



Zimbabwe

INEQUALITY AMONG HOUSEHOLDS IN ZIMBABWE:

**AN ASSESSMENT USING THE 1990/91 INCOME
CONSUMPTION AND EXPENDITURE SURVEY**

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PREFACE

The Central Statistical Office (CSO) conducted the second Income, Consumption and Expenditure Survey (ICES) in 1990/91 as part of the Zimbabwe National Household Survey Capability Programme.

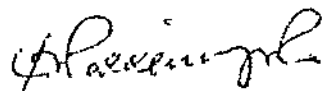
The main aim of the ICES was to provide baseline data on income, consumption and expenditure patterns of households. The other objectives of the survey were to provide data for estimation of household income and consumption and expenditure as defined in the System of National Accounts, compilation of weights for the Consumer Price Index, Production Account of Agriculture in Communal Lands and Socio-demographic characteristics. The main results were presented in the report Income, Consumption and Expenditure Survey Report 1990/91.

This report which presents an analysis of inequality among households in Zimbabwe is also based on data from that survey. The detailed analysis was undertaken by Ms Carolyn Jenkins and Ms Erika Prinsloo and the report was reviewed by CSO.

Ms Jenkins is a research officer at the Centre For Study of African Economies, University of Oxford. She is currently working on macroeconomic issues in Zimbabwe including the determinants of investment, issues of macroeconomic stability, and the microeconomic impacts of policies designed to alleviate rural poverty, with a view to drawing lessons for future policy-making in Southern Africa.

Ms Prinsloo was a lecturer in the Department of Economics at the University of Natal (Durban) at the time this work was done. She now works for Old Mutual in Cape Town.

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1. Introduction¹

A knowledge of the extent and causes of inequality is important for policy. If rural inequalities are small, then generalised assistance to rural populations is sufficient in times of economic stress, and policies to stimulate output are more or less equally accessible to most of the rural population. If, however, inequalities are large and permanent, then most policy interventions fail to reach the poorest, benefiting those, usually better-off, households with the resources needed to respond. Rapid economic growth may reach underendowed households indirectly, by, for example, increasing the demand for casual labour, and may, in fact, be the best overall strategy to benefit the poor, who are difficult to reach directly. In times of economic stress, however, it is essential to target the most deprived groups, and, if some redistributive policy is to be pursued to help the worst-off, it is important to know which sources of income, if enhanced, are more likely to reduce poverty.

From mid-1990 to mid-1991 the Central Statistical Office (CSO) in Harare undertook an Income, Consumption and Expenditure Survey (ICES), collecting data from over 14,000 households. In July 1994 it published its first report, *ICES Report 1990/91*, using summary information distilled from the data. This report records average household information. In fact, only a few households may co-incide with the 'typical' household, which is only a statistical average of rich and poor households in the sample. If household income and/or expenditure is very unequally distributed, then the average may conceal more than it reveals.

This paper uses the 1990/91 ICES data to see what can be concluded about distributional issues; it is not a general study of inequality in Zimbabwe. It examines, as far as the data will allow, the extent of inequality between rural and urban households in Zimbabwe, and between rural-households in different sectors. It also attempts to stratify households according to different indicators of welfare, and then to assess what sources of income are associated with an escape from poverty. Seasonal factors are considered, as are gender and ethnic factors. It concludes by summarising what can be learned about inequality in Zimbabwe from the 1990/91 ICES.

¹ We appreciate comments, both corroborative and critical, from Will Cavendish, Charles Harvey and John Knight, as well as from officials at the Central Statistical Office. These have substantially improved this report.

2. A note about the data²

The CSO distinguishes not only between urban¹ and rural households, but also between rural households in different farming areas. Rural households are categorised as those in the large-scale commercial farming areas (LSCF), which includes farm owners, managers and labourers resident in these areas; those in the small-scale commercial farming areas (SSCF); those in the communal lands (CL); and those who have been resettled under the government's land redistribution programme. These five land use categories are referred to as 'sectors'.

It is necessary to be cautious in drawing conclusions about distribution and welfare from the ICES data. All information obtained from each household, except expenditures on durables, was recorded for one month only (see Appendix A). Since incomes from agriculture are seasonal, and most household expenditures are irregular (or periodic, like school fees), month-long recall periods do not allow for an accurate picture of household welfare to be constructed. Nevertheless, some information may be extracted from the data, enabling conclusions to be reached about the nature of inequality among households, and about the structure of household incomes and expenditures.

Roughly one twelfth of the sample of households (a different sub-sample each month) was enumerated in each province from July 1990 to June 1991, although fewer than average were actually interviewed in the first two months, leaving more than average for the last month (see Appendix Table C1). Knowing the month of enumeration of each household does permit insights to be gained about seasonal factors affecting income and expenditure. However, the samples of households in the resettlement and SSCF areas were small and were surveyed in fewer than 12 months, implying that they were not surveyed over the course of a whole year [CSO, 1994:14].

² Details about the planning, sampling procedure and field-work may be found in the ICES 1990/91 Report (CSO, 1994), Chapter I and Appendix F. Notes from the 'Guidelines' for enumerators are in Appendix of this paper.

¹ Urban households comprised about 28 per cent of the population in 1992 according to the CSO census report [1992].

The original data that were collected have been grossed up by CSO to represent the population as a whole⁴. Consequently the weights given to each type of income or expenditure in the total are determined by the original household data, while the weights for provincial, sectoral and national averages are affected by the estimates of the number of households based on the 1987 Revised Zimbabwe Master Sample (RZMS). In order to examine distributional issues, it was necessary to get back as closely as possible to the original information by reversing the grossing up done by the CSO. Data expressed in money terms were multiplied by the ratio of the actual to the estimated number of households with a particular set of characteristics⁵. Nonmonetary data, mainly about people in (or not in) different types of employment, were 'deflated' as closely back to the original information as possible by dividing each entry by the estimated number of people living in a similar household and multiplying by the actual recorded number (these deflators varied according to province and sector).

Account needed to be taken of the effects of inflation on reported values, which over the period of enumeration was some 2 percent per month on average. Using July 1990 as the base month, data expressed in money terms for households enumerated in each of the other months were deflated by appropriate indices calculated from information about the CPI published by the CSO⁶.

3. Indicators of welfare and the ranking of households

The discussion that usually surrounds the appropriate definition of income when measuring living standards is irrelevant for this paper. In this case, income could not be used at all, because the

⁴ The number of households in each sector was estimated by province based on the RZMS, and then data for each household in the sample was multiplied by the estimated number of similar households (the weights being determined by the estimated number of households in the same sector and province divided by the actual number of households enumerated in that sector and province).

⁵ These characteristics include the province and sector in which the household is located, the educational attainment, ethnicity and gender of the head of household, whether or not the household has access to electricity and running water, etc.. In some cases the estimated number of households identical to an enumerated household had been entered as zero, so all inflated values were recorded as being zero. It was impossible to re-instate the original data, so these entries were deleted from the files. This applied to only three households in the CLs, 13 in the LCSF areas, and 53 in the urban areas.

⁶ Initially, an attempt was made to deflate food expenditures by the food index, clothing expenditures by the clothing index, etc. However, the monthly divergences of these indices from the overall CPI were too small to make more than a marginal difference, probably smaller than the margin of error in the original data.

figures relate only to one month, and rural incomes in particular can be significantly seasonal. The argument that, because roughly equivalent numbers of households were enumerated every month, household information can be averaged for the year does not apply when considering distributional issues, because averages exclude the very information that is required for analysis. An alternative indicator needed to be used. What was chosen was expenditure which is relatively unaffected by seasonal influences, that is, expenditure on basic necessities, as the basis for calculating a measure of welfare.

Two calculations of non-seasonal expenditure⁷ were made: (i) the value of total food consumption was calculated from information on food expenditures, consumption of home-produced food and income in kind; and (ii) other expenditures which were likely to occur every month were added to the value of total food consumption (beverages and tobacco; rent and fuel; 'communications', which included telephone and commuting costs; and interest payments, which included mortgages)*. These items tend to be consumed in roughly equal amounts from month to month, and they are paid for more or less as they are consumed.

Glewwe argues that total consumption is, in fact, a better indicator of life-cycle welfare than is income, for precisely the reason that consumption is 'smoothed' [1987:4]. He also prefers total consumption to food consumption, on the grounds that poorer households usually spend a larger proportion of their income on food than do those which are better off, implying that the degree of inequality using a food-based measure is understated. In the event, it was not possible to use total

⁷ Note that expenditures and consumption are not always the same (Hoddinott, 1994:50), expenditures referring to what is bought in the market (including consumption of own-produced goods valued at market prices), and consumption referring to what is actually consumed by the household. The latter excludes gifts, the provision of meals to visitors and workers, waste, etc. However, the extent of detail in the ICES questionnaire means that these differences are very small, and the terms are used interchangeably.

* For urban households, wages and salaries in kind were added to 'regular expenditures', but not to food. For this sector, income in kind appeared to be housing allowances and company cars, because (i) the sums were relatively large and (ii) they correlated with those households with higher food expenditures, i.e., apparently wealthier households. Even so, only 3.0 per cent of urban households received income in kind. For households in the LSCF areas, income in kind which was less than Z\$500 per month was added to food expenditures, other wise it was added only to 'regular expenditures', for the same reason. In the communal farming sector, there was a problem with wages and salaries in kind, since they were associated more often than not with households reporting no members in wage employment. They were therefore assumed to be irregular and excluded altogether. Only 6.0 per cent of CL households would have been affected. In the SSCF areas, only two households in the entire sample received income in kind, and one of these sums was so small that it did not change the ranking of households after it was included.

consumption, which includes non-monthly expenditures, like clothing, school fees, health expenditures, etc.; the best alternative was 'regular' monthly expenditure, defined above.

The valuation of expenditure also posed difficulties. For example, some argue that valuing food by calorie intake per day is a better measure of food consumption than using market prices, which may be distorted or inapplicable. There was no choice on this question, since the ICES income and expenditure data are recorded in terms of market values. Some food, especially in rural areas, may have been bought on parallel (informal) markets. This does not affect recorded expenditures, because those surveyed will have recalled actual spending at actual prices paid. It may affect the valuation of subsistence consumption, if households would have bought at parallel rather than official prices had they not consumed their own output, but there are no price data on this, and, even if there were, the ICES data provided were not in terms of volumes of home production consumed but in terms of the value at market prices.

The next question was whether to use the individual or an adult equivalent as the consumer unit. It is well known that both income (or expenditure) per head and income (or expenditure) per household are poor proxies for living standards: if expenditure per head is used, the poor are large households with many children; if expenditure per household is used, the poor are small households. However, even an adult equivalent unit (AEU) may be misleading if households are large, since there may be some gains from economies of scale. For this reason, some researchers prefer using a method pioneered by Deaton [1980], where adult equivalents are multiplied by the average cost per adult for each household size in order to adjust for household economies of scale. However, because economies of scale probably do not apply to food consumption (or to commuting costs or heverage and tobacco consumption), the unit chosen was an adult equivalent, unadjusted for economies of scale (see Appendix B for details about the calculation).

Finally a choice had to be made about whether to use food per AEU or 'regular' expenditures per AEU as the most appropriate indicator for the ranking of households according to their relative welfare. The coefficients of correlation of these two series were extremely high (0.88-0.995) for all except urban households (0.54), reflecting the predominance of food in regular rural household

consumption expenditure⁹. This meant that either indicator could be used for the ranking of rural households according to their prosperity. Because the Engel curve relationship is known to hold for food expenditures, this indicator was used for ranking purposes¹⁰. Summary calculations are presented in Table 1.

Table 1

Mean (and median) annual food and 'regular' expenditures per AEU by sector, 1990/91 (Z\$)

Sector	Mean food /AEU	Median food /AEU	Mean reg. exp/AEU	Median reg. exp/AEU	Mean food /hhold
Urban	623	509	1372	990	2044
LSCF	643	372	982	589	1601
LSCF-2a	453	371	741	584	1283
SSCF	592	536	899	677	2129
Resett	375	301	557	435	1569
CLs	343	274	536	416	1970
Source: ICES data					
Note (a): LSCF-2 excludes white, Asian and 'coloured' households from the sample; amounting to 1.52 percent of the LSCF sector sample					

Several points should be noted about the above table. Average food consumption per AEU is similar in the urban areas and the commercial farming areas (both large- and small-scale), and well above (170 percent) that of communal farmers. However, extreme inequalities are observable in the LSCF areas, where the median expenditure on food is further below the mean than in other areas. This arises from averaging the regular consumption expenditures of some of Zimbabwe's

⁹ In their analysis of monthly consumption smoothing, Chaudhuri and Paxson (1994) also compare two indicators of monthly expenditures: food expenditures; and food plus other non-durable consumption. They also find a high correlation in the ranking of these expenditures among poor rural households in India. The correlation coefficient for regular non-food expenditures (i.e. the difference between the two indicators) and total 'regular expenditures' (per AEU) for the urban sector in Zimbabwe was 0.96, confirming that food was a smaller proportion of a higher absolute level of regular spending in urban areas.

¹⁰ In order to check whether food consumption per AEU was the most suitable indicator of household welfare other available 'quality of life' indicators were correlated with this indicator, for example, whether a household had access to running water, or access to electricity, or regular income from formal-sector employment. The correlation coefficients were all very small (some were negative) and significant and completely random when compared by sector. This is not necessarily a concern. A study by Glewwe (1988) using more sophisticated techniques on data for Côte d'Ivoire, found that different 'quality of life' indicators did not consistently select the same people as being poor.

wealthiest households (LSC farmers) and those of some of the poorest (labourers resident on these farms). If white (13 households), Asian (1) and 'coloured' (5) households are excluded from the sample, the mean expenditures fall considerably, although remain higher than in the communal lands and resettlement areas. Inequality within this group appears to be lower, with the medians being far closer to the means. There are three reasons why mean food and other regular expenditures by black households in the LSCF areas are higher than in most other rural areas: (i) this group still includes some large commercial farmers and farm managers; and (ii) labourers on these farms do have access to regular wage employment and payment in kind, which includes food. (iii) workers on plantations and estates whose wages are considerably high

The SSC farmers are exclusively freeholders, and they are clearly better off than communal farmers, both those in the CLs and those resettled on previously commercially farmed land. Poverty is still a very real problem in the communal lands and resettlement communities, with average monthly food consumption valued at around Z\$30 per adult equivalent in July 1990 prices (US\$12). From the limited information contained in the table, urban households appear to be on average considerably better off than those in rural areas, with higher non-food regular expenditures which increase substantially the mean overall 'regular' expenditures.

4. Sectoral inequality

The issue of sectoral inequality was raised in the previous paragraph, and it would now be interesting to quantify it. Having arrived at an indicator of living standards, this is possible. It will enable answers to be found to the questions of which sector displays greatest inequality, and how inequality in Zimbabwe compares with that in other African countries.

There are many summary statistics of inequality. The best known of these is the Gini coefficient, but this is not decomposable, or, in other words, able to be additively broken down by sector. For this purpose, one of the best single indicators of the extent of inequality is the Theil index¹¹. Defined as the distribution of food expenditures per AEU over households, overall inequality in

¹¹ $T = \sum (Y_i/Y) \ln (NY_i/Y)$, where $i = 1, \dots, N$; Y_i/Y is the share of i th AEU in total food expenditure; and N is the total sample population.

Zimbabwe as measured by the Theil index as 0.32. This is similar to the measure of 0.35 for Côte d'Ivoire using 1985 household survey data [Glewwe, 1987:30], and is considered to be moderately high. The index for the rural areas of Zimbabwe alone was found to be almost identical, rounding to 0.32 as well. This compares favourably with the index of 0.4 for rural Tanzania using 1980 survey data [Collier et al, 1990:73], which was argued to be a 'fairly high level of rural inequality', despite being below Asian levels.

The Theil index was also used to quantify inequality by sector. The results are recorded in Table 2 below.

Table 2
Inequality of expenditure per AEU decomposed by region, 1990/91

Region	Food exp. Theil	Reg.exp Theil
Communal lands	0.33	0.35
Resettlement areas	0.25	0.24
SSCF areas	0.33	0.26
LSCF areas	1.66	1.19
LSCF-2 areas ^a	0.23	0.24
Urban areas	0.28	0.45
Source: ICES data		
Note (a): LSCF-2 excludes white, Asian and 'coloured' households from the sample; amounting to 1.52 percent of the LSCF sector sample		

Evidently greatest inequality is measured in the LSCF areas, with the Theil index exceeding unity. As mentioned before, this is the result of including in one sector households of such different types. Excluding white, Asian and 'coloured' households from the sample reduces the indices significantly, with these households displaying a greater degree of homogeneity than those in almost all other areas¹². Of particular interest is the level of inequality in the communal lands, which is higher than that in other sectors (except for the non-food component of urban 'regular' expenditures). Greater homogeneity of households appears to occur in the resettlement areas.

¹² There is other evidence which illustrates the inequality: non-Black households are only 1.52 percent of the sample, but earn 6 percent of the wage income, own 26 percent of the cars recorded as owned by the households in the LSCF areas, and house 59 percent of all students/scholars recorded for the sector. However, non-Black households own only 0.4 [percent of the television sets and radios recorded for this sector.

which is explained by each household having been allocated pieces of land of similar size. These households are therefore almost uniformly poor, with few having been able to increase their income substantially above that of the rest of the sample. What is not easy to explain is why food-plus-other regular expenditures are more equally distributed amongst households in the SSCF areas than are food expenditures alone. The reverse situation for the urban areas is possible to explain: households are, on average, better-off, and food expenditures therefore tend to comprise a smaller percentage of total expenditure, increasingly so as wealth increases and food needs are satisfied. Furthermore, households all have access to official food markets, reducing whatever disparity different markets may play in contributing to rural inequality.

5. The diversification of income sources and welfare

The next question to be addressed is whether particular types of employment activity contribute to households being better-off. A growing number of writers¹³ have pointed out that rural households are not homogeneous, but highly differentiated, and, furthermore, that a diversity of income sources is critical both to agricultural production itself and to household welfare more generally.

First, it is necessary to find out how diversified are household income sources. Then, knowing already how to rank households according to their relative prosperity, it can be shown whether better-off households are more or less diversified in their access to different sources of income. What the survey cannot show is how successful diversification is in reducing fluctuations in income, especially in reducing distress when one source of income fails. The other issue which the survey cannot address is the interlinkages between households; for example, if some farmers benefit from agricultural policy and do much better, does this have trickle-down effects, benefiting other households via transfers, increased opportunities for wage employment, increased incentives to establish household enterprises¹⁴ and so on?

¹³ See, for example, Jackson and Collier (1987), Murray (1987) and Amin and Chipika (1994).

¹⁴ Household enterprises. These are unincorporated market enterprises created for the purpose of producing goods or services for sale or barter on the market. They can be engaged in virtually any kind of activity - agriculture, mining, manufacturing, construction, retail distribution or production of other kinds of services. They can range from single persons working as street traders or shoe cleaners with virtually no capital or premises of their own through to large manufacturing, construction or service enterprises with many employees. The definition for household enterprises is the same as in the System of National Accounts for household unincorporated market enterprises. However in the 1990/ICES agriculture was shown separately from household enterprises both in the questionnaire and analysis. Thus household enterprises under discussion in the ICES and in this report are exclusive of agriculture.

5.1 Household dependence on different sources of income

Ideally, it would be helpful to know what proportion of its total annual income a household derives from each different source of income, as a measure of household dependence on that source. It is not possible to know this from the ICES data, which are constructed from monthly recall periods, which are unlikely to be typical of the year as a whole. Most households have agricultural income, which is seasonal, and may supplement this in non-harvest months with income from other activities.

However, it is possible to say approximately what proportion of households derived income from each of the possible sources in 1990/91. This was done by assuming that only households actually engaged in farming, for example, incur farm expenses even when they are receiving no farm income. If that is the case, then if net income is calculated for each category of seasonal or irregular income (and gross income used for more regular income, like wage employment), then every household with a non-zero entry under each category of income can be considered as deriving income from that source.

In this way, every category of income, irrespective of how large or small it was, was identified for each household. The importance of various income sources to households in Zimbabwe in 1990/91 is recorded in Table 3(a) below.

Table 3(a)
Percentage of households receiving each source of income (1990/91)

Income source	LSCF	SSCF	CL	Reset	Urban
Farming (a)	74.0	94.3	93.8	98.1	53.7
Remittances	54.8	79.5	82.8	81.1	54.3
Wage employment	82.0	22.1	12.9	7.0	76.4
Income in kind	7.8	0.5	8.2	2.3	5.9
H/h enterprise	10.3	22.8	35.1	23.8	15.4
Transfers (b)	5.4	3.2	8.6	1.0	6.4
Property	0.2	0.0	1.2	0.0	12.0
No income recorded	5.5	0.0	1.0	0.0	3.9
Source: ICES data					
Notes : (a) includes subsistence and marketed output					
(b) includes pensions, social welfare, etc.					

It is, of course, possible that there are months when households neither received income from nor incurred expenses on agriculture or their home industries. Furthermore, some rural activities require no cash outlay, like gold panning, livestock hire, selling grass, etc., and the occurrence of these activities may therefore be underestimated. Nevertheless, in the case of farming in particular, the coverage was very high, as is evident from Table 3(a). There may be a more serious problem of underestimation with casual or seasonal wage employment, and with household enterprise income. The former is dealt with below.

What is very clear from Table 3(a) is that farming (including subsistence) is an income source for nearly all rural households. Even on the LSC farms, nearly three quarters of households derive some income from their farming activities, although most families will be labourers on these farms and their primary source of income will be wage employment. In the urban areas, half of the households interviewed derived some income from farming.

Remittances (in cash and kind) are the second-most pervasive source of income for all households. In 1990/91 some 80 per cent of households in the CLs, the resettlement areas and the SSCF areas supplemented their other sources of income with remittances from family members who do not work on the family farm. Even on the LSC farms and in the urban areas, over half of households received remittance income. Remittances clearly flow in two directions: more than half of households in every sector receive remittance income, implying that those that make payments also receive.

Other important sources of income are wage labour and self-employment (or household enterprises,). The importance of both may be understated. In rural areas seasonal wage labour maybe an important supplement to household income. The recording of income during the month of enumeration means some seasonal wage employment may have been missed. In the first section, however, the questionnaire does ask for the 'main' activities of people aged 10 years and over during the previous year. The recorded number of households reporting at least one member with 'main' activity during the previous year is substantially higher than the recorded number receiving income from employment, which was recorded for only the enumeration month (see Table 3(b))¹⁵.

¹⁵ The correlation co-efficients for the two series are 0.4 for the CLs, 0.1 for the SSCFs and 0.5 for the LSCFs.

One explanation for this is that many 'employed' members work for only a portion of the year, and yet the income generated is sufficiently high for the household to consider this their main activity. Another explanation is that there are a lot of unpaid family workers. The percentages recorded in Table 3(b) may still be too low, especially for the SSCF, communal lands and resettlement areas: some family members may have found temporary work and not have reported this, because it was not considered to be their 'main' activity during the previous year. In this case seasonal employment may still be understated.

Table 3(b)
Percentage of households receiving wage income (1990/91)

Income source	LSCF	SSCF	CL	Reset.	Urban
Wage employment ^a	82.0	22.1	12.9	7.0	76.4
Member employed ^b	94.9	54.7	28.4	12.5	91.8
Source: ICES data					
Notes: (a) wages received during the previous month					
(b) member employed during the previous year					

The last line in Table 3(a) shows the percentage of households reporting that they had no income at all. It is not possible for a household to survive without income unless the members are living entirely on savings (of money and food). This is unlikely in very poor areas, so it is probable that transfers in kind, including pensions, were underrecorded.

Comparatively few households are dependent on only one source of income. Tables 4 to 8 below summarise information on the activity mix of households by sector in 1990/91: the communal lands in Table 4, the resettlement areas in Table 5, the SSCF areas in Table 6, the LSCF areas in Table 7 and the urban areas in Table 8.

Table 4
Activity mix of households in the communal lands (1990/91)

	No.	% of total
Households with no recorded income source	58	1.0
Households engaged in only one activity (a)	570	9.6
Farming only	440	7.4
Remittances only	75	1.3
Wage empl. only	55	0.9
Households engaged in two activities (a)	2587	44.0
Farming + remittances	2098	35.0
Farming + wage empl.	87	1.5
Households engaged in three activities (a)	1922	32.0
Farming + remit. + wage empl.	250	4.2
Farming + remit. + h/h enterprise	1147	19.0
Households engaged in four activities	620	10.4
Households engaged in five activities	140	2.4
Households engaged in more activities	19	0.3
Total number of households	5926	100.0
Source: ICES data		
Note (a): Only the most frequently observed activity clusters are recorded in the table, which implies that the totals are not exhausted by the sub-totals.		

Table 4 shows that only 10 percent of households in the CLs were dependent on only one source of income in 1990/91. Three-quarters of these people were farmers, with no supplementary income. They tended to have the lowest regular consumption expenditures, which means, if this is an indicator of welfare, that they tended to be the poorest (see Table 9).

Remittances are the most important source of income diversification. In the CLs, 43 per cent of households had two sources of income in 1990/91, of which the vast majority (four-fifths) had farming supplemented by remittances. Of the total, only 1.5 percent both farmed and had at least one resident member with wage employment. A further 32 percent of the total had three sources of income, of which more than half were farmers receiving remittances and supplementing this by some form of household non-farm enterprise. Dependence on wage income may be understated, for reasons explained earlier; the proportion of households reporting that at least one family

member had been 'employed' in the previous year was 28 percent, while only 13 percent are recorded as having received cash income from employment (Table 3(b)).

Table 5
Activity mix of households in the resettlement areas (1990/91)

	No.	% of total
Households with no recorded income source	0	
Households engaged in only one activity (a)	73	14.2
Farming only	70	13.6
Remittances only	1	0.2
Wage empl. only	2	0.4
Households engaged in two activities (a)	305	60.0
Farming + remittances	279	54.5
Farming + wage empl.	6	1.2
Households engaged in three activities (a)	108	21.0
Farming + remit. + wage empl.	9	1.8
Farming + remit. + h/h enterprise	81	16.0
Households engaged in four activities	22	4.3
Households engaged in more activities	4	0.8
Total number of households	512	100.0
Source: ICES data		
Note (a): Only the most frequently observed activity clusters are recorded in the table, which implies that the totals are not exhausted by the sub-totals.		

Lifestyles in the resettlement areas are similar to those on the communal lands: almost all households derive resources from farming. If income is derived from only one source, it is almost exclusively farming, although in 1990/91 four-fifths supplemented this with remittances from family members working away from the home (see households engaged in more than one activity in Table 5 above). Very few households (36 of the 512 which were interviewed) have access to wage employment; and household enterprises were the third-most important income-generating source in 1990/91. To some extent, this pattern has been influenced by resettlement regulations in

existence when many of these families were moved: for example, there were restrictions on families engaging in off-farm work¹⁶.

Table 6
Activity mix of households in the SSCF areas (1990/91)

	No.	% of total
Households with no recorded income source	0	
Households engaged in only one activity (a)	39	9.0
Farming only	23	5.3
Remittances only	1	0.2
Wage empl. only	15	3.4
Households engaged in two activities (a)	252	58.0
Farming + remittances	198	46.0
Farming + wage empl.	31	7.0
Households engaged in three activities (a)	132	30.0
Farming + remit. + wage empl.	32	7.0
Farming + remit. + h/h enterprise	78	18.0
Households engaged in four activities	12	2.8
Households engaged in more activities	0	
Total number of households	435	100.0
Source: ICES data		
Note (a): Only the most frequently observed activity clusters are recorded in the table, which implies that the totals are not exhausted by the sub-totals.		

Even SSC farmers, who, by definition, market agricultural output, substantially supplement this form of income with remittances. In fact, a comparison of Tables 4 and 6 reveals a very similar mix of household activities. Almost one-fifth of the sample had access to local off-farm wage employment (derived from Table 6 above), and more than one-fifth operated an enterprise from home. At least half reported that the main activity of at least one household member during the previous year was 'employed', which may mean that household incomes are supplemented by

¹⁶ This affects remittance income as well: the average monthly remittance (in cash and kind) per resettled household recorded in the ICES was Z\$26; the median was Z\$8. In the CLs, the average monthly remittance (in cash and kind) was Z\$100; the median was Z\$24.

seasonal work by those farmers whose own farming activities do not provide them with sufficient income. (This also strengthens the argument that the method of reporting used in the survey misses a lot of wage income.)

Table 7
Activity mix of households in the LSCF areas (1990/91)

	No.	% of total
Households with no recorded income source	141	5.5
Households engaged in only one activity (a) :	366	14.0
Farming only	54	2.1
Remittances only	62	2.4
Wage empl. only	209	8.1
Households engaged in two activities (a):	868	34.0
Farming + remittances	104	4.1
Farming + wage empl.	518	20.0
Wage empl. + remit.	181	7.1
Hou-eholds engaged in three activities (a)	901	35.0
Farming + remit. + wage empl.	674	26.0
Farming + remit. + h/h enterprise	22	0.9
Farming + wage empl. + h/h enterprise	30	1.2
Households engaged in four activities	287	11.0
Households engaged in more activities	33	1.2
Total number of households	2566	100.0
Source: ICES data		
Note (a): Only the most frequently observed activity clusters are recorded in the table, which implies that the totals are not exhausted by the sub-totals.		

Although farming is still the most important activity in the LSCF areas, not surprisingly wage employment appears to be more important in the economy of these areas. The households enumerated in this sector would have included farm owners, farm managers, and labourers. The first group would have been classified as farmers; the second and third as salaried or waged employees, many of whom might have farming activities of their own (frequently subsistence). Historically, unskilled labourers have been poorly paid, although minimum wages introduced in 1980 increased the real wage. Nevertheless, many families clearly need to supplement their

incomes with remittances from family members not living with the rest of the household, or by taking advantage of the offer of seasonal employment. Note that in the LSCF areas, 95 percent of households reported at least one member employed, as opposed to 82 percent reporting wage income (see Table 3(b)).

Table 8
Activity mix of households in the urban areas (1990/91)

	No.	% of total
Households with no recorded income source	183	3.9
Households engaged in only one activity (a)	1133	24.0
Wage empl. only	757	16.0
Remittances only	154	3.3
Farming only	117	2.5
Households engaged in two activities (a)	1459	31.0
Farming + wage empl	434	9.3
Farming + remittances	236	5.0
Wage empl. + remittances	429	9.2
Households engaged in three activities (a)	1157	25.0
Farming + remit. + wage empl.	721	15.0
Farming + remit. + h/h enterprise	58	1.2
Wage empl. + remit. + h/h ent.	48	1.0
Households engaged in four activities	512	11.0
Households engaged in more activities	244	5.2
Total number of households	4688	100.0
Source: ICES data		
Note (a): Only the most frequently observed activity clusters are recorded in the table, which implies that the totals are not exhausted by the sub-totals.		

The importance of wage employment to urban households is not surprising. It should also be noted that there is an extent to which some type of farming activity is a source of income for urban dwellers. The flow of remittances occurs not only from urban to rural areas, or within rural areas, but also from rural to urban areas. The latter may be mainly farm produce, because the values of remittances in cash and in kind have been aggregated for this analysis.

5.2 Diversification and relative prosperity

The problem with poverty is not only that a low income implies a meagre level of consumption, but it also means that any fall in that income can turn hardship into disaster. Diversifying income sources is one strategy for reducing insecurity. It is clearly also a way of raising the absolute level of income available to a household. It is expected that, for the poorest in the population, welfare should improve as the number of sources of income available to a household increases. At some point, however, the main economic activity of the household generates sufficient income to sustain adequate consumption, and either absorbs all labour resources of the household, or is sufficiently high for not all members of the household to have to generate income. It is therefore also expected that, on average, the wealthiest households will have fewer different sources of income.

Certain activities generate more, and more stable income, than others. Farming output is seasonal, as is the demand for casual labour on farms. However, the secondary effects of harvest, which increases the income available in the rural areas, means that the demand for goods and services produced by rural home industries may also be seasonal. It is expected that those with access to jobs in the formal sector of the economy would be better-off, with probably higher and certainly more stable income. The ICES data do not allow a distinction to be made between seasonal and longer term wage income. Nevertheless, there is sufficient information available to indicate whether particular types of employment activities contribute to households being better-off.

In order to examine the relationship between the diversification of income sources and welfare amongst the ICES households, they were ranked according to food consumption per AEU as an indicator of welfare (the reasons for using this indicator are recorded in section 3)¹⁷. Then the sample was divided into fifths (quintiles), and the proportions of each quintile engaged in three (and more), or two, or only one activity were calculated¹⁸. The results are summarised in the

¹⁷ It is possible that the distribution is distorted by month of enumeration: rural households enumerated in harvest month may have consumed more food. However, regressing food expenditure (including the value of own consumption) on monthly dummies found no evidence of seasonality: all monthly dummies were insignificant.

¹⁸ The ICES does not distinguish between different household enterprises, which reduces the information available regarding diversification. In other words, a household may diversify by having several different income-generating activities which are aggregated under 'household enterprise' and therefore counted as only one activity.

following tables, again presented by sector: the CLAs (Table 9), the resettlement areas (Table 10), the SSCF areas (Table 11), the LSCF areas (Table 12) and the urban areas (Table 13).

Table 9a
*Income-generating activity mixes by quintile in the communal lands (1990/91):
percentage of all households in the quintile*

	3+ activities	2 activities	1 activity	none recorded
Wealthiest quintile	13	79	7	0
Second quintile	8	88	4	0
Third quintile	7	88	5	0
Fourth quintile	5	81	13	1
Poorest quintile	3	45	47	4
Source: ICES data				

Table 9b
*Selected activities by quintile in the communal lands (1990/91):
percentage of all households in the quintile*

	wage empl.	remittances	farm inc.	enterprise inc.
Wealthiest quintile	27.6	89.8	88.5	29.3
Second quintile	11.4	94.0	97.6	38.1
Third quintile	8.5	94.2	97.9	38.1
Fourth quintile	9.4	85.8	95.9	36.8
Poorest quintile	7.5	50.2	89.1	31.2
Source: ICES data				

In the communal lands welfare appears to improve with a diversification of income sources (Table 9a), particularly if a member of the household has direct access to wage employment (Table 9b). Indirect access to wages through remittances is also important. In 1990/91 the poorest 20 percent of households were almost equally divided into those dependent on only one source of income - mainly farming (Table 4) - and those which farmed and received remittances. The importance of remittance income in supplementing subsistence farming is evident as households become better off: although the shift into a third activity is positive, it is extremely small amongst the middle 60 percent of households, and the main difference is that the percentage which received remittance income is much larger. The best-off households still clearly rely heavily on farming supplemented

by remittances, but also reduce their vulnerability by diversifying their sources of income more than any other group, although they appear less likely to establish a home industry. It is significant that the proportion of those receiving some form of wage income increases markedly in the quintiles at the top of the distribution (Table 9b). Wealthier households with only one activity are likely to include those peasant farmers who were able to take advantage of the opportunities created by the extension of marketing infrastructure to the communal lands by the government after independence.

Note that those with no recorded income all fall in the poorest groups, implying that these families are indeed destitute (and probably cared for by relatives or neighbours), rather than that the enumerators administering the questionnaire failed to record any significant income source.

Table 10a
*Income-generating activity mixes by quintile in the resettlement areas (1990/91):
percentage of all households in the quintile*

	3+ activities	2 activities	1 activity	none recorded
Wealthiest quintile	5	86	8	0
Second quintile	2	83	16	0
Third quintile	3	93	5	0
Fourth quintile	1	81	17	0
Poorest quintile	7	53	40	0
Source: ICES data				

Table 10b
*Selected activities by quintile in the resettlement areas (1990/91):
percentage of all households in the quintile*

	wage empl.	remittances	farm inc.	enterprise inc.
Wealthiest quintile	15.6	85.9	92.8	12.7
Second quintile	2.9	85.0	99.6	32.2
Third quintile	3.9	94.7	100.0	32.2
Fourth quintile	2.9	80.1	98.6	20.5
Poorest quintile	10.0	59.6	98.6	21.5
Source: ICES data				

The pattern in the resettlement areas (Table 10) appears somewhat more random than in the communal lands. What is clear is that 40 percent of the poorest quintile are confined to one

activity: farming (Table 10a and 10b), and that supplementing this with some other income, either by remittances or by some type of household enterprise (from Table 5) is associated with an improvement in welfare ranking. Again the top 20 percent of households have the highest proportion of those in wage employment, although this is significantly smaller than in other sectors. A markedly lower proportion of those households in the lowest quintile receive remittance income, but this group also has a comparatively higher share of wage employment. This is likely to be low-paid, casual work by those with few resources. Again households in the best-off quintile are less likely to operate an enterprise from home.

Table 11a
*Income-generating activity mixes by quintile in the SSCF areas (1990/91):
percentage of all households in the quintile*

	3+ activities	2 activities	1 activity	none recorded
Wealthiest quintile	11	72	17	0
Second quintile	15	67	20	0
Third quintile	6	87	5	0
Fourth quintile	7	83	10	0
Poorest quintile	7	78	15	0
Source: ICES data				

Table 11b
*Selected activities by quintile in the SSCF areas (1990/91):
percentage of all households in the quintile*

	wage empl.	remittances	farm inc.	enterprise inc.
Wealthiest quintile	37.9	74.7	83.9	8.1
Second quintile	31.0	75.9	90.8	16.1
Third quintile	11.5	87.4	97.7	34.5
Fourth quintile	13.8	83.9	98.8	26.4
Poorest quintile	16.1	75.9	100.0	28.7
Source: ICES data				

An interesting pattern emerges in the commercial farming areas. Amongst SSC farmers, diversifying income sources beyond two activities does provide some improvement in welfare, with a greater proportion of households in the top 40 percent engaged in three or more income-generating activities than in the lower 60 percent in 1990/91 (Table 11a). However, if the

percentage of households engaged in one activity only were to be plotted on a graph, a U-shaped curve would result as welfare increased: 15 percent of the poorest households have only one source of income; this reduces to 5 percent of the middle quintile; and increases to 17-20 percent of the top two quintiles. In the SSCF areas, the increased absolute level of income generated from the single activity (either farming or wage employment) or from diversifying income sources further appears to reduce the need for remittance income (Table 11b).

Table 12a
*Income-generating activity mixes by quintile in the LSCF areas (1990/91):
percentage of all households in the quintile*

	3+ activities	2 activities	1 activity	none recorded
Wealthiest quintile	37	44	18	1
Second quintile	42	47	10	1
Third quintile	50	38	10	2
Fourth quintile	42	39	14	5
Poorest quintile	19	36	25	20
Source: ICES data				

Table 12b
*Selected activities by quintile in the LSCF areas (1990/91):
percentage of all households in the quintile*

	wage empl	remittances	farm inc.	enterprise inc.
Wealthiest quintile	89.3	55.3	73.3	8.8
Second quintile	90.2	55.0	83.4	12.1
Third quintile	91.0	61.4	83.4	17.0
Fourth quintile	81.3	59.4	76.4	9.4
Poorest quintile	57.7	42.7	53.6	4.3
Source: ICES data				

In the LSCF areas it is less clear what is associated with an improvement in welfare ranking (Table 12a). A plot of single-activity households would form the same U-shaped curve as suggested for the SSCF areas. However, a greater proportion of households than in other rural areas engage in more than two income-generating activities across all quintiles. What is also apparent in the LSCF areas is that there is a comparatively large proportion of very poor households with no recorded income source living in these areas. These people are probably dependent on relatives and neighbours, and on seasonal or casual wage employment.

Table 13a
*Income-generating activity mixes by quintile in the urban areas (1990/91):
percentage of all households in the quintile*

	3+ activities	2 activities	1 activity	none recorded
Wealthiest quintile	33	36	29	3
Second quintile	56	25	18	1
Third quintile	44	32	22	2
Fourth quintile	37	33	28	2
Poorest quintile	19	36	33	12
Source: ICES data				

Table 13b
*Selected activities by quintile in the urban areas (1990/91): percentage of all households in the
quintile*

	wage empl.	remittances	farm inc.	enterprise inc.
Wealthiest quintile	78.2	55.1	44.2	13.7
Second quintile	89.9	60.9	65.2	18.1
Third quintile	83.8	55.9	56.5	17.1
Fourth quintile	82.1	51.7	50.6	17.0
Poorest quintile	48.1	47.9	52.1	11.3
Source: ICES data				

In the urban areas (Table 13), no clear pattern emerges, although the U-shaped property again applies to quintiles with only one activity. Increasing diversification of income source does appear to accompany increasing relative prosperity, except in the wealthiest quintile. Households in the poorest 20 percent experience a sharp reduction in access to wage employment (Table 13b). One source of income comparatively common in the urban areas (and virtually non-existent, or unrecorded, in the rural areas) is property income. This accounts to some extent for the higher diversification in all quintiles (Table 13a), since many households can earn additional cash by letting out a room to people employed or seeking employment in the city and whose families remain in the rural areas. Also in this sector, there is a comparatively high percentage of households with no recorded source of income. These may be people who have come to the towns in search of wage employment, and are surviving on remittances from their relatives in the rural areas, on informal sector activities, or on gifts. They are concentrated in the lowest quintile.

6. Seasonal factors

An added consideration to the pattern of income diversification is that of the seasonal fluctuations in various income sources. Income (or expenditure) fluctuations which are significant for particular times of the year may indicate heightened vulnerability of households, and could explain corresponding variations in supplementary household income flows. Rural households tend to be more at risk from the insecurity caused by fluctuations in income.

That each household was asked questions about only one month's income and expenditure imposes a limitation on analysing income variability and coping strategies. In an attempt to overcome this difficulty, a proxy for patterns of annual household income and expenditure was created: four income sources (gross farm income, wage income, transfers, and household enterprise income), and two expenditure series (regular¹⁹ and other consumption) were considered, each spanning the entire sampling period and separated according to sector. Each of the six series was regressed on a set of monthly dummies.

The regression results showed that none of the monthly dummies were significant in explaining variations in any of the series, with the exception of gross farming income in the LSCF sector, which was significantly higher in April, the month after the main harvest begins. This may be at least partially explained by crop and livestock diversification in other farming areas, which spreads the output over more months of the year. The secondary effects on other opportunities for income generation, like casual labour and home industries would consequently also be spread more.

7. Gender and ethnic factors

There is a consensus in the literature that female-headed households tend to be poorer on average and, consequently, more vulnerable to insecurity caused by fluctuations in income. If this is the

¹⁹ This series includes food expenditures, the value of own food consumption, beverages and tobacco, rent, fuel, interest payments (which includes mortgage payments), and commuting and telephone costs, i.e., non-seasonal expenditures.

case, then female-headed households require particular attention in policies designed to alleviate rural poverty generally and the effects of adverse shocks like drought more specifically. Furthermore, issues of ethnicity are also important in Zimbabwe, because of the legacy of discrimination from the colonial period, which generated extreme inequalities in the distribution of income and wealth. One goal of economic policy since independence has been to reduce racial differentials. For policy reasons, therefore, issues of gender and ethnicity are important, and this section examines what can be learned about the relationships of gender and race to welfare from the ICES data.

Table 14
Percentage of male-headed households overall and in each quintile by sector, 1990/91

	CLs	Resett	LSCF	SSCF	Urban
Overall	50	74	89	54	82
Top 20 percent	38	54	83	47	72
Second quintile	41	61	89	63	81
Third quintile	52	84	93	52	92
Fourth quintile	64	93	91	43	84
Fifth quintile	56	72	90	64	82
Source: ICES data					

From Table 14, it appears that the more prosperous a household, the more likely it is to be classified as female-headed. This appears to contradict the consensus in the literature that households with female heads are usually economically more vulnerable, but it can probably be accounted for by the way in which the household is defined (see Appendix A). Family members living in town and not normally resident with the household are excluded from the definition of the household. If the principal breadwinner is a man working in the urban areas, or on the commercial farms, the household will be classified as headed by his wife. In this case, the household would actually be expected to be better-off, because of higher remittance income.

From Table 14, only about half of households in the CLs and the SSCF areas are 'male-headed', while, in the urban and LSCF areas, the proportion is significantly higher (82 and 89 percent). Migrant labour, particularly men, most often comes from the CLs, where there are insufficient employment opportunities and where the income from subsistence farming is frequently meagre.

Proportionately fewer men may migrate from the resettlement areas, because of the early restrictions on off-farm labour placed on those families resettled by the government. If it is migrancy which accounts for the lower than average percentage of male-headed households in the CLs, then it probably also accounts for the lower than average percentage in the SSCF areas, which is an interesting finding.

If it could be shown that remittances are comparatively more important for female-headed than male-headed households, this would provide support for the explanation of below-average male-headed households appearing in the top quintiles. Although the income data are not to be relied on in terms of their absolute size, if the average across households for the whole year shows one type of income to be more important than another, this may be taken as an indication of the relative importance of different sources of income. Indices of average income for male- and female-headed households are reported in Tables 15a to 15d below.

In Table 15a the base is average income from wages in male-headed households in the communal lands sector. The average value of remittances to male-headed households is 40 percent of the average wages earned by members of these households, while average net farm income is just under two-thirds. On average direct wage payments earned by those households headed by women are much lower than the average paid directly to wage earners in male-headed households (only 22 percent of the value). Remittances are the most valuable source of income to female-headed households in the communal lands, and are worth twice as much on average as to male-headed households. Tables 15b to 15d are to be read in the same way as Table 15a. Note that the indices are not comparable in different sections of the table, because the average wage income in male-headed households is different in each rural sector.

Table 15a

The relative importance of different income sources by gender of head of household: communal lands average wage income in male-headed households = 100

	Wage empl. ^a	Remittances	Net farm inc.	Net enterprise inc.
Male-headed	100	40	66	13
Female-headed	22	86	48	7
(a): Wage income is net of income tax, and includes employers' contributions to social security				

Table 15b

The relative importance of different income sources by gender of head of household: resettlement areas average wage income in male-headed households = 100

	Wage empl. ^a	Remittances	Net farm inc.	Net enterprise inc.
Male-headed	100	102	483	33
Female-headed	90	225	554	73

(a): Wage income is net of income tax, and includes employers' contributions to social security

Table 15c

The relative importance of different income sources by gender of head of household: SSCF areas average wage income in male-headed households = 100

	Wage empl. ^a	Remittances	Net farm inc.	Net enterprise inc.
Male-headed	100	52	138	10
Female-headed	25	68	52	5

(a): Wage income is net of income tax, and includes employers' contributions to social security

Table 15d

The relative importance of different income sources by gender of head of household: LSCF areas average wage income in male-headed households = 100

	Wage empl. ^a	Remittances	Net farm inc.	Net enterprise inc.
Male-headed	100	4	negative	6
Female-headed	11	2	negative	0

(a): Wage income is net of income tax, and includes employers' contributions to social security

Source: ICES data

In male-headed households in the CLs, the LSCF areas (overwhelmingly so) (and urban areas), wage labour is the highest-earning source of income²⁰, while farming generates more on average in the resettlement areas and SSCF areas. However, comparatively few households in the CLs are in

²⁰ The effect of excluding non-black households from the LSCF is only to change the value of farm output from negative to positive, the index for male-headed household becomes 11 and that for female-headed households is 2. It is astonishing how net farm income changes from an aggregate negative Z\$1.7 million to an aggregate positive Z\$0.12 million when non-Black households are removed.

the position where a man has wage employment and is able to live at home. For female-headed households in all but the resettlement areas, remittance income is the major source of income. As mentioned before, in the resettlement areas, it is not necessarily the case that farming is very productive; rather beneficiaries of the resettlement programme were prevented until late in the 1980s from engaging in any off-farm income-generating activities. In the CLs, male-headed households do better out of farming on average than those headed by women, although, if farming is the primary income source, and there are no remittances coming in (or smaller remittances), then these households are worse-off on average than female-headed households with remittance income.

There is still evidence of inequality in the distribution of welfare by ethnicity in Zimbabwe. Table 16 shows the proportion of each quintile made up of black households in the LSCF and urban areas of Zimbabwe. The other areas are inhabited almost exclusively by black families. Non-black households are mainly white, but Asian and mixed race families are also included. Although black households form the bulk of the sample in both areas, the fact that they are underrepresented in the higher quintiles, and particularly in the top one and five percent of households in the ranking, suggests that the best-off families in Zimbabwe are still non-black.

Table 16
Percentage of black households overall and in each quintile, LSCF and urban areas, 1990/91

	LSCF	Urban
Overall	98	92
Top 1 percent	76	79
Top 5 percent	91	83
Top 20 percent	97	87
Second quintile	99	86
Third quintile	100	100
Fourth quintile	99	96
Fifth quintile	98	94
Source: ICES data		

8. Summary of the findings

The data confirm the expectation that urban dwellers, and those in the commercial farming areas (both large- and small-scale), are on average better-off than those in the communal lands. Rural inequality as measured by the Theil index is moderately high. Evidently greatest inequality occurs in the LSCF areas, although this is reduced significantly if non-black households are excluded from the sample. Of greater interest is the level of inequality in the communal lands, which is higher than that in other sectors. Greater homogeneity of households appears to occur in the resettlement areas, which is explained by each household having been allocated pieces of land of similar size. These households are therefore almost uniformly poor, with few having been able to increase their income substantially above that of the rest of the sample. Not surprisingly, inequality in non-food expenditures is high in urban areas.

The next question to be addressed was whether particular types of employment activities contribute to households being better-off. First it was necessary to find out how diversified are household income sources. Farming (including subsistence) is an income source for nearly all rural households, even if this is not their primary source of income. Even in the urban areas, half of the households interviewed derived some income from farming. Remittances (in cash and kind) are the second-most pervasive source of income for all households: some 80 per cent of households in the CLs, the resettlement areas and the SSCF areas supplemented their other sources of income with remittances from family members who do not work on the family farm. Even on the LSC farms and in the urban areas, over half of households received remittance income. Remittances clearly flow in two directions: more than half of households in every sector receive remittance income, implying that some of those that make payments also receive them. Other important sources of income are wage labour and self-employment (or household enterprises); the data may understate the importance of both.

Welfare generally improves with a diversification of income sources, especially if a household has direct access to wage employment. Remittance income is also very important in supplementing subsistence farming, improving the position of rural households in the distribution. Even the best-off households in the communal lands still clearly rely heavily on farming supplemented by

remittances, but also reduce their vulnerability by diversifying their sources of income more than any other group. Wealthier households with only one activity are likely to include those communal farmers who were able to take advantage of the opportunities created by the extension of marketing infrastructure to the communal lands by the government after independence.

With respect to the diversification of income sources, an interesting feature emerges in the urban and commercial farming areas: if the percentage of households engaged in only one income-generating activity were to be plotted on a graph, a U-shaped curve would result as welfare increased. At the lower end of the distribution, households have only one source of income; diversifying income sources helps reduce insecurity and raises the absolute level of income available to a household. At some point, however, the main economic activity of the household generates sufficient income to sustain adequate consumption, and either absorbs all labour resources of the household, or is sufficiently high for not all members of the household to have to generate income.

The results of regressions of four sources of income (wages, transfers, gross farm and gross enterprise income) and of food and non-food expenditures on explanatory variables including monthly dummies showed that none of the monthly dummies were significant in explaining variations in any of the series, with the exception of gross farming income in the LSCF sector, which was significantly higher in April, the month after the main harvest begins. This may be at least partially explained by crop and livestock diversification in other farming areas, which spreads the output over more months of the year. The secondary effects on other opportunities for income generation, like casual labour and home industries would consequently also be spread more.

It was found that more prosperous households were more likely to be classified as female-headed. This appears to contradict the consensus in the literature that households with female heads are usually economically more vulnerable, but it is probably accounted for by the way in which the household is defined: family members living in town and not normally resident with the household are excluded from the definition of the household. If the principal breadwinner is a man working in the urban areas, or on the commercial farms, the household will be classified as headed by his

wife. In fact, remittance income was found to be the most important source of income for female-headed households in the rural areas (except in the resettlement areas), providing these households with indirect access to income from wage employment. In the communal lands, male-headed households do better out of farming on average than those headed by women, although, if farming is the primary income source, and there are no remittances coming in (or smaller remittances), then these households are worse-off on average than female-headed households with remittance income.

9. Policy implications

The main substantive point to emerge from this analysis of the ICES is the importance of access to wage employment (directly or through remitted earnings) for rural as well as urban households. Any government policies which affect that access will affect poverty. The following points do not arise as conclusions from the paper. They are raised for consideration in the light of what has been found from the cross section of the population in the 1990/91 ICES. It seems likely that:

1. Policies which accelerate the rate of employment creation are more welfare-enhancing in the long run than those which try to redistribute the existing pool of income. In all likelihood growth will reach better-off households more than poor households, if they have the assets to benefit from higher aggregate demand. Nevertheless, rapid economic growth reaches underendowed households indirectly, for example by increasing the demand for casual labour.

2. Policies which raise the minimum wage improve the welfare of those in employment. If, however, this is achieved at the cost of reducing the rate of employment creation (even if the level of employment does not fall), it means that the benefits to the waged are achieved at the expense of the unwaged.

3. Policies on migrant labour, from other countries as well as to other countries, influence access to jobs. Discouraging cross-border migrancy reduces the scope for income diversification by the poorest households.

4. Almost all programmes directed at rural people, even those attempting to alleviate poverty and income inequality, benefit the less poor rather than the most poor. Those who are poorest usually do not have the means to participate in rural poverty alleviation programmes. For example, raising producer prices does nothing for those without land or labour or a surplus to sell. The poorest also do not have the social and political power to capture the benefits. One of the few exceptions is an employment creation programme paying wages too low to interest any but the poorest. Another is the abolition of school or clinic fees, which means relatively more to the poorest, for whom these are a greater proportion of total income.

Appendix A: Notes about the guidelines for ICES enumerators

The following points, summarised from the 'Guidelines' at the front of the questionnaire, may be important in understanding the data used in writing this paper.

1. The household unit was not defined in writing in the 'Guidelines' but in the training manual and in the ICES Report 1990/91. The household is defined as a group of persons who normally live and eat together, whether or not they are related by blood, marriage or adoption. A spouse working in town and staying there is not a usual member of the household. The head of household is that individual who is involved in the running and managing of day-to-day activities of the household [CSO, 1994:48].
2. All expenditure was recorded daily for the period of one month in a daily record book. The total for the month was entered on to the questionnaire except for durables which were aggregated with expenditures of the previous eleven months. Each expenditure was recorded as a whole, regardless of when consumption occurred. So, for example, school fees for three months were recorded if paid in the recording month, and not at all if paid before or after that month.
3. All income was recorded for the period 'during the last month'.
4. No transactions between household members were recorded.
5. Care was taken to remind enumerators to probe for items which are easy to forget, like take-away meals, food eaten at work, beverages at bars and cafes, home consumption of own-produced food, gifts received, firewood collected, etc.. However, there is no mention of eating with friends or relations, which is one of the ways in which destitute families survive.
6. Data was collected by a combination of recording and interviewing. Each household was visited weekly during the month of enumeration. The recording of expenditures in the daily record books was done by someone in the household, but this was checked and totals were entered on the questionnaire by the enumerator.

Other details about the organisation of the 1990/91 ICES can be found in Chapter 1 and Appendices F and G of the report [CSO, 1994:46,47].

Appendix B: Calculating adult equivalent units (AEUs)

The data supplied did not have detailed information about the ages or gender of all household members. (Gender is relevant, since women usually consume less than men.) What was available to the authors was the total number of people in each household and the occupation of each person ten years and older. It is therefore possible to divide household members into those aged 10 and above, and those under 10.

Each person 10 and above was considered a full adult. It was not possible to stratify further those aged under 10 (which is preferable, because children aged 0-2 consume less than those aged 8-9). However, information from the 1992 census reveals that children aged 0-4 account for around half of all children aged 0-9. Consequently, calorific requirements (as a proportion of an adult's needs) calculated by Latham [recorded in Collier et al, 1990] and Deaton [1980] for children aged 0-2, 3-4, 5-6, 7-9 were simply averaged, yielding 0.55.

The total number of adult equivalent units (AEUs) per household was then derived by summing all full adults and the number of under 10s multiplied by 0.55.

If an adjustment is made to account for economies of scale in consumption, it is necessary to modifying the above calculation in order to yield adjusted adult equivalent units (AAEUs). This requires multiplying AEU by a conversion factor for economies of scale, which is the average cost per adult for each household size. The conversion factors are recorded in Table B1 below. This yields the number of AAEUs in each household. Initially expenditures per AAEUs were calculated in order to rank households, but the results were distorted, because economies of scale do not apply to consumption of food, beverages and tobacco to or commuting costs.

Table B1
Household economies of scale

H/h size (no. of AEU) cost	Marginal cost	Average
1	1.0	1.0
2	0.892	0.946
3	0.798	0.897
4	0.713	0.851
5	0.632	0.807
6	0.632	0.778
7	0.632	0.757
8	0.632	0.741
9	0.632	0.729
10+	0.632	0.719

Source: Collier et al [1990:72]

Note: The figures presented in the above table are inferred from Deaton's [1980] scale factors which were applied to adult-only households of up to five members. Implicitly, the change in average costs reflect changing marginal costs as family size increases. Deaton did not calculate scale factors for more than five household members. Collier et al. in their work on Tanzania, assumed that the marginal cost of subsequent units was the same as that of the fifth unit. In the calculations for Zimbabwe, the largest household had 13 AEU, and the average cost of each AEU was calculated assuming constant marginal costs for additional units.

Appendix C: Number of households enumerated in each month by province

Table C1
Number of households enumerated in each month by province

Month	Prov.								Total
	Manic.	MashC	MashE	MashW	MatN	MatS	Midlds	Masv	
Jul'90	96	51	194	91	86	11	101	85	715
Aug'90	140	74	222	113	114	45	103	108	919
Sep'90	174	106	255	147	149	68	161	183	1243
Oct'90	178	105	230	138	93	88	150	180	1162
Nov'90	187	106	190	148	97	107	168	171	1174
Dec'90	188	112	199	151	84	102	176	193	1205
Jan'91	190	111	212	127	88	77	160	160	1125
Feb'91	194	112	241	149	111	115	204	185	1311
Mar'91	196	111	243	148	106	134	181	174	1293
Apr'91	180	105	291	110	98	92	178	177	1231
May'91	194	106	264	153	153	120	179	180	1349
Jun'91	195	128	342	169	127	122	184	201	1468
Total	2112	1227	2883	1644	1306	1081	1945	1997	14195*

Source: unpublished information supplied by the CSO

Note: Harare, the capital city, is in Mashonaland East; Bulawayo is in Matabeleland North
The other provinces are Manicaland, Mashonaland Central, Mashonaland West, Matabeleland South, Midlands and Masvingo.

* The number of households analysed in this report is 22 less than those analysed in the ICES 1990/91 Report. However we do not think the difference will alter any conclusions reached in this report

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