*-64.81*
3. Refg'tr & air conditioners	651	2939	*-77.85*	864	4477	*-80.70*

4.3 GLASSWARE,TABLEWARE &UTENs	**1881**	**15284**	***-87.69***	**2552**	**21076**	***-87.89***
1. Glass & glass products	544	12182	*-95.53*	893	16595	*-94.62*
2. Earthenware & China pottery						
3. Metal utensils	1180	2089	*-43.51*	1447	3422	*-57.71*
4. Other metal products	157	1013	*-84.50*	212	1059	*-79.98*
4.4 OTHER GOODS	**8912**	**10982**	***-18.85***	**12723**	**19984**	***-36.33***
1. Matches	1391	2489	*-44.11*	1667	3669	*-54.57*
2. Misc. personal goods	6644	5829	*13.98*	9708	10210	*-4.92*
3. Plastic products	453	1176	*-61.48*	727	2937	*-75.25*
4. Rubber Products	22	213	*-89.67*	55	585	*-90.60*
5. Dry & wet batteries	402	1275	*-68.47*	566	2583	*-78.09*
4.5 SERVICES	**3480**	**8240**	***-57.77***	**5721**	**13628**	***-58.02***
1. Domestic services	2195	3845	*-42.91*	3782	6465	*-41.50*
2. Laundries, dry cleaning	1285	4315	*-70.22*	1939	6985	*-72.24*
3. General Insurance		80	*-100.00*		178	*-100.00*
5. MEDICAL CARE & HEALTH SERV.	***40672***	***54825***	***-25.81***	***55682***	***117438***	***-52.59***
6. TRANSPORT & COMMUNICATION	***39348***	***164524***	***-76.08***	***75997***	***344961***	***-77.97***
6.1 Personal tpt. equipment	**6285**	**17112**	***-63.27***	**11226**	**32249**	***-65.19***
1. Motor vehicles & parts	2234	11530	*-80.62*	3809	21373	*-82.18*
2. Mo'bikes, scooters & cycles	4051	5582	*-27.43*	7417	10876	*-31.81*
6.2 Operation p'nal tpt eqpt	**9859**	**39147**	***-74.82***	**18825**	**99618**	***-81.10***
1. Tyres & tubes	341	1714	*-80.11*	575	3774	*-84.76*
2. Petrol & diesel	9518	37433	*-74.57*	18250	95844	*-80.96*
3. Repair charges						
6.3 Purchase of tpt. services	**18127**	**93727**	***-80.66***	**26169**	**181455**	***-85.58***
1. Rail	1656	7665	*-78.40*	2656	11250	*-76.39*
2. Air	253	1492	*-83.04*	784	2370	*-66.92*
3. Bus incl. tramways	13155	40577	*-67.58*	16955	88480	*-80.84*
4. Taxi	1995	36599	*-94.55*	4307	68731	*-93.73*
5. Autorickshaws						
6. Non-mechanised road tpt.	1038	6517	*-84.07*	1422	9131	*-84.43*
7. Organised water tpt.	30	877	*-96.58*	45	1493	*-96.99*
8. Un-org. water tpt.						
9. Services incidental to tpt.						
6.4 Communication	**5077**	**14538**	***-65.08***	**19777**	**31639**	***-37.49***
7. RECREATION,EDUCATION & CULTURAL SERVICES	***26725***	***42570***	***-37.22***	***41713***	***76037***	***-45.14***
7.1 Eqpt. Paper & Stationery	**10709**	**13931**	***-23.13***	**14806**	**25874**	***-42.78***
1. TV & Radio	2079	7436	*-72.04*	2649	15332	*-82.72*
2. Musical instruments						
3. Photographic goods	34	641	*-94.70*	19	1084	*-98.25*
4. Office Machinery						
5. Sports & athletics goods	344	829	*-58.50*	636	1722	*-63.07*
6. Newspaper,books & magazines	5895	4861	*21.27*	6722	7418	*-9.38*
7. Stationery articles	2357	164	*1337.20*	4780	318	*1403.14*
8. Fireworks						
7.2 Recreation & cultural serv	**2772**	**4858**	***-42.94***	**2864**	**7123**	***-59.79***
7.3 Education	**13244**	**23781**	***-44.31***	**24043**	**43040**	***-44.14***
8. MISC. GOODS & SERVICES	**51638**	**96350**	***-46.41***	**72944**	**196814**	***-62.94***
8.1 Personal care and effects	**19370**	**37588**	***-48.47***	**29369**	**54463**	***-46.08***

1. Barber and beauty shops	3674	5330	*-31.07*	5550	8543	*-35.03*
2. Religious services	597	18788	*-96.82*	804	25468	*-96.84*
3.Other services n.e.c & Funeral ser.	9068	4572	*98.34*	12484	7465	*67.23*
4. Sanitary services	264	2487	*-89.38*	449	3270	*-86.27*
5. Tailoring Services	3907	5045	*-22.56*	3046	8303	*-63.31*
6. TV & Radio Services	1860	1366	*36.16*	7036	1414	*397.60*
8.2 Personal goods n.e.c.	**31836**	**24738**	***28.69***	**43043**	**42299**	***1.76***
1. Jewellery ornaments	3562	7765	*-54.13*	5934	13899	*-57.31*
2. Watches clocks	91	1287	*-92.93*	163	2351	*-93.07*
3. Leather products(bags etc.)						
4. Non-metallic mineral prod.						
5. Toilet products	28183	15686	*79.67*	36946	26049	*41.83*
8.3 Other Misc. Services	**432**	**34024**	***-98.73***	**532**	**100052**	***-99.47***
1. Banking charges		17315	*-100.00*		44693	*-100.00*
2. Legal services	311	2802	*-88.90*	286	4001	*-92.85*
3. Business services	121	6630	*-98.17*	246	30834	*-99.20*
4. Life insurance		7277	*-100.00*		20524	*-100.00*
PFCE (in Domestic Market))	**716391**	**1257541**	***-43.03***	**931415**	**1873729**	***-50.29***
Others (which concordance not found)	1968	24592	*-92.00*	2573	65217	*-96.05*
PFCE (for the items with concordance)	714423	1232949	*-42.06*	928842	1808512	*-48.64*