

Note

The Household Integrated Economic Survey of Pakistan 1990-91: Internal and External Consistency

MAARTEN DE ZEEUW

After the appearance of Morgenstern's *The Accuracy of Economic Observations* (1950), data quality should be a matter of abiding concern among economists. The present paper highlights the theme by subjecting the Household Integrated Economic Survey (HIES) 1990-91 to a consumer test. From among all remarkable results, a 10 percent "shortfall" of the reported share of workers in agriculture as compared to the Labour Force Survey stands out. Reservations are also made with regard to employment status of workers, income dynamics for employees and self-employed, foreign and domestic remittances, inter-household transfers, improverishment, the marginal propensity to consume, per capita income, and direct tax incidence. If these issues at stake are not inexplicable, at least some elucidation is obviously required. Recommendations for improving HIES data quality emphasise checking on internal and external consistency, and the elucidation of seemingly remarkable results.

1. INTRODUCTION

The budget survey is one of the most important parts of the statistical system of any country. Among others, budget surveys are used in the preparation and evaluation of socio-economic policies (e.g., for tracing the burden of direct or indirect taxes, or the benefits of social security or food subsidies); in determining the weights of the consumption price index; in improving the estimation of the consumption account in the System of National Accounts; in the estimation of price and income elasticities, income distribution characteristics, and poverty lines; in forecasts of consumption patterns based on demographic scenarios; in marketing research by enterprises; and in dietary research. For all these purposes, reliable budget surveys are indispensable.

The budget survey in Pakistan was the Household Income and Expenditure Survey, most recently held in 1984/85, 1985/86, 1986/87, and 1987/88, followed up by the Household Integrated Economic Survey held in 1990/91. Both are referred to

Maarten de Zeeuw is Research Fellow at the Foundation for Economic Research, Rotterdam, The Netherlands.

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as HIES [cited in References under Government of Pakistan]. The purpose of the present note is to identify a number of bottlenecks for users of Pakistan's HIES, with special reference to the HIES of 1990/91. Section 2 discusses the methodology applied in the first stages (from design to data processing) of the HIES. Section 3 focuses on the process of checking on internal consistency (i.e., consistency between the data reported by one and the same data source) and external consistency (i.e., consistency of data with the data published elsewhere and with *a priori* expectations). Section 4 pays attention to a few issues concerning the final survey stage, the presentation of the results. Section 5 concludes with summary remarks, stressing the necessity of strengthening the statistical infrastructure of Pakistan.

2. METHODOLOGICAL ISSUES IN THE FIRST STAGES OF SURVEY EXECUTION

Throughout the history of statistical economic research, researchers have had qualms about the quality of their data, and HIES data have been no exception to this. For example, Jehle (1992) observes "a rather widely held belief among researchers who have worked with this data that both "tails" in the income distribution tend to be undersampled for a variety of cultural, administrative and, perhaps, political reasons as well." Zaidi (1992), for another critic, notes that "the data from the HIES as a source of poverty analysis have important weaknesses, such as a non-representation of homeless people¹ and a possible under-representation of illiterate people". Burney and Khan (1992) also report reservations concerning the HIES 1984-85 savings data.

To judge such and similar misgivings, data users are to be informed by the data-producing agency about what methodological steps it undertook to guarantee maximum data reliability and consistency. Only by providing information on important methodological questions, the misgivings on data quality can be prevented. Without such information, any guarantees are lacking.

The most important questions determining the quality of survey data include the following, divided into categories related to the usual stages of survey implementation.

(i) Determination of Objectives

- For what purposes was the survey held?
- Which users were the primary target group(s)?
- What research has been carried out in the past on the basis of the figures?

(ii) Concepts and Definitions

- Which concepts and definitions were applied?

¹This, like the problem of enumerating nomads, is inherent to any household survey.

(iii) Survey Frame and Sample Selection

- What steps were taken to construct a random sample of sufficient size?

(iv) Interviewing Respondents

- What was the enumeration period, and how long was the reference period?
- Did the respondents answer on the basis of records they were instructed to keep or on the basis of memory alone?
- What language was adopted in the questionnaire?
- What was the non-response rate, and how can it be explained? Are there indications whether or not non-respondents were representative for the whole population as regards income level or literacy?
- In what way were the purchases of illiterate people estimated? Did they quote from memory, or were accounts kept for them?
- What efforts were made to measure or control response errors?

(v) Data Processing and Analysis

- By what procedures were the factors which were used to obtain figures for “all Pakistan” from urban and rural figures determined?²
- By what procedure were the absolute numbers of employed persons obtained in Tables 13-16 and 35?
- What other criteria determined the raising factors applied to each sample household?
- What sort of checking on internal and external consistency was done during and after the processing of the data?

It is this last question which the next section will address in more detail.

The methodological information which the HIES gives is concentrated in the chapters on “Concepts and Definitions” and “Sample Design” and focuses on the definitions used and on the mechanics of sample drawing. One thing becomes especially clear from the information on the latter subject:³ eventual remarkable results cannot be attributed to insufficient sample size. It is reported that the sample size has been reduced from about 16,000 households in the 1980s to 6,516 households in 1990-91. The relation between the sample size and expected deviations is given by the formula

$$(1)n = \frac{K_{\alpha}^2 R(10 - 0R)}{D^2}$$

²In the HIES of 1990-91 the implicit share of urban population in the total population was about 0.308, up from about 0.292 in 1987-88, down from about 0.297 in 1984-85, up from 0.283 in the Population Census of 1981. As regards the extrapolation procedure used to estimate this oscillating share, we are groping in the dark.

³A few technical definition issues are discussed in Annex 1.

where n is sample size, K_α is the value in the positive part of the domain of the standard normal distribution related to $100.\alpha$ percent confidence, R is the true or expected value of the estimated fraction in percentages, and D is the expected deviation from R . From this formula it can be derived that, even for the reduced sample size of 6,516, estimated percentages will (with 95 percent probability) not deviate by more than 0.8 percentage points from their true value in the total population of Pakistan. Therefore, if the HIES data would appear to contain sizable errors for Pakistan as a whole, these must be non-sampling errors (e.g., response errors or data processing errors), which may be avoidable by careful survey implementation, and not sampling errors, which are unavoidable.⁴

Some methodological information is also given in the chapter "Main Findings", such as the fact that the survey was held in the period between April 1990 and March 1991, partly overlapping two accounting years of the System of National Accounts which run from 1st July to 30th June of every calendar year.

3. CHECKING ON CONSISTENCY REQUIREMENTS

Statistical data should be both externally and internally consistent. This section gives examples of what these notions mean.

Traditionally, the HIES pays attention not only to budget information, but also to other fields like demography, the education level of the population, and the attributes (sector of activity, occupation, employment status) of the labour force. The same attributes of the same populations are also covered by the Labour Force Survey (LFS), which like the HIES is conducted by the Federal Bureau of Statistics (FBS) and applies more or less the same definitions and classifications, so the results are comparable. This comparison with another data source is an example of a check on *external consistency*.

A comparison for 1990-91 (see Annex 2) reveals that most differences are small in absolute terms, but a few stand out, especially the difference of 10.1 percentage points in the reported share of workers in agricultural occupations (HIES: 36.5 percent; LFS: 46.6 percent). The same difference is reflected in the break-up of the labour force according to the sector of employment—agriculture being reported about 10 percent higher by the LFS (37.1 percent vs. 47.5 percent), and it has been persistently so for a number of years (e.g., HIES 1984-85: 42.2 percent vs. LFS 1984-85: 50.6 percent).⁵ The reported shares of most educational levels in the labour

⁴Of course, the reduction from about 16,000 to about 6,500 has more adverse consequences on the level of the 8 usual strata (the urban areas and the rural areas in all 4 provinces), but the discussion in this note is limited to the whole of Pakistan.

⁵As appears from the LFS 1990-91 data quoted in the *Pakistan Economic Survey 1992-93*, the patterns on occupation and sector of activity observed for 1987-88 persisted also in 1990-91. The agriculture gap increased from 8 to over 10 percent.

force are close and have converged as compared to 1984-85 (cf. Annex 2). As regards employment status, the HIES reports a 10 percentage points lower share of self-employed and a 10 percentage points higher share of employees. These differences are not intertemporally consistent: in 1987-88, the HIES reported 4 percentage points more self-employed, but 4 percentage points less unpaid family workers than the LFS, whereas the reported percentages for employees are about the same.

Again, these differences cannot be attributed to insufficient sample size. As sample sizes were in the order of a magnitude of 25,000,⁶ it may, on the basis of Equation (1), be expected with 95 percent confidence that deviations from the true values will be less than 0.5 percentage points even if, in the most unfavourable case, R is about 50. According to the same formula, the probability that in a sample of about 25,000 observations a sampled fraction differs due to sampling errors by 10 percentage points or more from its true value of about 50 percent is only $2 \times (1 - F(10 \cdot \sqrt{(25,000/2,500)}))$, or about $2 \times (1 - F(31))$, where F is the distribution function of the standard normal distribution. The likelihood of this event occurring may be gestimated as "much" less than 10^{-10} , judged by the fact that $F(4.4) = 0.999995$.

Another possible explanation would be the differences in definitions, reference periods or stratification plans adopted to realise the purposes of both surveys, but whatever the introductions to the HIESs and LFSs of 1984-85 and 1987-88 specify about these dimensions is basically identical.

For these reasons, the observed differences must be attributed to non-sampling errors in either the HIES or the LFS, and in view of the persistent pattern of the "agriculture deviation", it is tempting to speculate that at least one of both is based on a non-random sample design.

Another *external consistency* check is the intertemporal comparison of HIES results. The FBS itself makes a number of such comparisons in the introductory chapter, "Main Findings", preceding any HIES. For example, the Introduction to the HIES 1990/91 gives the following data.

Earnings by Employment Status (Percentages)	Self-		Unpaid Family Helper	Not Economically Active
	Employer	Employee		
1987/88	1.0	50.6	25.6	2.3
1990/91	2.3	31.0	43.5	2.6

⁶HIES: 16,580 households \times 1.59 earner per household; LFS: 18,577 household; number of earners or workers per household not specified.

In other words, it is reported that self-employment dropped by 19.6 percentage points, while wage employment rose by 17.9 percentage points, a massive shift. This demands an explanation, because the definitions of “employee” and “self-employed” did not change; but the report on “Main Findings” offers no comment. The percentage of employees given by the LFS 1990-91 is 34.5 percent, 9 percentage points up from the 25.5 percent reported in 1987-88, which is also hardly credible.

Sex ratios (the number of males per 100 females in a population) provide an example of the caution often required in checks on *external consistency*, especially when using information about more or less comparable yet different populations. The annual *Human Development Report* by the UNDP reports sex ratios of about 96 for industrial countries, 98 for Sub-Saharan Africa, 100 for all least developed countries, and 104 for all developing countries. Leaving aside oil-exporting countries in the Middle East, with their large numbers of male migrant workers, the reported sex ratios of Pakistan, according to this report, are the highest in the world, slightly exceeding the other South Asian countries. On this ground, a HIES user might be tempted to question the reliability of reported sex ratios for Pakistan. To some extent, the deviating sex ratios indeed seem to indicate culturally-determined problems to enumerate all females, and especially girls approaching the age of marriage. For example, the sex ratio for the cohort of 12 to 14 years implied by Table 2 of the HIES for 1990/91 equals $6.25/5.20 \times 100 = 120.2$, which means that in this age category about 120.2 boys are reported per 100 girls.

But, on the other hand, for a number of reasons it can be argued that the reported sex ratios yet reflect the actual composition of the population reasonably well. In Pakistan there has been a difference between female and male mortality rates. As this difference has come down over the years, sex ratios are also coming down. While the Census of 1981 reported the sex ratio as being 111, in more recent surveys, including the HIES 1990-91, it has fallen to 107. For this and other reasons, the published sex ratios could stand a check on external consistency fairly well. To inform users of the HIES 1990-91 about these backgrounds would be a matter of presentation—a subject taken up again in Section 4.

Checks on external consistency are always “relative”, because in theory it can always be claimed that discrepancies between the survey results, on the one hand, and the external data or *a priori* beliefs against which they are tested, on the other, are to be attributed to the shortcomings of the latter, not the former. More cogent, therefore, than any check on external consistency are the checks on *internal consistency*, requiring that data from one and the same source should not contradict each other. For illustration, in Table 5 of HIES 1990/91

- the share of households per income bracket in the total number of sample households should match the reported absolute number of households per income bracket (actual deviations are up to 2 percentage points);

- only those percentages should be reported which could actually have been observed given the sample size (for instance, for a sample size of 507, only multiples of about 0.2 percent should be reported, but not 0.02 percent);
- the average number of members per household (p. 42f) should match the total population of households reported in Table 6 (p. 44).

If it may be assumed that all respondents have given consistent answers, or that any eventual inconsistencies in their answers were discovered and corrected (as they should), then internal inconsistencies in the final results are attributable to data processing errors. This means that the other sorts of non-sampling errors, like response errors or non-randomness of the survey design, can be discovered only by the relatively weak criterion of external consistency, not by the strong criterion of internal consistency.

Application of checks on internal—and especially external—consistency would yield such observations as are non-exhaustively enumerated below.

1. Relative Income of Employees and Self-employed

Although between 1987-88 and 1990-91 the reported share of self-employed workers fell dramatically from 50.6 percent to 31.0 percent (p. 18; cf. Table 8), the share of income earned by self-employment did not drop proportionately; it fell only from 55.6 percent to 46.2 percent (Table 17). On the other hand, the share of wages and salaries rose only from 21.7 percent to 30.7 percent, while the reported number of wage-earners was skyrocketing from 25.6 percent to 43.5 percent (p. 18). All this means a once more dramatic rise of the relative income of self-employed labour vs. wage labour from 1.3 to 2.1.

2. Foreign Remittances

According to Table 17, foreign remittances amounted to 3.08 percent of 3168 Rs per month per household, or (after dividing by the average household size of 6.55 and multiplying by 12) about 179 Rs per capita per year. Multiplying by 113.8 mln. (the estimated population size) yields about 20.3 bln. Rs per year. On the other hand, the *Economic Survey 1992-93* reports Workers' Remittances in 1990/91 to have been 1.85 bln. US \$. As the exchange rate varied in 1990/91 between 21.7 and 24.3 Rs per US \$,⁷ these amounts differ by a factor of about 2.

Table 17 reports that foreign remittances accrue to all household groups apart from the poorest urban group, who appear to be sending 5 percent of whatever income they earn as remittances abroad.

⁷IMF: *International Financial Statistics*.

3. Domestic Remittances

Table 17 also shows that the urban poor are poor especially because, strikingly, they send 40 percent of their income as domestic remittances.⁸ In 1984-85 (Table 14), the poorest urban group sent only 0.6 percent of expenditures as remittances to household members living away.

4. Gifts and Assistance

A priori, one might expect that gifts (*nazranas*) and "assistance" (which latter term denotes the *zakat* and *ushr* system, according to p. 10) flow from higher income groups to lower income groups. For the urban areas, Table 17 reports otherwise. The group benefitting absolutely and relatively most from gifts and assistance is the highest-income group, who receive 3.7 percent of their income as gifts and assistance. For the poorest urban group, a negative amount of gifts and assistance is reported.⁹ In short, in the urban areas, gifts and assistance apparently have a regressive structure, and seem to be "trickling up" from the poor to the rich.

5. Impoverishment

One would expect that the poorest group in a less developed country expends its income fully, but not very far beyond 100 percent. However, the HIES 1990/91 reports the lowest income group as expending 1,406 Rs a month, which is more than twice its average income of 674 Rs a month (Table 33). They reportedly make ends meet by reducing their cash balances by an amount which is obtained as a residual (p. 14) and whose size is not less than 116 percent of average income. This reported process of alarming impoverishment in 1990/91 was a quite new phenomenon. In 1987-88, the lowest income group was reported to expend 570 Rs (Table 19), or about 117 percent of their monthly receipts of 489 Rs.

6. Marginal Propensity to Consume

For a less developed country, one would expect the marginal propensity to consume (mpc) to be certainly not less than the values usual for developed countries, which are 0.7 or 0.8. However, the mpc which can be obtained from Table 33 is very low: 0.54, a drop of about 0.20 as compared to the level of 1987-88. This is not only related to the reported impoverishment of the lowest-income group mentioned above. The mpc remains low (about 0.60) even if the (two) poorest group(s) are left out. If only the highest-income group is left out, the mpc reaches the value of 0.67. What this group is engaged in might perhaps be styled as "conspicuous saving", their average saving quote being 0.38.

⁸The HIES subtracts these amounts from income and does not add them to non-consumptive expenditure as would certainly be more plausible.

⁹Again, this was subtracted from income and not categorised as non-consumptive expenditure.

7. Per Capita Income

Average disposable household income is reported as 3,168 Rs a month (Table 33), while the average household size is 6.55 (Table 5). So according to the HIES, annual per capita income equals $3168/6.55 \times 12$, or about 6,000 Rs. On the other hand, the *Economic Survey 1992-93* estimates GNP (market prices) per capita at 9,180 Rs. Profits retained in firms are to explain the difference of about 50 percent between the two; but can they?

8. Tax Rates per Household Group

From Table 33, the following average tax rates (i.e., tax amounts divided by gross income) can be derived for successive income groups: 2.32 percent ($\leq 1,000$ Rs), 0.24 (1,001–1,500 Rs), 0.29 percent (1,501–2,000 Rs), 0.18 percent, 0.18 percent, 0.25 percent, 0.29 percent, 0.27 percent (4,001–5,000 Rs), 0.28 percent (5,001–6,000 Rs), 0.29 percent (6,001–7,000 Rs) and 0.77 percent ($\geq 7,001$ Rs). In other words, according to the figures, taxes have a regressive structure, with the poorest group paying the highest rates—although one important tax, the income tax, has significant exemption levels. To trace the cause of this reported regressive structure, the composition of the taxes paid should be examined, but more detailed tax data are not presented in the HIES.

4. THE PRESENTATION OF THE RESULTS

The HIES reports its results by presenting elaborate tables in the body of the text, preceded by summary tables (including some intertemporal comparisons of the HIES data) in an introductory section called 'Main Findings'. Such a section is useful, not only to recapitulate the main tables but also to highlight or to explain striking patterns (which, on applying internal and external consistency checks, statistical data always reveal) and, secondly, to provide the user with some key background information. As an example of the latter, Malik (1992), when discussing the suitability of the HIES data for 1984/85 and 1987/88 for studying trends in poverty argues:

The relevant annual *Economic Survey* classifies 1984-85 as a good year, with real GDP growth at 8.4 percent and inflation at 5.6 percent, both appreciably better than in 1983-84 (one of the worst agricultural years in Pakistan's history). The year 1987-88, however, was marred by a persistent drought, a smaller than usual wheat crop, and repeated violence and political strife in Karachi (the major port and largest industrial centre) reducing overall industrial production.

A similarly informative presentation would be conducive to whatever objectives the HIES is to serve, without crossing the boundary between presentation and analysis.

In surveys with a sample size not exceeding the order of magnitude of 20,000, it is sufficient to present sample percentages with one decimal digit. In view of formula 1 or its equivalent

$$D = K_{\alpha} \sqrt{\frac{R(10-OR)}{n}}$$

dropping the second digit would not lead to a loss of information, but to a loss of non-information. If, for instance, an unemployment rate is sampled whose expected size is only about 2 percent, if the sample size is 20,000, and if 95 percent confidence is required (i.e., $K = 1.96$), then D , being the half width of the confidence interval of the estimated unemployment rate, is not smaller than about 0.2 percent. This means that the second digit of even such a small rate can never be trusted due to sampling errors, leave alone non-sampling errors which may be expected to be worse.¹⁰

5. CONCLUDING REMARKS

This note has enumerated in a non-exhaustive manner a number of bottlenecks for users of Pakistan's HIES. It turns out that data users should use the HIES only cautiously.

The note does not pretend to give a balanced appraisal of the efforts of the organisation responsible for the HIES, the FBS, so far as its activities in general and the HIES in particular are concerned. Any constraints under which the FBS is to carry out its tasks are not known to the author. What the note, instead, does give is the impression of the great necessity for drastically improving the quality of some key sources of statistical information on Pakistan. The improvement of the quality of statistical data will remain a key issue on Pakistan's economic research agenda. Specifically, it must be recommended that checks on external and internal consistency be carried out and acknowledged explicitly.

¹⁰A Similar argument holds for the top lines of Tables 13-16 and 35, which should be presented in 1000s or millions of persons, not in individuals. As Pakistan's population grows by approximately 10,000 persons a day, its total population size can never be estimated more accurately than in tens of thousands, even for a specific day, leave alone for a specific year. When dropping digits, consistent procedures should be followed; the same figures cannot be sometimes truncated and at other times rounded off, or be presented with a varying number of digits.

ANNEX 1 DEFINITION QUESTIONS

This annex points out a few issues regarding the consistency of the definitions which were used.

- How is the definition of ‘head of household’ applied to polygamous men whose wives have separate households and who, in line with the Quranic law, visit these separate households with equal frequency? This question may be relevant. Table 2 implies that in Pakistan there were on average $28.21/26.21 = 1.076$ married women per married man. Various other sources imply similar rates. It is unclear whether married male workers can make up for the difference, to be estimated at 1.5 million married persons.
- What definition of “gross” savings was used in Table 33 so as to include purchases of jewellery and [other] assets, but to exclude deposits in post offices and banks, loans given, etc., and “net” [increases or] reductions in cash balances?
- What definition of “net” and “gross” is applied in the above case? And also in Table 18, where “net” sales of property and other assets and “net” borrowing are included under non-income receipts, while purchases of jewellery and assets and loans given are included in non-consumptive expenditure in Table 33?
- For what reason were (a) gifts and assistance and (b) remittances paid by households seemingly subtracted from income in Table 17, instead of added to non-consumptive expenditure in Table 21?

In some cases, the definitions, while probably consistent, were not given. This concerns:

- the difference between “property” and “other assets” in Tables 18 and 33;
- the question whether “interest”, as mentioned in Tables 21 and 33, also includes other sorts of capital income; and
- the content of the spending categories for which no tabulation of sub-categories was given: Transport, Cleaning, Recreation, Education, and Miscellaneous, comprising about 4.2 percent, 4.4 percent, 0.6 percent, 1.5 percent, and 11.2 percent of the average household budget respectively.

Annex 2

*Comparisons of the HIES and LFS for 1990-91, 1987-88 and 1984-85***Comparison of the HIES and LFS for 1990-91**

Education Level Population ≥					
10 Years	HIES	LFS	Major Industry Division	HIES	LFS
Kindergarten/Nursery	-	0.3	Agriculture	37.1	47.5
Kindergarten but less than Primary	4.5	5.6	Mining	0.3	0.2
Primary but less than Middle	15.6	14.4	Manufacturing	15.0	12.3
Middle but less than Matric	8.0	7.6	Electricity	1.0	0.8
Matric but less than Intermediate	6.7	6.5	Construction	8.3	6.6
Intermediate but less than Degree	2.2	2.3	Trade	14.6	13.2
Degree but less than Post-graduate	1.2	0.2	Transport	6.2	5.2
Post-graduate	0.6	0.3	Finance	1.1	0.9
			Services	16.4	13.3
Others	0.7	1.2	Not Defined		0.1
Total	39.5	38.4		100.0	100.1
Employment Status of					
Occupation	HIES	LFS	Active Earners	HIES	LFS
Agricultural	36.5	46.6	Employer	2.3	1.7
Production	32.6	26.0	Self-employed	31.9	42.3
Sales	12.9	12.2	Unpaid Family Worker	21.1	21.5
Professional	5.5	4.9	Employee	44.7	34.5
Clerical	4.2	4.5			
Administrative	0.7	1.0			
Services	7.6	4.9			
Not specified					
Total	100.0	100.1	Total	100.0	100.0

Comparison of the HIES and LFS for 1987-88

Education Level Population ≥					
10 Years	HIES	LFS	Major industry division	HIES	LFS
Kindergarten/Nursery	0.2	0.6	Agriculture	43.0	51.1
Kindergarten but less than Primary			Mining	0.1	0.2
Primary but less than Middle	5.1	6.0	Manufacturing	14.6	12.7
Middle but less than Matric	13.1	13.8	Electricity	0.8	0.6
Matric but less than Intermediate	7.1	7.4	Construction	8.2	6.4
Intermediate but less than Degree	5.7	3.9	Trade	13.9	11.9
Degree but less than Post-graduate	1.9	1.4	Transport	6.0	4.9
Post-graduate	1.3	0.8	Finance	0.6	0.7
	0.0	0.3	Services	12.9	11.4
Others	0.1	0.1	Not Defined	0.0	0.1
Total	34.5	34.5		100.0	100.0

Continued-

Annex 2—(Continued)

Occupation			Employment Status of		
	HIES	LFS	Active Earners	HIES	LFS
Agricultural	43.0	50.6	Employer	1.0	1.8
Production	28.9	25.7	Self-employed	51.9	47.9
Sales	12.7	10.9	Unpaid Family Worker	21.0	24.8
Professional	4.7	3.8	Employee	26.2	25.5
Clerical	3.6	3.8			
Administrative	1.0	0.7			
Services	6.0	4.3			
Not specified	0.2	0.1			
Total	100.0	100.0	Total	100.1	100.0

Comparison of the HIES and LFS for 1984-85

Education Level Population ≥ 10 Years			Major Industry		
	HIES	LFS	Division	HIES	LFS
Kindergarten/Nursery	2.8	0.1	Agriculture	42.2	50.6
Kindergarten but less than Primary	5.3	3.3	Mining	0.1	0.2
Primary but less than Middle	9.9	13.4	Manufacturing	13.6	13.7
Middle but less than Matric	5.6	7.5	Electricity	0.9	0.7
Matric but less than Intermediate	4.6	6.3	Construction	8.7	5.6
Intermediate but less than Degree	1.6	2.1	Trade	14.6	11.5
Degree but less than Post- graduate	1.1	1.0	Transport	5.7	5.2
Post-graduate	0.3	0.4	Finance	0.6	0.9
			Services	13.2	11.1
Others	0.1	0.1	Not Defined	0.4	0.6
Total	31.3	34.2		100.0	100.10

Occupation			Employment Status of		
	HIES	LFS	Active Earners	HIES	LFS
Agricultural	41.9	50.1	Employer	1.4	0.9
Production	29.0	27.1	Self-employed	45.1	49.1
Sales	13.8	10.2	Unpaid Family Worker	26.6	20.6
Professional	4.6	3.5	Employee	27.0	29.4
Clerical	3.6	3.4			
Administrative	0.8	0.9			
Services	5.9	4.5			
Not Specified	0.4	0.3			
Total	100.0	100.0	Total	100.1	100.0

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