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सर्वेक्षण SARVEKSHANA

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This Issue Contains :—

- ✱ An article on measurement of general cost of living for urban India : all India and different States.
- ✱ A note on some aspects of operational holdings; NSS—37th Round (1982).
- ✱ Results on some aspects of operational holdings; NSS—37th Round (1982).

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The views expressed in the articles and notes are those of the contributors and do not necessarily reflect those of the National Sample Survey Organisation.

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MEASUREMENT OF GENERAL COST OF LIVING FOR URBAN INDIA

ALL-INDIA AND DIFFERENT STATES

by

B. S. MINHAS
S. M. KANSAL

L. R. JAIN
M. R. SALUJA

1. INTRODUCTION

India is particularly rich in regard to the availability of primary data on consumer household expenditures as well as on retail prices. Large scale household expenditure survey data have been in existence since the early 1950s on an almost annual basis till 1972-73 and at regular five-yearly intervals thereafter. The size of samples has been large enough to estimate consumer expenditure patterns at the level of each state of the Indian Union, separately for the rural and urban population in considerable item-wise and commodity-group details. Very extensive quotations on retail prices have also been collected for a very large number of commodities and consumer services on a monthly basis for more than a quarter century from hundreds of villages and rural retail markets and 95 industrial and other urban centres spread over the states and union territories.

This embarrassing surfeit of relevant data notwithstanding, one is indeed saddened to note that we have failed to construct even one consumer price index, which might be taken as a correct representation of the consumer price movements overtime for the entire rural or urban population of India, or any of the states. The available consumer price indices for industrial workers (CPIIW), non-manual employees (CPINM) and agricultural labourers (CPIAL), as their names suggest, have a specific interest group and occupational orientation. All of them are partial in coverage as they are based on the consumption patterns of only certain specific and small parts of the total urban or rural population.

Some research workers have made attempts [sec. (1), (3), (4)] to construct price indices for decile groups as well as for the total population, separately for rural and urban India. However, these indices cannot qualify as cost of living (consumer price) indices as these have been obtained by combining the rural or urban household budget data

with all-India wholesale prices, instead of the relevant rural or urban retail prices.

In our earlier paper [see, (2)], we constructed an all-India rural consumer price index (CPITR), using rural consumer prices and the NSS-based consumption pattern as the weighting diagram. For the urban population we suggested a weighted combination of the two available consumer price indices (CPIIW and CPINM) and considered this expedient measure (CPICU) as a better index representation for depicting the overall urban consumer price movements in preference to either of the two sectional indices. Nevertheless, we were not fully satisfied with this combined index (CPICU) for the entire urban population, as the two occupational groups combined in CPICU covered only about 42 per cent of the urban households.

The present study is an attempt to construct a brand new all India urban consumer price Index by using the two massive sets of consumer price data, which were being collected over a long period of time for the construction of CPIIW and CPINM series. These retail price data have been combined with the NSS based consumption pattern as the weighting diagram. Indices have been worked out separately for food, non-food and all consumer goods and services (general) by using two different weighting diagrams, one based on the consumption pattern observed in 1960-61 and the other in 1970-71. Detailed urban price indices for 17 commodity sub-groups have also been worked out.

In the context of planning at the regional and state level, the need and importance of the consumer price indices, for each individual state can hardly be over-emphasized. The seminar on the "Regional Dimensions of India's Economic Development", organized by the Planning Commission in April 1982 at Nainital, recognized the urgent need for under-

*This is a slightly revised version of the paper read at the IARNIW Conference held at Madras in November 1987.

taking studies to strengthen the regional data base. In this study we have also taken on the task of constructing state-specific, urban consumer price indices—a task which has thus far not been attempted by any private research group or official agency.¹

At a later stage we intend to estimate the incidence of poverty state by state. For this purpose we have constructed state-specific urban consumer price indices, using the observed consumption pattern of the middle population (approximately middle 30 per cent of the population in terms of the distribution of population by consumer expenditure) in 1970-71 as the weighting diagram.

For all the three new categories of consumer price index numbers mentioned above, the relevant index values have been computed for the years (the NSS survey years) 1970-71, 1972-73, 1973-74, 1977-78 and 1983 with 1970-71 as the base.

2. DATA AND ITS LIMITATIONS

The construction of a consumer price index involves the use of a weighting diagram (i.e. consumer expenditure on the commodities and services constituting the entire consumption basket in the base year) and retail prices of these commodities and services in the base and the current years, or the relevant price relatives for the current years. As indicated earlier, the focal point of this study is to construct fully representative, urban consumer price indices at the state as well as all-India level for five current periods with two alternative base periods, viz., the calendar year 1960 and the period from July 1970 to June 1971. The five current periods correspond to the survey periods of the five latest NSS rounds in which the consumer expenditure surveys were conducted. These five NSS rounds, along with their survey periods, are the 25th round (July 1970 to June 1971), the 27th round (October 1972 to September 1973), the 28th round (October 1973—June 1974), the 32nd round (July 1977—June 1978) and the 38th round (January to December 1983).

The retail prices data are taken from both the CPIIW and the CPINM series, which regularly collect commodity-wise monthly consumer price data from 50 and 45 urban centres respectively. The monthly price data for each CPINM centre are collected for about 180 consumer items with 16 to 48 quotations for each item, depending upon the importance of the centre; and for about 100 items with 8 or more price quotations for each of the

items from each CPIIW centre (Note that for big centres the number of quotations per consumer item is very large as large as 96, for instance, in Bombay).

The two series have 17 centres in common. Comparison of the consumer item specifications at some of the common centres showed that the varieties of items covered under the two series are almost similar, with few minor exceptions. For example, some of the costly items, such as superior rice and wheat, fruits and consumer durables are covered under the CPINM but are excluded from the CPIIW. For some items (like clothing), curiously the CPIIW covers more costly varieties as compared to the varieties covered under the CPINM.

To gather together and make use of the full set of item-wise price quotations collected every month under the series is a daunting task. The basic data set is so massive that the cost of processing, in terms of time and money, would be beyond the means that a few private researchers can marshal. Also the CSO maintains records of detailed price quotations for CPINM series only for the latest 3 months and, as such, it is practically impossible to get hold of original price quotations for the earlier months. In view of the above limitations, we decided to work with the summarised retail price data which are available in the form of monthly price indices for various commodity sub-groups. Further, we restricted our inquiry to only those months which constituted the selected NSS Survey rounds in which consumer expenditure data were collected between 1970-71 and 1983.

Centrewise price indices, with 1960 as the base, are available for 22 commodity sub-groups for the CPINM series and for 17 commodity sub-groups for the CPIIW series. For our study, 22 sub-groups of the CPINM series have been aggregated into 17 sub-groups (using appropriate weights of the CPINM series so as to have one to one correspondence between the two sets of commodity sub-groups). The list of these sub-groups, under the two series, is given in Appendix Table A1. The CPINM sub-groups with serial Nos. (7 and 8) (9, 10 and 11), (17 and 18), and (21 and 22) have been grouped together so as to correspond to the CPIIW sub-groups with serial Nos. 7, 8, 14 and 17 respectively. Notice that the items and their specifications covered under a sub-group, as expected, are not exactly the same for the two series. They are bound to be somewhat different as the two series relate to two different occupational groups.

1. We have also initiated a study to work out fractile group-wise state-specific cost of living indices for the rural and urban population by various commodity sub-groups.

Let us note that different methods are used under the two series for getting the price indices for different commodities/sub-groups. In the CPINM series, the price relatives are worked out first for different quotations of a commodity in a centre and then the average of these price relatives across quotations is worked out to represent the price index of the commodity at that centre. In the CPIIW series, on the other hand, the average of the monthly price quotations of a commodity for a centre is obtained first and then the price relative is worked out to represent the price index of the commodity at this centre. This, however, should not affect the comparability of the two indices in any serious manner.

Ninety-five centres of the two series put together are classified into various states to which they belong. Statewise location of the centres in the two series is presented in the Appendix Table A2. Notice that two (among the 20 states) are union territories, viz., Chandigarh and Delhi. It may further be noted that the four states/union territories—Himachal Pradesh, Haryana, Meghalaya and Chandigarh—have only one centre each; whereas most of the other states have 5-8 centres. In view of this limitation, the price indices constructed for these four states/union territories cannot be as representative as those for the other states/union territories.

For obtaining the representative, state-specific weighting diagram (i.e. consumer expenditures on the 17 commodity sub-groups) in each of the two base years, 1960 and 1970-71, for the entire urban population of the different states, we have used the NSS consumer expenditure data (available in tabulated form), relating to the 17th and 25th rounds covering the respective periods from September 1961 to July 1962 and July 1970 to June 1971. These data are taken from the NSS Draft Report No. 200, Part I, and the printed Report No. 231, respectively. In view of the non-availability of detailed consumer expenditure data at the state level for the 16th round (July 1960—June 1961), the state-specific weighting diagrams obtained for the year 1961-62 have been assumed to be the same as for the calendar year 1960. It may be noted that the break-up of the state-specific urban consumer expenditure in 1970-71 for the last five miscellaneous commodity sub-groups was not available from the 25th round data. Nevertheless, we were able to have access to similar details for 1972-73 from the 27th round data, which have been used, along with the controlling figures of miscellaneous groups for 1970-71, in order to obtain the relevant sub-groups details for 1970-71.

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For estimating state-specific poverty incidence, an appropriate consumer price index (for updating the state-specific poverty line, as indicated earlier) is the one constructed by using the relevant weighting diagram provided by the consumption pattern of the middle population (approximately from the 23rd to 53rd percentile of population when arranged in ascending order with respect to per capita total consumer expenditure). For more details, see (2). Accordingly, the state-specific weighting diagrams for the middle population for the base year 1970-71 have been worked out. The middle population for a state is comprised of persons with monthly per capita total expenditure of more than Rs. 28/- but less than or equal to Rs. 43.

The three state-specific weighting diagrams, two for entire urban population in the two base years, 1960 and 1970-71, and one for the middle band of urban population in the base year 1970-71, are presented in Appendix Tables A3 to A5. It may be noted that for Meghalaya, the NSS consumer expenditure pattern was not available for either of the two periods, 1961-62 and 1970-71. As such, the weighting diagrams for Meghalaya state are taken to be the same as that for Assam. Similarly, as the NSS consumer expenditure patterns for urban Haryana and the Union Territory of Chandigarh were not available for 1961-62, their weighting diagrams for 1960 are taken to be the same as for the united Punjab.

3. Detailed Steps in the construction of All India and State-wise Urban Consumer Price Indices.

The following procedures have been adopted for combining the relevant data to obtain all-India and State-specific urban consumer price indices.

(1) For each urban centre of the CPIIW or the CPINM series, monthly price indices for each of the seventeen consumer item groups are averaged (simple) across the months belonging to the survey periods of the NSS rounds.

(2) State-specific price indices for each item group are then worked out by taking simple average of the price indices of the centres (in both the series) belonging to a particular state. These state-specific price indices for each item group have the calendar year 1960 as the base.

(3) The price indices, obtained in step (2), are converted to the new base year, July 1970 to June 1971, by dividing them with the corresponding price indices for 1970-71.

(4) Weighted averages of the state-specific price indices for seventeen consumer item groups, with base

year 1960 as well as 1970-71, as calculated in steps (2) and (3), respectively, are then obtained. The respective weights, being the state-specific weighting diagram for 1961-62 (assuming that the state-specific weighting diagrams for 1961-62 and calendar year 1960 are approximately the same) and 1970-71 are given in Appendix Tables A3 and A4. This provides us the statewise urban consumer price indices with two alternative base years, viz., the old base of 1960 and the new base of 1970-71.

(5) Analogous to step (4), state-wise urban consumer price indices for the middle population, with base 1970-71, are also worked out by combining the price indices obtained in step (3) with weights as given in Appendix Table A5.

(6) All India price indices, with 1960 or 1970-71 base, for each of the seventeen consumer item groups and three major aggregate—food, non-food and general (total)—are worked out in the following manner :

(a) First, the total consumption expenditure of a state on an item group is obtained by multiplying the state-specific average per capita expenditure on the item group with the total urban population of the state.

(b) Second, the all-India index for each item group is obtained by taking the weighted average of the state specific price indices for the item group (as obtained in step (2) or (3) across states, weights being the total consumer expenditure on the item group in different states [as calculated in (6a)].

(c) Finally, the all-India price indices for the three major aggregates, viz. food, non-food and general, are worked out by taking weighted average of the item group—specific all-India indices [as obtained in (6b)] across relevant item groups belonging to an aggregate, weights being the all-India expenditure on various item groups belonging to the major aggregate.

The procedure of index construction described in the six steps given above, can be algebraically expressed as follows :

Let $e_{is}(j)$ denote the total consumption expenditure on item group 'i' (i takes value from 1 to M) for the state 's' ($s = 1, \dots, S$) in the year 'j' ($j = 1$ and 2 correspond to the years 1960 and 1970-71 respectively).

Let $I_{is}^t(j)$ denote the price relative (or price index) of the i-th item group for the current year 't' relative to the base year 'j' and relating to the

s-th state. Then $I_s^t(1)$ and $I_s^t(2)$ the price indices for the s-th state with alternative base years 1960 and 1970-71 are given by

$$I_s^t(1) = \sum_{i=1}^M e_{is}(1) I_{is}^t(1) / e_s(1) \quad (1)$$

$$I_s^t(2) = \sum_{i=1}^M e_{is}(2) [I_{is}^t(1) / I_{is}^2(1)] e_s(2) \quad (2)$$

$$\text{where } c_s(j) = \sum_{i=1}^M e_{is}(j)$$

All-India indices, $I_i^t(1)$ and $I_i^t(2)$, for i-th item group with alternative base years 1960 and 1970-71 are obtained as

$$I_i^t(1) = \sum_{s=1}^S e_{is}(1) I_{is}^t(1) / e_i(1) \quad (3)$$

$$I_i^t(2) = \sum_{s=1}^S e_{is}(2) [I_{is}^t(1) / I_{is}^2(1)] / e_i(2) \quad (4)$$

$$\text{where } e_i(j) = \sum_{s=1}^S e_{is}(j)$$

All-India general price indices $I^t(j)$ with respective base years 1960 and 1970-71 corresponding to $j=1$ and 2, can now be obtained as

$$I^t(j) = \sum_{i=1}^M e_i(j) I_i^t(j) / \sum_{i=1}^M e_i(j) \quad (5)$$

$$\text{or } = \sum_{s=1}^S e_s(j) I_s^t(j) / \sum_{s=1}^S e_s(j) \quad (6)$$

Notice that equality of (5) and (6) provides us a cross-check for correct calculation of all-India general price index $I^t(j)$.

Let us now denote the state-specific price index with 1970-71 as the base by $I_s^t(2)$ when the weighting diagram for 1960 is used and by ${}_2I_s^t(2)$ when for 1970-71 is used. Then from (1) and (2), we have

$${}_2I_s^t(2) = I_s^t(2) = \sum_{i=1}^M u_{is}(2) [I_{is}^t(1) / I_{is}^2(1)] \quad (7)$$

$$\text{and } {}_1I_s^t(2) = I_s^t(1)/I_s^2(1) = \sum_{i=1}^M u_{is}(1) [I_{is}^t(1)/I_{is}^2(1)] \quad (8)$$

where $u_{is}(j) = e_{is}(j)/e_s(j)$ for $j = 1$ and 2 .

Again, we denote the all-India general and item group-specific price indices with 1970-71 as the base by ${}_1I^t(2)$ and ${}_1I_i^t(2)$ when 1960 weighting diagrams are used and by ${}_2I^t(2)$ (and) ${}_2I_i^t(2)$ when 1970-71 weighting diagrams are used. Then from (3) and (4) we have

$${}_2I^t(2) = I^t(2) = \sum_{s=1}^S v_{is}(2) [I_{is}^t(1)/I_{is}^2(1)] \quad (9)$$

and

$${}_1I_i^t(2) = I_i^t(1)/I_i^2(1) = \sum_{s=1}^S v_{is}(1) [I_{is}^t(1)/I_{is}^2(1)] \quad (10)$$

where $v_{is}(j) = e_{is}(j)/e_i(j)$ for $j=1$ and 2 .

Also, from (3), (4) and (5) we have

$${}_2I^t(2) = I^t(2) = \sum_{i=1}^M \sum_{s=1}^S w_{is} [I_{is}^t(1)/I_{is}^2(1)] \quad (11)$$

and

$${}_1I^t(2) = I^t(1)/I^2(1) = \sum_{i=1}^M \sum_{s=1}^S w_{is} [I_{is}^t(1)/I_{is}^2(1)] \quad (12)$$

where $w_{is}(j) = e_{is}(j) / \sum_{i=1}^M \sum_{s=1}^S e_{is}(j)$ for $j=1$ and 2

Comparison of (7) and (8), (11) and (12) and (9) and (10) indicates that the difference in the two alternate expressions of the state-specific $[I_s^t(2)]$, all-India general $[I^t(2)]$ and all-India item-group-specific $[I_i^t(2)]$ price indices, using the two alternative weighting diagrams for 1960 and 1970-71, is due to the compound effect of two factors, viz., (a) variation in the two weighting diagrams, and (b) variation in $I_{is}^2(1)$ across item-groups and/or states, i.e. state-specific and item-group-specific price index for 1970-71 with 1960 as the base varies across item groups and/or states. It should be emphasised here that as a result of the net effect arising from the interplay of the two factors, the two alternative values of the price

index may or may not differ in general. The difference in the two alternative expressions of the index obviously cannot be attributed only to the use of the different weighting diagrams except in the rare situation where the state-specific price index for 1970-71 with 1960 as the base is same for each item group as well as for each state.

4. New and Old Urban Consumer Price Indices : Some Comparisons

The newly constructed urban consumer price indices for 20 states/union territories and for all-India (20 states together) are presented in Tables 1 to 3, using three different weighting diagrams. Table 1 gives the cost of living indices, derived by using the 1960 consumption pattern as the weighting diagram (W_1): whereas in Table 2 the indices are based on the 1970-71 consumption pattern (W_2). The consumer price indices presented in Table 3 are worked out by using the consumption pattern of the middle urban population (W_3)—covering approximately 23rd to 53rd percentile (at all-India level)—which we consider suitable for updating the base year poverty line in the computation of incidence of poverty. The three weighting diagrams are given in Appendix tables A.3 to A.5. As this study is mainly concerned with the general cost of living indices, only passing references shall be made to the cost of living indices for the middle band of urban population.

It should be noted that the two weighting diagrams relating to the years 1960 and 1970-71, used in the two new indices, differ in respect of shares of many item groups in total expenditure at the all-states level (See Appendix Table A.3 and A.4). All states here represent 99.5 percent of the Indian population and the terms all-states level and all-India level can be used interchangeably. There was a slight fall of 0.75 percentage points in the share of cereals and cereal products in 1970-71 as compared with 1960, though the total food share went up by 3.64 percentage points. The shares of other food groups, viz. pulses and products, oils and fats, fruits and vegetables, and other food went up by 0.43, 0.73, 1.12 and 1.72 percentage points, respectively. Among the non-food item groups, shares of pan, supari and tobacco, fuel and light, housing and medical care went up by 1.89, 0.70, 0.47 and 0.54 percentage points, respectively and that of clothing, education and recreation, personal care and notably of other non-food declined by 1.32, 0.67, 0.44 and 4.73, respectively. Notice that the share of other non-food came down from 10.21 in 1960 to 5.48 percent in 1970-71 registering a decline of about 47 percent.

TABLE 1 STATE-WISE URBAN CONSUMER PRICE INDICES FOR FOOD, NON-FOOD AND GENERAL (FOOD PLUS NON-FOOD) FOR SELECTED NSS SURVEY PERIODS (BASED ON 1961-62 WEIGHTING DIAGRAM FOR ENTIRE URBAN POPULATION) (1970-71=100)

Sl. No.	Name of the state	1972-73			1973-74			1977-78			1983		
		F	NF	G	F	NF	G	F	NF	G	F	NF	G
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
1. A. P.	125.79	112.52	121.51	142.08	132.39	138.95	177.59	175.03	176.77	267.33	290.35	274.75	
2. Assam	113.01	114.30	113.45	134.81	137.38	135.69	170.01	175.91	172.02	269.61	261.01	266.68	
3. Bihar	120.01	112.99	117.44	154.77	137.51	148.46	166.00	178.73	170.65	272.10	303.50	283.59	
4. Gujarat	131.77	116.01	126.47	157.26	134.52	149.60	175.74	178.68	176.73	290.98	292.50	291.49	
5. Haryana	119.28	122.88	120.61	145.28	147.93	146.26	176.17	195.14	183.17	260.90	326.50	285.11	
6. H. P.	118.37	114.45	117.02	140.16	130.39	136.79	159.74	165.55	161.75	259.01	264.39	260.87	
7. J & K	112.93	113.30	113.04	129.55	125.00	128.15	183.43	165.04	177.76	302.89	273.47	293.82	
8. Karnataka	125.93	113.23	122.06	148.59	134.80	144.39	169.12	182.08	173.07	292.22	318.21	300.21	
9. Kerala	125.37	110.35	120.75	156.54	125.78	147.08	162.99	176.48	179.94	269.79	312.39	284.65	
10. M. P.	125.80	114.94	122.01	152.69	139.19	147.98	176.66	186.07	174.22	372.97	239.70	297.78	
11. Maharashtra	124.80	111.91	119.76	144.64	128.16	138.19	175.87	171.65	173.90	270.70	382.34	307.08	
12. Meghalaya	117.25	111.11	115.25	139.51	123.32	134.23	174.59	172.49	171.30	282.86	296.42	287.89	
13. Orissa	116.89	110.12	114.38	138.49	127.15	134.28	170.25	173.08	171.30	258.22	267.98	261.52	
14. Punjab	113.59	118.07	115.10	139.34	139.57	139.41	171.01	178.16	173.42	272.76	305.36	282.69	
15. Rajasthan	126.01	116.32	123.06	153.40	137.60	148.59	179.12	184.06	180.62	330.82	267.81	308.72	
16. Tamil Nadu	121.67	114.00	118.98	148.98	133.76	143.64	186.47	175.61	180.93	269.37	314.01	284.45	
17. U. P.	123.47	115.58	120.81	150.18	139.37	146.53	177.64	187.37	170.09	259.16	274.70	264.50	
18. W. B.	116.90	114.61	116.11	144.92	136.04	141.87	169.83	170.61	166.80	237.49	262.91	245.30	
19. Chandigarh	110.44	113.06	111.24	129.48	129.44	129.46	165.82	169.80	173.38	255.78	281.83	266.53	
20. Delhi	116.20	111.47	114.25	141.19	136.90	139.36	166.37	183.36	175.56	281.19	291.59	284.83	
All states	122.55	113.92	119.53	147.66	134.50	143.05	174.46	177.61	175.56	281.19	291.59	284.83	

Note : F, NF and G refer to Food, Non food and General respectively.

2 : STATE-WISE URBAN CONSUMER PRICE INDICES FOR FOOD, NON FOOD AND GENERAL (FOOD PLUS NON-FOOD) FOR SELECTED NSS-SURVEY PERIODS (BASED ON 1970-71 WEIGHTING DIAGRAM FOR ENTIRE URBAN POPULATION)

(1970-71 = 100)

Sl. No.	Name of the state	1972-73			1973-74			1977-78			1983		
		F	NF	G	F	NF	G	F	NF	G	F	NF	G
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1.	A. P.	125.10	112.09	120.40	140.82	129.60	136.75	176.14	172.19	174.70	267.63	281.22	272.56
2.	Assam	113.51	114.41	113.82	136.10	134.05	135.41	163.97	173.41	167.17	250.22	244.28	254.81
3.	Bihar	120.05	114.28	118.25	154.44	136.29	143.69	165.93	175.33	169.24	271.44	289.23	277.07
4.	Gujarat	132.87	114.84	127.16	158.19	132.15	149.94	175.39	173.32	174.74	239.83	232.19	238.09
5.	Haryana	121.72	120.09	121.13	146.49	141.77	145.99	175.99	189.59	181.52	261.65	303.90	278.53
6.	H. P.	119.17	114.76	117.44	140.93	127.88	135.85	161.25	163.95	162.32	261.34	251.65	257.55
7.	J. & K.	113.34	112.94	113.21	128.54	125.73	127.63	185.97	165.63	179.30	303.07	260.14	292.16
8.	Karnataka	125.18	113.21	121.09	147.77	132.89	142.68	163.39	177.58	171.54	274.80	294.30	231.14
9.	Kerala	123.90	111.03	119.18	153.81	126.03	143.65	161.30	174.90	168.04	293.59	301.82	296.61
10.	M. P.	126.04	114.62	121.86	151.54	136.58	146.07	175.57	181.79	177.84	269.89	301.63	281.50
11.	Maharashtra	125.06	111.54	120.20	144.61	126.15	137.47	176.55	163.12	173.29	305.64	281.27	296.21
12.	Meghalaya	117.01	113.63	115.87	140.09	127.45	135.74	171.23	173.35	171.95	265.03	402.60	311.70
13.	Orissa	116.12	111.45	114.70	137.25	129.70	134.94	167.27	177.90	170.51	279.07	303.77	286.61
14.	Punjab	115.03	115.98	115.76	141.32	132.95	133.12	172.99	173.13	173.05	252.36	260.27	261.56
15.	Rajasthan	127.02	116.30	123.09	153.50	135.27	145.32	179.44	181.92	180.02	275.84	294.14	282.55
16.	Tamil Nadu	121.11	114.12	118.69	143.91	131.91	142.15	135.19	171.53	180.62	330.88	264.16	307.81
17.	U. P.	123.87	114.59	120.65	149.97	135.63	145.99	177.95	179.91	177.75	269.70	295.51	278.66
18.	W. B.	117.55	115.13	116.74	145.15	133.43	141.22	169.72	165.93	168.80	258.31	263.54	260.07
19.	Chandigarh	113.95	112.41	113.34	132.59	125.91	130.35	167.53	163.35	166.93	238.75	266.63	249.73
20.	Delhi	116.73	111.90	114.69	141.48	134.64	138.59	167.01	178.64	171.93	257.34	277.59	265.90
	All states	123.16	113.74	119.82	147.67	132.04	142.13	174.67	174.03	174.44	282.99	282.49	282.81

Note : F, NF and G refer to Food, Non-food and General respectively.

TABLE 3 : STATE-WISE URBAN CONSUMER PRICE INDICES FOR FOOD, NON FOOD AND GENERAL (FOOD PLUS NON FOOD) FOR SELECTED NSS SURVEY PERIODS (BASED ON 1970 71 WEIGHTING DIAGRAMS FOR MIDDLE URBAN POPULATION)

(1970-71 = 100)

Sl. No.	Name of the state	1972-73			1973-74			1977-78			1983		
		F	NF	G	F	NF	G	F	NF	G	F	NF	G
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1.	A. P.	126.31	111.24	122.42	142.23	127.67	138.48	175.92	172.82	175.12	263.98	289.38	270.52
2.	Assam	110.93	112.86	111.36	135.79	131.46	134.81	158.32	169.13	160.77	252.32	240.62	249.58
3.	Bihar	120.84	114.70	119.52	157.29	136.19	152.78	163.37	177.16	165.32	271.44	299.98	277.52
4.	Gujarat	133.93	115.62	129.59	159.28	133.79	153.24	175.18	174.87	175.10	290.36	288.00	289.80
5.	Haryana	120.35	118.29	119.82	146.21	139.34	144.44	175.63	187.51	178.69	260.16	319.53	275.44
6.	H. P.	120.09	116.46	118.90	140.50	128.96	136.71	158.31	166.66	161.05	262.50	273.70	265.17
7.	J. & K.	113.29	111.09	112.71	128.06	120.71	126.13	187.23	158.83	179.75	310.13	257.34	296.24
8.	Karnataka	127.04	113.48	123.61	151.39	134.11	147.02	163.30	179.40	171.11	270.10	307.47	279.63
9.	Kerala	125.97	111.10	121.98	157.66	126.97	149.43	162.53	177.82	166.63	291.18	318.88	298.61
10.	M. P.	126.29	114.56	123.03	153.05	137.42	148.71	176.01	183.45	173.08	267.54	314.73	230.63
11.	Maharashtra	126.24	111.92	122.22	146.65	128.29	141.50	176.38	173.11	175.45	301.45	301.34	303.57
12.	Meghalaya	115.95	111.56	114.96	141.74	123.17	137.54	166.82	163.61	165.09	257.00	484.34	308.40
13.	Orissa	116.03	110.65	114.86	136.74	127.51	134.74	165.79	177.27	168.27	230.75	322.76	289.84
14.	Punjab	114.22	116.30	114.82	140.19	133.59	138.28	170.80	173.87	171.69	257.94	263.76	259.62
15.	Rajasthan	128.43	116.97	125.53	154.47	136.73	149.98	180.10	183.14	180.87	274.33	303.65	281.75
16.	Tamil Nadu	121.62	113.25	119.39	150.92	129.75	145.29	185.15	170.56	182.01	335.52	263.27	316.31
17.	U. P.	123.97	115.29	121.60	151.20	136.51	147.20	176.96	179.98	177.79	269.30	306.97	279.57
18.	W. B.	114.74	115.50	114.92	145.54	134.42	142.93	163.17	169.94	161.75	249.86	279.80	256.89
19.	Chandigarh	110.25	111.40	110.55	128.47	124.27	127.38	160.74	161.56	160.96	230.17	269.02	240.27
20.	Delhi	116.39	111.79	115.17	140.67	133.13	138.67	166.44	176.07	169.01	253.77	289.52	263.28
	All states	123.74	113.85	121.18	149.50	132.47	145.13	174.05	175.76	174.44	281.97	293.54	284.96

Note : F, NF and G refer to Food, Non-food and General respectively.

In spite of the fact that the two weighting diagrams differ, the difference in the two new indices is marginal in all the years 1972-73, 1973-74, 1977-78 and 1983. This shows, as already indicated in Section 3, that variation in the two weighting diagrams is not the only factor responsible for the outcome. The presence of the other factor, viz., the price index for 1970-71 with 1960 base varies over the different states and different item groups, can be confirmed by looking at column 4 of the Appendix Table A.6 and Column 2 of Appendix Table A.7. Thus both the factors have interacted and that too in such a pecu-

liar fashion that the compound effect is only of marginal significance in changing the all-India general price index. Let it be noted that the present outcome is a particular one and, therefore, can not be regarded true in general.

4.1 All-India Urban General Consumer Price Indices (CPITU)

To facilitate comparisons, the two new all-urban general consumer price indices (CPITU) with weighting diagrams W_1 and W_2 alongwith the already available consumer price indices (CPIIW and CPINM) and CSO's implicit deflator² are presented in Table 4.

TABLE 4: ALL-URBAN CONSUMER PRICE INDICES, 1970-71 TO 1983

NSS Rounds	Survey periods	CPITU		CPIIW	CPINM	CSO's Implicit deflator
		W_1	W_2			
INDEX VALUE						
25th	July 70 to June 71	100	100	100	100	100
27th	Oct. 72 to Sept. 73	119.5	119.8	120.2	116.3	116.8
28th	Oct. 73 to June 74	143.0	142.1	146.8	135.1	139.0
32nd	July 77 to June 78	175.6	174.4	174.9	170.5	171.5
38th	Jan. to Dec. 1983	284.8	282.8	285.4	274.2	288.4
ANNUAL INFLATION RATE (%)						
1970-71 to 1983		8.7	8.7	8.8	8.4	8.8
1970-71 to 1972-73		8.2	8.4	8.5	6.9	7.1
1972-73 to 1977-78		8.4	8.2	8.2	8.4	8.4
1977-78 to 1983		9.2	9.2	9.3	9.0	9.9

2. Although it is clearly inappropriate to compare the urban consumer price indices with CSO's implicit deflator for private consumption, the Planning Commission (1985) have used this deflator as a common proxy for price indices both for rural and urban sectors. Our comparison of the CSO's deflator with the new urban price indices may therefore be taken only as an illustration of the inadequacy of the former to depict price movements in the two sectors.

The two new indices for the entire urban population come quite close to each other. Differences between them are less than one percent in all the NSS survey years from 1970-71 to 1983.

Let us note that the new consumer price indices turn out to be higher than the CPINM, by 3 to 10 percentage points in different survey periods and only marginally different (mostly on the lower side) from the CPIIW. However, compared to the CSO's implicit deflator the two new indices (based on W_1 and W_2) are higher by about 2 to 4 percentage points upto 1977-78, but are lower in 1983 by 3.6 and 5.6 percentage points, respectively.

The average annual increase in the urban cost of living (inflation rate) over the entire periods of twelve and half years (from 1970-71 to 1983) works out to be around 8.7 percent from both the new indices as compared to 8.8 percent from the CPIIW as well as

the CSO's implicit deflator and 8.4 percent from the CPINM. This observation may tempt one to conclude that the new all-urban price indices, though more representative, are only marginally different in numerical terms from the available indices (CPIIW, CPINM and CSO's deflator). However, this is not true if one compares the annual inflation rates worked out from the newly constructed and the available indices over the three periods viz. 1970-71 to 1972-73, 1972-73 to 1977-78 and 1977-78 to 1983, separately. Over the period 1970-71 to 1972-73 the two new indices showed annual inflation rates of 8.2 and 8.4; whereas the CPINM and the CSO's deflator showed much smaller annual rate of increase of 6.9 percent and 7.1 percent, respectively. Between 1972-73 and 1977-78 all the indices (new as well as existing) showed almost similar annual inflation rates

varying between 8.2 to 8.4 percent. However, during 1977-78 and 1983, the CSO's implicit deflator showed an annual inflation rate of 9.9 percent as compared to 9.2 percent by each of the two new indices, 9.0 percent by the CPINM and 9.3 percent by the CPIIW. It may be noted that annual inflation rates registered by all the indices were higher over the last five year period from 1977-78 to 1983 (9.0 to 9.9 percent) as compared to those over the middle five year period from 1972-73 to 1977-78 (8.2 to 8.4 percent), or over the entire period of twelve and half years under study (8.4 to 8.8 percent).

4.2 Country-wide General Consumer Price Index

For meaningful comparisons with the CSO's impli-

cit deflator for private consumption, one needs a general consumer price index for the entire country. Of course, there does not exist at present any general index of this type. In the previous section we presented a representative consumer price index for urban India (CPITU). In an earlier paper, Minhas et. al. (1987), had constructed a consumer price index for rural India (CPITR). We can combine the CPITU and CPITR by taking the weighted average of the rural and urban indices, the weights being the aggregate consumer expenditure, respectively, of the rural and urban sectors in different years under consideration. The general consumer price index for the country as a whole is given in Table 5, along with CSO's implicit deflator.

TABLE 5 : ALL INDIA CONSUMER PRICE INDICES, 1970-71 TO 1983

Round	Year	Rural (CPITR)	Urban (CPITU)	Combined (All-India)	CSO's Implicit Consumer price Index
25th	1970-71	100	100	100	100
27th	1972-73	125.1	119.8	123.7	116.8
28th	1973-74	151.8	142.1	149.3	139.0
32nd	1977-78	177.1	174.4	176.3	171.5
38th	1983	284.2	282.8	283.8	288.4

The movements in the country-wide consumer price index (Col. 4, Table 5) between 1970-71 and 1983 are entirely different from the movements exhibited by the CSO's implicit deflator for private consumption. While the former rose much faster upto 1977-78, the CSO's implicit deflator shot up between 1977-78 and 1983. The latter reached an absolute level of 288.4 in 1983 (1970-71=100), whereas the former stood at 283.8.

On the basis of the observations made in Sections 4.1 and 4.2 we may conclude that notwithstanding the marginal differences in annual average rate of increase over the entire twelve and half years worked out from the two new all-India urban cost of living indices and the already available sectional indices, there are notable differences between the new and the existing indices in terms of annual inflation rate during the periods 1970-71 to 1972-73 and 1977-78 to 1983. Furthermore, it must be stressed that the new indices are conceptually superior and truly representative of the entire urban population in comparison to CPIIW, CPINM and the CSO's implicit deflator. While CPIIW and CPINM cover only small sections of urban population, the CSO's implicit deflator does not differentiate

between rural and urban population and provides only one deflator relating to the entire population of India.

4.3 Item-Group-Specific Price Indices for Urban India

Table 6 presents two alternative all-India Urban price indices for various individual item groups for 1972-73, 1973-74, 1977-78 and 1983 with 1970-71 as the base, one based on the use of the weighting diagram (shares of states in item group-specific total expenditure of all the states) for 1960 (W_1) and the other of the weighting diagram for 1970-71 (W_2)³. A comparison of the two commodity-group-specific indices at the four different points of time reveals that, like the two general indices, the two item-group-specific indices are only marginally different for each item-group and in all the periods except for the item-group housing, or the broad item-group all non-food, in the period 1983, which happens to be farthest from the base of 1970-71. It may be noted that similar to what has been noted above in the case of the two new general indices, the marginal difference in the two item-group-specific indices has been due to the interplay of both the factors, viz. (a) visible difference in the two weighting diagrams W_1 and W_2 and (b) for each item-group, the state-specific

3. From users point of view, we report in Appendix Table A.7 All-India urban item-group-specific price indices for twenty item groups and for five NSS survey periods 1970-71, 1972-73, 1973-74, 1977-78 and 1983, with the same base as that of the CPINM and the CPIIW series, i.e. 1960.

price index for 1970-71 with 1960=100 varying over the states.

TABLE 6 : ALL-INDIA URBAN CONSUMER PRICE INDICES FOR VARIOUS ITEM GROUPS FOR THE SELECTED NSS SURVEY PERIODS.

(BASED ON THE USE OF 1960 AND 1970-71 WEIGHTING DIAGRAM— W_1 AND W_2)

Sl. No.	Name of the Item	1972-73		1973-74		1977-78		1983	
		W_1	W_2	W_1	W_2	W_1	W_2	W_1	W_2
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.	Cereals and products	124.63	125.38	154.68	155.62	159.21	160.69	265.02	268.11
2.	Pulses and products	148.05	148.28	156.72	156.74	236.22	236.38	342.61	343.65
3.	Oils and fats	126.53	127.20	163.38	163.68	175.84	174.79	288.16	287.67
4.	Meat, fish and eggs	119.16	118.98	146.92	148.01	194.42	194.73	343.38	344.16
5.	Milk and products	113.44	113.49	138.21	137.90	171.35	171.92	260.42	261.28
6.	Condiments & spices	100.57	100.89	132.65	133.13	199.77	200.43	252.86	253.65
7.	Fruits and Vegetables	113.74	114.34	136.03	136.23	170.54	171.53	285.39	287.67
8.	Other food	129.70	129.36	140.90	140.43	176.29	176.05	296.71	297.02
	All food	122.55	123.16	147.66	147.67	174.46	174.67	281.19	282.99
9.	Pan, supari, Tobacco and intoxicants	113.84	114.32	128.91	129.95	175.62	176.80	295.24	292.73
10.	Fuel and light	116.19	116.15	141.03	141.03	191.04	191.07	368.21	356.89
11.	Housing	107.35	108.49	112.50	113.50	138.51	141.27	197.83	206.40
12.	Clothing & footwear	121.33	121.25	153.89	153.66	201.58	202.37	297.07	298.97
13.	Medicalcare	106.96	106.65	111.60	111.30	144.99	144.69	211.90	211.76
14.	Education & recreation	111.85	112.56	116.71	117.65	139.07	140.83	200.53	202.42
15.	Transport and Communication	111.99	112.34	122.53	123.17	167.64	168.49	267.04	259.15
16.	Personal Care	110.94	110.84	139.29	138.73	177.14	176.68	290.32	288.72
17.	Other non-food	112.78	113.21	135.29	135.33	184.95	186.32	314.78	316.26
	All non-food	113.92	113.74	134.50	132.04	177.61	174.03	291.59	282.49
	All items	119.53	119.82	143.05	142.10	175.56	174.44	284.83	282.81

Note: Cols. (2), (4), (6) and (8) of this table have been worked out from Appendix Table A.7 on dividing its cols. (4), (5), (6) and (7) by col (3).

4.4 State-Specific Consumer Price Indices

With a view to examine the movement of the two state-specific price indices, using alternative weighing diagrams (W_1 and W_2), we have worked out from Tables 1 and 2, the state-wise annual rate of increase

(%) in urban cost of living under each weighting diagram during the period 1970-71 to 1977-78 (Period I) and 1977-78 to 1983 (Period II) as well as over the entire period 1970-71 to 1983. These are presented in Table 7.

TABLE 7 STATE-SPECIFIC ANNUAL RATE OF INCREASE (%) IN THE TWO ALL-URBAN COST OF LIVING INDICES DURING THE THREE PERIODS: 1970-71 TO 1977-78, 1977-78 TO 1983 AND 1970-71 TO 1983 [BASED ON THE WEIGHTING DIAGRAM OF 1960 (W_1) AND 1970-71 (W_2)]

Sl. No.	Name of the State	1970-71 to 1977-78		1977-78 to 1983		1970-71 to 1983	
		W_1	W_2	W_1	W_2	W_1	W_2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Andhra Pradesh	8.5	8.3	8.3	8.4	8.4	8.4
2.	Assam	8.0	7.6	8.3	8.0	8.2	7.8
3.	Bihar	7.9	7.8	9.7	9.4	8.7	8.5
4.	Gujarat	8.5	8.3	9.5	9.5	8.9	8.8
5.	Haryana	9.0	8.9	8.4	8.1	8.7	8.5
6.	Himachal Pradesh	7.1	7.2	9.1	8.8	8.0	7.9
7.	J. & K.	8.6	8.7	9.6	9.3	9.0	9.0
8.	Karnataka	8.2	8.0	9.5	9.4	8.7	8.6
9.	Kerala	7.6	7.7	11.2	10.9	9.2	9.1
10.	M. P.	8.8	8.6	8.7	8.7	8.7	8.6
11.	Maharashtra	8.3	8.2	10.2	10.2	9.1	9.1