Household Budget Survey 2001/02 – Main results
&
Updated weights for the Consumer Price Index

1. Introduction

The Central Statistics Office conducted the seventh Household Budget Survey (HBS) from July 2001 to June 2002 in the Republic of Mauritius. The survey studied the consumption pattern of the Mauritian population with a view to update the basket of goods and services used for the computation of the monthly Consumer Price Index (CPI). It was carried out on a sample of 6720 households at the rate of 560 per month.

2. Objectives

The main objectives of the HBS are:

- to determine the items of goods and services that will constitute the CPI basket,
- to estimate the weight (relative importance) of each item included in the CPI basket,
- to provide data on the distribution of household income and expenditure,
- to supplement the data used in the household accounts for National Accounting purposes, and
- to provide information for the nutritional analysis of food consumption.

3. Coverage

The HBS 2001/02 covered all private non-institutional households in the islands of Mauritius and Rodrigues. Households of non-residents and institutional households such as hotels, hospitals and prisons were excluded.

4. Sample design

The HBS 2001/02 was conducted on a sample basis. Out of an estimated 300,000 private households in the country, a sample of 6,720 households (6,240 in the island of Mauritius and 480 in Rodrigues) was selected. The sample was selected to be representative of all households in the country through a stratified two-stage design with probability proportional to size.

First, the country was divided into a number of clearly demarcated small areas called enumeration areas (EA's) following the 2000 Housing Census. The EA's, each consisting of

around 100 households, were stratified by region (urban, rural and semi-urban) and by district. The total number of such strata was 23. Within each of these strata, the first stage sampling consisted of selecting a sample of EA's with probability proportional to the number of households in the EA (Table 1).

For each selected EA, a list of all households together with some socio-economic characteristics important for their stratification such as household size, expenditure class and religion was then made following visits on the field. From this list, a sample of 8 households reflecting these characteristics was selected for interviewing and follow-up.

5. Survey documents

The HBS necessitated the use of five questionnaires to collect all the necessary information. These are: -

HBS 1 - Listing schedule

This schedule was used to make a list (frame) of all households in each selected EA. A sample of households was selected from this list for follow-up and interview.

HBS 2 - Household schedule

This schedule was used to collect information on the characteristics of the selected households and their members.

HBS 3 - Daily record of household expenditure

This diary was used for collecting detailed daily household expenditure for the whole survey month. When consolidated, this provided itemwise expenditure for the whole month for each household.

HBS 4 - Income schedule

This schedule was used to collect data on the income of each income earner of the household.

HBS 5 - Point of purchase questionnaire

This was used to collect information on the outlets where households usually purchase consumption goods and services.

Table 1 : Distribution of EA's and households by regional stratum, HBS 2001/02

Regional stratum		Total No. of EA's	No. of selected EA's	No. of selected households
Port Louis	Urban	351	78	624
	Semi-urban	30	7	56
	Rural	8	2	16
	TOTAL	***389***	***87***	***696***
Pamplemousses	Semi-urban	115	26	208
	Rural	266	59	472
	TOTAL	***381***	***85***	***680***
R. du Rempart	Semi-urban	90	20	160
	Rural	216	48	384
	TOTAL	***306***	***68***	***544***
Flacq	Semi-urban	95	21	168
	Rural	274	61	488
	TOTAL	***369***	***82***	***656***
Grand Port	Semi-urban	123	27	216
	Rural	206	46	368
	TOTAL	***329***	***73***	***584***
Savanne	Semi-urban	81	18	144
	Rural	136	30	240
	TOTAL	***217***	***48***	***384***
Plaines Wilhems	Urban	894	199	1592
	Semi-urban	115	26	208
	Rural	48	11	88
	TOTAL	***1057***	***236***	***1888***
Moka	Semi-urban	82	18	144
	Rural	155	35	280
	TOTAL	***237***	***53***	***424***
Black River	Urban	7	2	16
	Semi-urban	72	16	128
	Rural	136	30	240
	TOTAL	***215***	***48***	***384***
Rodrigues	Semi-urban	1	1	8
	Rural	108	59	472
	TOTAL	***109***	***60***	***480***
REPUBLIC OF MAURITIUS		**3609**	**840**	**6720**

6. Fieldwork

6.1 *Fieldstaff*

The field staff for each month consisted of the Chief Supervisor, 2 Senior Supervisors, 14 Supervisors, 70 Interviewers as well as a Coordinator for Rodrigues.

6.2 *Training of fieldstaff*

Each month, prior to the data collection exercise, training sessions were held with the field staff (interviewers and supervisors) on the general aspects, objectives and uses of the HBS as well as the technical aspects of interviewing and questionnaire filling. The supervisors also provided some practical training to the interviewers by accompanying them on the field.

6.3 *Data collection exercise*

Data collection for the listing exercise was done about one month before the survey reference month. On the basis of this information, eight households were selected for interviewing and follow-up in each enumeration area.

Detailed HBS data were collected by interviewers. Each interviewer had to cover 8 selected households and had to maintain contact with these households over a series of visits as follows:

- During the first contact, about one week before the beginning of the survey month, the interviewer met the head of household and filled in the household schedule HBS2. He also explained the method of completion of the expenditure diaries and handed over the first week diary to the head of household.
- During the first week of the survey month, the Interviewer regularly visited the household in order to ensure that the diaries were properly filled in.
- At the end of each week, the Interviewer returned to the selected household to collect the completed diary for the past week and remit diaries for the coming week while at the same time settling queries, if any, on the data provided.
- At the end of the last week of the reference month, the household was interviewed on the schedule HBS5 regarding points of purchase.
- Finally, during the first week of the following month, the Interviewer filled in the income schedule HBS4 through interviews with each income earner in the household.

6.4 *Field supervision*

Field supervisors were appointed to monitor the fieldwork. Each Supervisor was responsible for a team of 5 Interviewers and continuously checked and verified all the information obtained before submission of questionnaires to the office. In addition, the Senior Supervisors and the Chief Supervisor also carried out random checks and intervened in difficult cases.

7. Data processing

The completed schedules were checked for completeness and internal consistency at the office. Schedules HBS2 (household schedule), HBS4 (income schedule) and HBS5 (point of purchase questionnaire) were coded and edited directly. Schedules HBS3 (expenditure diaries) were consolidated into a monthly expenditure schedule, which contained item wise expenditure during the survey month.

These coded schedules were sent to the Central Information Systems Division for data capture using the software Integrated Microcomputer Processing System (IMPS). The monthly data files were sent back to the Central Statistics Office (CSO) for validation and consistency checks on PC's using the same software.

8. Response

Out of the 6,720 households selected in the initial sample, around 400 (6%) had to be replaced. This was due to various reasons namely major illness of household members, long absences from the country, inability to contact the head or other responsible members of the household, etc. In making these replacements the stratification criteria were strictly respected.

9. Reliability of survey results

Sample surveys are subject to both sampling and non-sampling errors. Sampling errors arise because information is collected from a sample of households. Non-sampling errors can arise whether the estimates are derived from a sample or from a complete enumeration, the main sources being non-response, errors in reporting and recording, and in data processing. Every effort was made to reduce these errors in the HBS. The emphasis on representativeness, reliability and accuracy began right from the survey design stage and characterised every aspect of the survey exercise and data processing.

In order to check the extent to which the sample of households surveyed in the HBS is representative of all households throughout the country, some demographic data (age, sex, marital status, activity status) obtained from the survey have been compared with those obtained at the 2000 Census (Table 2). It is observed that the HBS results are consistent with the Census results; the slight differences observed may be accounted for by the difference in the time period to which the figures relate.

Table 2 : Comparison of data - 2000 Census and 2001/02 HBS

Demographic Characteristics of household members	2000 Census	2001/02 HBS
	(%)	(%)
SEX		
Male	49.5	49.7
Female	50.5	50.3
Both Sexes	100.0	100.0
AGE		
Under 5 years	8.0	7.8
5 - 14 years	17.2	16.9
15 - 59 years	65.7	66.0
60 years and above	9.1	9.2
Total	100.0	100.0
MARITAL STATUS		
Married	44.9	45.7
Divorced / Separated/Widowed	7.8	8.0
Single	47.1	46.3
Other	0.2	-
Total	100.0	100.0
ACTIVITY STATUS		
Economically Active	54.9	52.3
Students	12.3	13.5
Homemaker	23.2	23.6
Other	9.7	10.5
Total	100.0	100.0

Further checks were made with data collected at the 2001 Continuous Multipurpose Household Survey (CMPHS) conducted by the CSO. Table 3 shows that both surveys yield concordant results as regards household size and tenure. However, the estimates for household income are

higher for the HBS than for the CMPHS. This is explained by the fact that the HBS collected income data at a more disaggregated level and it is expected that underreporting has been less for the HBS than for the CMPHS.

Table 3 : Comparison of data - 2001 CMPHS and 2001/02 HBS

Household Characteristics	2001 CMPHS	2001/02 HBS
SIZE		
Average household size	3.9	3.9
INCOME		
Average monthly household income (Rs)	12,340	14,208
TENURE (%)		
Owned	86.2	85.7
Supplied Free	6.7	5.5
Rented	7.1	8.8
Total	100.0	100.0

Before using the survey results to derive the CPI weights, they were checked against estimates derived from other sources such as production, imports, exports and local sales (Table 4). It is to be noted however, that these data may have different coverage, i.e. they may include consumption by non-private households such as hotels and consumption by small businesses and trade. Also, it has not been possible to get data for financial year 2001/02 for all the tabulated items; in these cases the calendar year 2001 figures have been used for comparison purposes.

Table 4 shows that the survey data seem to be in line with data from other sources except for alcoholic drinks and cigarettes. Systematic underreporting of consumption of alcoholic drinks and cigarettes is a common feature in expenditure surveys in many countries because people are reluctant to reveal actual expenditure on these items for various reasons.

It is to be noted that the survey data on sugar and chicken are less than the sales figures because a significant quantity of sugar goes in the local manufacture of sweet food and drink items while a significant quantity of chicken is used for preparing fast food.

Table 4 : Comparison of HBS 2001/02 expenditure data on some items with data from other sources.

Item	Estimated private household consumption per annum based on the 2001/02 HBS	Estimated national consumption per annum based on data from other sources
Rice (govt.subsidised)	39,879 tons	32,200 tons
Rice (trader's)	36,753 tons	28,400 tons
Flour (inc. flour for bread)	66,400 tons	86,700 tons
Tea	1,142 tons	1,429 tons
Sugar	12,960 tons	25,599 tons
Chicken	16,778 tons	26,600 tons
Cooking Oil	Rs 406 mn	Rs 596 mn
Potato	23, 434 tons	23,272 tons
Onion	10,893 tons	18,554 tons
Powdered milk	Rs 901 mn	Rs 1,068 mn
Rum & Cane Spirits	Rs 223 mn	Rs 976 mn
Beer & Stout	Rs 259 mn	Rs 868 mn
Wine	Rs 124 mn	Rs 340 mn
Cigarettes	Rs 938 mn	Rs 2,485 mn
Soft drinks	Rs 534 mn	Rs 818 mn
Electricity (domestic)	Rs 1,336 mn	Rs 1,779 mn
Water (domestic)	Rs 475 mn	Rs 502 mn
Waste Water (domestic)	Rs 44 mn	Rs 56 mn
Gasoline (domestic)	Rs 1,140 mn	Rs 950 mn
LPG - cooking gas (domestic)	Rs 593 mn	Rs 690 mn

10. Household Income

During the survey, income data was collected from all household members who were deriving an income. Table 5 shows some selected measures of monthly household disposable income computed from the data. Disposable income is defined as the income (both in cash and in kind) derived from employment, property and transfers (mainly pensions and other social security benefits) after deduction of taxes and social security contributions.

Table 5 : Selected measures of monthly household income - 1991/92, 1996/97 & 2001/02 HBS

Measures of Income	1991/92	1996/97	2001/02
Average monthly household income (Rs)	6,503	10,179	14,208
Median monthly household income (Rs)	5,300	7,870	11,017
Gini coefficient	0.379	0.387	0.371

From the reported figures, the average monthly household disposable income was Rs 14,208 in 2001/02 against Rs 10,179 in 1996/97, showing a 40% increase over the five-year period. The real increase, however, was 5% after adjusting for inflation which was around 33% in the same period.

The median monthly household income was Rs 11,017 in 2001/02, indicating that 50% of households derived an income less than Rs 11,017 and that the other 50% had an income greater than Rs 11,017. Compared to a figure of Rs 7,870 for 1996/97, the median income also increased by 40% in nominal terms and by 5% in real terms.

Table 6 shows the distribution of households by income class. It is observed that the proportion of households earning less than Rs 5,000 per month decreased from 46% in 1991/92 to 24% in 1996/97 and 11% in 2001/02. The proportion of households receiving between Rs 10,000 and Rs 20,000 gradually increased from 14% in 1991/92 to 26% in 1996/97 and 38% in 2001/02, whilst the share of those having a monthly income above Rs 20,000 rose from 2% in 1991/92 to 9% in 1996/97 and 19% in 2001/02.

The dispersion of the income distribution can be illustrated by a Lorenz curve, which is a graph showing the income share for any selected cumulative proportion of households. If all incomes were equally distributed, the plot would coincide with the diagonal line known as the line of equality. Figure 1 shows that the Lorenz curve has shifted slightly towards the equality line in 2001/02 as compared to 1996/97, thus indicating an improvement in the income distribution. It can also be estimated that 20% of households at the lower end of the income range have around 6% of the total income while the 20% of households at the upper end have almost 45% of total income.

The degree of inequality in income can also be measured by the Gini coefficient that ranges between 0 (complete equality) and 1 (complete inequality). Based on the income data collected from the past two surveys, the Gini coefficient improved from 0.387 in 1996/97 to 0.371 in 2001/02.

The average number of income earners per household was around 1.9 in 2001/02, i.e. the same figure as in1996/97.

11. Household consumption expenditure

Household consumption expenditure has been defined as the value of consumption goods and services acquired during the reference period regardless of whether they were paid for or received free. It does not however include education, health and other services received free from the State as well as the rental value of owner-occupied and free housing.

After comparing expenditure data from the HBS with data on local sales, it has been found necessary to adjust the household consumption expenditure for underreporting of alcoholic beverages and cigarettes. It has been estimated from other sources that household consumption of alcoholic beverages and cigarettes represents about 80% of total sales in the country; on this basis an adjustment of Rs592 has been worked out for the average monthly household consumption expenditure. The *divisions* affected by the adjustment are *Alcoholic beverages & tobacco* and *Restaurants & hotels;* the latter division includes alcoholic drinks and tobacco consumed in bars and restaurants.

The adjusted average monthly household consumption expenditure was Rs 10,725 in 2001/02. *Food & non-alcoholic beverages* took the largest share of household consumption expenditure (32%) followed by *Transport* (13%), *Housing, water, electricity, gas & other fuels* (9%) and *Alcoholic beverages & tobacco* (9%). The remaining categories of expenditure including clothing, footwear, household equipment and maintenance, health, education, communication and recreation together accounted for the remaining 37% (Table 7).

Table 7 also compares the consumption expenditure figures obtained at the last two household budget surveys. To facilitate comparison, the HBS 1996/97 consumption goods and services, which were classified according to the older UN 1968 SNA (System of National Accounts) had to be reclassified according to the most recent UN COICOP (Classification Of Individual Consumption according to Purpose) classification used for the HBS 2001/02. It is pointed out that though broad comparisons can be made, the figures for the two periods are not strictly comparable.

Household expenditure increased by 31% from Rs 8,172 per month in 1996/97 to Rs 10,725 in 2001/02 (Table 7). Expenditure on all categories of consumption goods and services except *Health* showed increases ranging from 2% *for Furnishing, household equipment and routine household maintenance* to 109% for *Communication*, which includes mobile phones and internet. The next highest increase was observed in *Education* (86%) followed by *Miscellaneous goods and services* (66%) which includes personal care goods and insurance.

Average household expenditure on health showed a decrease of 3% from Rs276 per month in 1996/97 to Rs269 in 2001/02. This result may be explained by comparatively greater use of public health facilities. In fact, the number of attendances at out-patient departments of hospitals increased by 24% from 1,863 per 1,000 population in 1996 to 2,307 in 2001,while the number of operations (in-patients) in hospitals increased by 20% from 25 per 1,000 population in 1996 to 30 per 1,000 population in 2001. Furthermore, total public expenditure on medicines, surgical dressings and medical disposals, open heart surgery and renal dialysis, and assistance for special medical care, increased by about 150% from around Rs 200 million in 1996/97 to Rs 500 million in 2001/02.

12. The updated weights for the CPI

The main purpose of the monthly Consumer Price Index (CPI) is to measure the relative change in the aggregate level of prices of goods and services purchased by private households. Changes in prices of different commodities do not all have the same degree of importance to households. The relative importance of an item is referred to as the weight of the item in the basket of goods and services consumed by households.

The table at Annex shows the weight (expressed per 1000) of different items on the basis of total household expenditure devoted to them at the 1996/97 and 2001/02 Household Budget Surveys. As mentioned earlier, the 1996/97 and 2001/02 data are not strictly comparable because of revisions in the classification of commodities from the 1968 SNA to COICOP. Furthermore, the CPI basket has been determined in accordance with the latest ILO and SADC recommendations. In particular, goods and services received free as well as consumption expenditures incurred abroad have been excluded in deriving the weights, although they are included in total household expenditure shown in Table 7. For infrequently purchased items such as air tickets, cars, computers and other household durables, data were collected over a recall period of one year (instead of the usual reference month) in order to obtain more reliable expenditure estimates for deriving the weights. However, general comparisons between the 1996/97 and 2001/02 data are valid in spite of the above-mentioned limitations. In any case, the 2001/02 survey reflects the most recent pattern of consumption and the weights derived therefrom will be used for the computation of the monthly CPI.

Thus, it may be observed from the Table at Annex that items such as mobile phones and calls, internet, computers, house insurance, university fees, primary and secondary school fees have acquired significant importance as compared to 1996/97. In addition, there have been important shifts in the weights of some commodities. These are:

- Rice : The weight of government subsidised rice has decreased from 9 to 5 whereas that for trader's rice has gone up from 13 to 16,
- Chicken : The weight of frozen chicken has declined form 22 to 14 whilst that for fresh chicken has increased from 7 to 11,
- Cigarettes whose weight has gone up from 35 to 48,
- Clothing and footwear whose weight has declined form 79 to 60,
- Furniture with an upward shift from 10 to 17,
- Pharmaceutical goods with a decline from 19 to 13,

- Purchase of vehicles whose weight rose significantly form 28 to 42,
- Passenger transport by air increasing from 5 to 13,
- Audio-visual equipment up from 3 to 9.

As regards alcoholic beverages, the change in the weight is not as drastic as indicated in the Table at Annex since part of it is explained by the change in the classification. In fact, the weight of 53 for 1996/97 refers to all alcoholic drinks consumed outside bars and restaurants, i.e. both at home and at the roadsides, etc. whereas the weight of 38 for 2001/02 refers to only those alcoholic drinks purchased to be consumed at home. For 2001/02, all alcoholic drinks consumed outside home have been classified under *Restaurants, cafes and the like* in division 11.

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