

## **Assigning proxy welfare indicators to sample households dropped in the poverty analysis of the Malawi Integrated Household Survey, 1997-98**

The Integrated Household Survey (IHS) was a comprehensive socio-economic survey of the living standards of households in all districts of Malawi. The National Statistical Office administered the IHS questionnaire to about 12,900 households over a 12 month period, November 1997 to October 1998. The data was cleaned between May 1999 to April 2000. 10,698 households remained in the data set when the 'c2' version of the data was released in early May 2000. However, comprehensive and reliable information on consumption and expenditures is not available for all of these households. As the poverty lines derived from this analysis are fixed in terms of the household welfare indicator – the daily per capita consumption and expenditure of a household – only IHS households for which we have reliable information for consumption and expenditure variables have been used in the poverty analysis.

A sub-set of 6,586 sample households were used in the calculation of the poverty lines. An earlier report, *Criteria used for selecting sample households for the poverty analysis of the Malawi Integrated Household Survey, 1997-98*, presented the selection criteria used to arrive at this sub-set. A second report, *Assessing poor or non-poor bias in the criteria used for selecting sample households for the poverty analysis of the Malawi Integrated Household Survey, 1997-98*, evaluates whether these selection criteria introduce a poor or non-poor bias in the analytical data set.

Good information on a wide range of variables is available for the 4,112 households which were dropped from the poverty analysis. If the poverty status of these households could be estimated, the inclusion of this information would considerably strengthen our understanding of the characteristics of poverty in Malawi. This document describes the manner in which proxy welfare indicators were calculated for the dropped households so that their poverty status could be estimated. In brief, a regression analysis was done on a large data set of the characteristics of the 6,586 households used in the poverty analysis. The dependent variable of the regression was the welfare indicator for these households. The results of this analysis were then applied to the same household characteristics of the 4,112 households which were dropped in order to calculate a proxy welfare indicator for each of these households. The poverty status of these households was then determined by making use of the poverty lines derived earlier with the 6,586 household sub-set.

### **Household characteristics**

A team of analysts reviewed the IHS questionnaire to list all household variables which might be related to the level of expenditure and consumption of a household. No expenditure and consumption information could be used, as it was due to the poor quality of this information for the 4,112 households that led to their being dropped. The IHS data files were then used to develop a single SPSS data file containing as many of these variables as could be extracted or constructed. Table 6 at the end of the document presents the variables which were included in the initial data file.

### **Methodology**

A series of regression models were run using these variables. The dependent variable in all cases was either the normal welfare indicator or its natural log (a semi-log model). The goal of the

analysis was to use as small a number of independent variables as possible in the model while still explaining as much of the variation in the dependent variable, the household welfare indicator, as possible.

Some of the variables were dropped from consideration immediately. These were those which were judged to be redundant to other variables in the data set. For example, the poverty line region dummy variables, SRURAL, CRURAL, and NRURAL, were dropped since the information these variables contain is also contained in the district and eco-region dummy variables. Similarly, the dummy variables based on the presence of children in the household were dropped, as this information is contained in the dependency ratio variable, DPNDRAT.

The analysis started with a small number of key variables. Additional variables were then added to this initial model. If the coefficients of the added variables were found not to be significantly different from zero at the 0.10 level of probability, they were dropped from the analysis. A few insignificant variables which showed the expected sign (positive or negative) were retained if there are strong theoretical reasons to keep them in the model. Those variables retained included, among others, whether the household head is an employer, EMPLOYER, and whether the household received credit from an institution in the past year, INSTCRED.

Numerous regression models were run using different sub-sets of variables. Twelve models were selected for a closer assessment of their predictive power. The models differed in regards to the dependent variable used – both the normal and the logged welfare indicator were used – and in the independent variables, particularly in terms of which fixed effect dummy variables were used. Models were constructed using regional fixed-effect dummy variables, district variables, and economic and agro-ecozone (eco-region) variables.

The R-squared and root mean square error statistics were examined to judge which models performed best. In addition to examining the adjusted  $R^2$  and root mean square error terms for each model, the prediction error sum of squares (PRESS) statistic for each model was evaluated. Using an algorithm in the SAS statistical software package, the accuracy with which each of the 12 models predicted the actual welfare indicator for each of the 6,586 households was judged.

## Results

The choice of the proxy welfare model to use in the analysis was based on both objective statistical criteria and as to how the survey was implemented. On theoretical grounds, the semi-log models were judged superior to the models with the normal welfare indicator as dependent variable. In contrasting the different fixed effect dummy variables, the models based on regional dummy variables performed poorly, so were dropped from consideration. The district fixed-effect dummy provided the best predictive ability and had the highest adjusted  $R^2$  and lowest root mean square error terms.

However, the eco-region model was chosen. It gave relatively good results statistically, but more importantly it was felt that using the eco-region variables would provide less scope for enumerator specific error to influence the model. In the less populated districts of Malawi, a single enumerator was used to survey all households in that district. If these enumerator was poorly trained or supervised, or inconsistent in their dedication to the survey tasks, the resultant errors would translate directly into the aggregate statistics for that district. By lumping districts together on the basis of common economic activities and agro-ecological conditions, it was felt that some of these unquantifiable district-specific enumerator errors would be moderated in the resultant model.

Table 1: Cross tabulation of actual and proxy poverty status of 6,586 households - errors of inclusion and exclusion

		Actual poverty status	
		Poor	Non-poor
Proxy poverty status	Poor	2921 81.6%	1020 33.9%
	Non-poor	659 18.4%	1986 66.1%

A total of 78 independent variables are used in the chosen model. The dependent variable is the natural log of the welfare indicator (semi-log model). Table 7 at the end of the document lists the coefficients for the variables used in the model. The adjusted  $R^2$  for this model is 0.627. Comparing the proxy welfare indicators for the 6,586 households calculated by applying the model to the households with their actual welfare indicators, the Spearman's rank-difference coefficient of correlation is 0.739, while the Pearson's correlation coefficient is 0.310.

### Assessment of results

The model was developed for use with the 4,112 dropped households. However, in order to evaluate the model, comparisons were made using the 6,586 households between actual welfare indicators and those predicted by the model. Two assessments are made here.

First, the 6,586 households were categorized as poor or non-poor based on both their actual welfare indicator and their proxy welfare indicator calculated using the model results. The poverty lines used are those calculated earlier. A cross tabulation was run on the 'actual' and the 'proxy' poverty status of these households. Table 1 presents this cross tabulation.

The percentages in Table 1 are column percentages. For example, the 81.6% in the upper left cell indicates that of the households who are classified as poor according to their actual welfare indicator, 81.6% of them are classified as poor according to their proxy welfare indicator. The two most important cells are those at lower left and upper right, as these indicate the poverty classification error which results from using the proxy welfare indicator.

- An exclusion error classifies households as non-poor using the proxy welfare indicator when they are really poor. The exclusion error here is 18.4%.
- An inclusion error classifies households as poor using the proxy welfare indicator when they are really non-poor. The inclusion error here is 33.9%.

Overall, 25.5 percent of the households are misclassified using the proxy welfare indicator. One should expect that similar levels of errors in classification will result when the model is applied to the 4,112 households which do not have a welfare indicator.

Secondly, the 6,586 households were grouped into deciles according to their actual and proxy welfare indicators (deflated using the spatial CPIs calculated from the poverty lines). A cross tabulation was run on the two decile groupings. Table 2 shows the results.

The ideal would be that 100 percent of the households in an actual welfare indicator decile would be found in the corresponding decile for the proxy welfare indicator and the pattern of shaded cells would be perfectly diagonal. This is not the case, but the pattern is encouraging – some mismatches, but overall the performance of the model in calculating proxy welfare indicators is acceptable. The Spearman's rank-difference correlation coefficient of 0.739 noted above confirms the pattern seen here of not perfect matching, but nevertheless quite good.

Table 2: Cross tabulation of decile groupings of actual and proxy welfare indicators, by percent of households in actual welfare indicator decile

		Actual Welfare Indicator Deciles								
		Poor-est	2nd	3rd	4th	5th	6th	7th	8th	Wealth-iest
<b>Proxy Welfare Indicator Deciles</b>	Poorest	39.5	20.5	12.4	10.3	7.7	4.1	3.0	1.5	0.5
	2nd	21.6	21.2	15.5	12.6	7.6	7.6	5.5	5.2	2.1
	3rd	16.4	18.2	15.0	12.0	11.7	10.0	7.4	4.7	3.3
	4th	10.0	12.6	17.5	13.8	12.6	11.4	8.8	7.1	4.9
	5th	5.9	10.2	11.7	14.9	13.7	12.0	10.8	11.7	6.4
	6th	2.9	6.4	12.1	14.1	15.2	15.6	12.0	9.0	8.8
	7th	2.0	5.9	6.4	9.7	14.3	13.8	17.5	12.1	13.1
	8th	1.1	3.0	6.8	7.9	8.6	13.1	15.3	18.2	16.8
	9th	0.6	2.0	2.6	4.3	7.4	9.6	14.7	19.6	20.9
	Wealthiest				0.3	1.2	2.9	4.9	10.9	23.2
Total Count		658	659	659	658	659	659	658	659	658

Cell with highest percentage in column is shaded.

### Applying the model to the 4,122 dropped households

Using the model with the 4,122 households which were dropped in the earlier poverty analysis, proxy welfare indicators were calculated for these households. Table 3 presents the mean welfare indicator for the full data set by poverty line regions, as well as the mean actual welfare indicator for the 6,586 data set and the mean proxy welfare indicator for the 4,112 dropped households.

The mean and median proxy welfare indicators are lower than the same statistics for the actual

Table 3: Mean and median actual, proxy, and combined welfare indicators (MK), by poverty line region

		Actual	Proxy	Combined
<b>Malawi</b>	Mean	15.11	12.90	14.26
	Median	9.15	8.19	8.69
	Std Deviation	26.25	24.56	25.64
	Count	6586	4107	10693
<b>Southern rural</b>	Mean	8.84	7.65	8.32
	Median	6.79	6.70	6.71
	Std Deviation	8.99	4.31	7.34
	Count	2468	1921	4389
<b>Central rural</b>	Mean	10.97	9.45	10.44
	Median	8.85	7.92	8.44
	Std Deviation	8.36	5.61	7.54
	Count	2379	1281	3660
<b>Northern rural</b>	Mean	14.58	14.90	14.69
	Median	11.18	12.19	11.63
	Std Deviation	12.52	13.42	12.83
	Count	810	419	1229
<b>Urban</b>	Mean	42.80	40.99	42.18
	Median	24.65	22.86	23.92
	Std Deviation	58.68	62.12	59.87
	Count	929	486	1415

Five households with very high welfare indicators (> MK 700) were dropped in calculating this table. All of these households have proxy welfare indicators. Three are from the Urban region, and one each from North and Central rural.

welfare indicators. Recall from the report assessing bias in the analytical data set that the dropped households likely were somewhat poorer than the households retained for the poverty analysis. This is seen here. However, the difference observed here might also be due to the specifications of the model. Likely both factors are operating in accounting for the differences in the welfare indicators between the two sub-sets of IHS households.

It should be noted that the actual welfare indicator will always be used in analysis for the 6,586 households for which it could be computed. The proxy welfare indicator will be used in these analyses only for the 4,112 households for which an actual welfare indicator could not be calculated.

### Poverty head count using the full 10,698 IHS data set

The 4,112 households can now be assigned a poor/non-poor status and a poverty head count for the country as a whole can be calculated. The results are shown in Table 4 together with the earlier results presented when only the poverty analysis data set was used. The national poverty head count has increased from the earlier estimate of 59.6 percent to 65.3 percent, a rise of 5.7 percentage points. Largest increases in the poverty head count are found in Southern rural and Central rural.

The proportion of households judged to be poor has also gone up, although not to the degree that the individual head count has increased. 56.6 percent of households in Malawi are judged to be poor, up 3.0 percent from the earlier estimate. The difference in the levels and in the dynamics of the individual and the household poverty head counts is principally due to the fact that poorer households are larger: an average of 5.0 members per household in the poor households, with 3.5 members in the non-poor.

It is also possible now to produce a district poverty head count. This is shown in Table 5. Several districts show exceptionally high poverty head counts: Ntcheu, Phalombe, Zomba Municipality, Thyolo, and Ntchisi all have individual head counts above 75 percent. These districts especially require additional investigations to determine the validity of these numbers.

*Table 4: Poverty head count using full IHS data set, by poverty line regions*

Region	Poverty line (MK/person/day)	Individual poverty headcount (%)	Malawi's poor in region (individual) (%)	Household poverty headcount (%)	Malawi's poor households in region (%)
<b>Full data set: 10,698 hh</b>					
MALAWI	-	65.3	-	56.6	-
Southern rural	7.76	68.9	43.5	60.1	45.2
Central rural	9.27	65.0	38.1	57.8	37.1
Northern rural	11.16	61.8	9.7	48.4	8.8
Urban	25.38	54.9	8.7	46.9	8.9
<b>Poverty analysis data set: 6,586 hh</b>					
MALAWI	-	59.6	-	53.6	-
Southern rural	7.76	62.2	43.4	56.7	45.0
Central rural	9.27	58.8	37.7	53.7	36.4
Northern rural	11.16	60.6	10.2	50.2	9.7
Urban	25.38	50.8	8.7	44.3	8.9

Table 5: Poverty head count using full IHS data set, by district

District	Individual poverty headcount (%)	Household poverty headcount (%)	District	Individual poverty headcount (%)	Household poverty headcount (%)
Nsanje	51.3	40.2	Salima	60.8	51.9
Chikwawa	54.8	42.4	Lilongwe Rural	65.6	59.0
Mwanza	71.4	61.2	Lilongwe City	37.9	30.0
Blantyre Rural	65.3	55.9	Mchinji	68.0	56.5
Blantyre City	60.5	54.4	Kasungu	48.9	42.7
Zomba Rural	71.9	60.3	Dowa	53.6	46.0
Zomba Municipality	78.0	74.6	Ntchisi	76.3	66.0
Thyolo	76.8	67.5	Nkhotakota	65.3	56.3
Mulanje	67.2	59.7	Mzimba	67.5	54.5
Phalombe	83.9	80.1	Mzuzu City	70.9	64.7
Machinga	63.5	58.6	Nkhata Bay	47.7	34.3
Mangochi	69.8	63.8	Rumphi	65.8	55.2
Chiradzulu	74.0	64.8	Karonga	42.1	31.3
Ntcheu	84.0	76.7	Chitipa	71.3	58.6
Dedza	73.3	66.7			

Table 6: Original household characteristics evaluated to calculate proxy welfare indicator

Variable	Variable description	Used?	Variable	Variable description	Used?
1 ADLSEEKW	HH adult seeking work	No	73 KOTAKOTA	HH in Nkhotakota district	No
2 AGE2TO18	Number in hh aged 2 to 18	No	74 LITELEC	HH get lighting from electricity or gas	Yes
3 AGE5TO18	Number in hh aged 5 to 18	No	75 LLNGWURB	HH in Lilongwe Urban	No
4 AGEHHH	Age of head of household	Yes	76 LTAGE2	Number in hh less than age 2	No
5 AGEHHH2	Squared age of head of household	Yes	77 LTAGE5	Number in hh less than age 5	Yes
6 APR	HH interviewed in April	Yes	78 MACHINGA	HH in Machinga district	No
7 AUG	HH interviewed in August	Yes	79 MACHMANG	HH in Machinga/Mangochi lumped district	No
8 BED	HH owns a bed	Yes	80 MANGOCHI	HH in Mangochi district	No
9 BICYCLE	HH owns a bicycle	Yes	81 MANUFACT	HH engaged in manufacturing	Yes
10 BIRTHRTE	Mean birth rate (years between births) for women who have given birth in HH	No	82 MAR	HH interviewed in March	Yes
11 BLTYRRUR	HH in Blantyre Rural district	No	83 MARRIED	Head of household married	No
12 BLTYRURB	HH in Blantyre Urban	No	84 MAXYRSED	Maximum yrs education for employed HH member	Yes
13 CANOE	HH owns a canoe or boat	Yes	85 MAY	HH interviewed in May	Yes
14 CARMBIKE	HH owns a car or motor cycle	Yes	86 MCHINJI	HH in Mchinji district	No
15 CASSAVA	HH grows cassava	Yes	87 MILSORG	HH grows millet or sorghum	Yes
16 CCRPSALE	Total annual cash crop sale	No	88 MISSSCH	Child in mission school	Yes
17 CHARWOOD	HH cooks over purchased firewood or charcoal	No	89 MOMYRSED	Years of education for senior woman in HH	Yes
18 CHIKWAWA	HH in Chikwawa district	No	90 MOTHERED	Educational level of mother	No
19 CHIRADZU	HH in Chiradzulu district	No	91 MULANJE	HH in Mulanje district	No
20 CHITIPA	HH in Chitipa district	No	92 MULJPHAL	HH in Mulanje/Phalombe lumped district	No
21 CLOTHCST	Total value of clothing costs over 3 mo.	No	93 MWANZA	HH in Mwanza district	No
22 COLFIRWD	HH cooks over collected firewood	Yes	94 MWNZBTRU	HH in Mwanza/Blantyre Rural lumped district	No
23 COOKELEC	HH cooks with electricity or gas	No	95 MZIMBA	HH in Mzimba district	No
24 COTTON	HH grows cotton	Yes	96 MZIMRUMP	HH in Mzimba/Rumphi lumped district	No
25 CREDIT	HH received credit in past year	No	97 MZUZU	HH in Mzuzu district	No
26 CRURAL	HH in Central rural	No	98 NKHTABAY	HH in Nkhata Bay district	No
27 DEDZA	HH in Dedza distict	No	99 NOV	HH interviewed in November	Yes
28 DEPNDNT	Number of dependents in hh	No	100 NRURAL	HH in Northern rural	No
29 DOWA	HH in Dowa district	No	101 NSANCHKW	HH in Nsanje/Chikwawa lumped district	No
30 DOWANTCH	HH in Dowa/Ntchisi lumped district	No	102 NSANJE	HH in Nsanje district	No
31 DPNDRAT	Dependency ratio: dependents/hhsiz	Yes	103 NTCHDEDZ	HH in Ntcheu/Dedza lumped district	No
32 DPNDRAT2	Squared dependency ratio	Yes	104 NTCHEU	HH in Ntcheu district	No
33 EDCOST	Total educational costs over 12 mo. for HH	Yes	105 OCT	HH interviewed in October	Yes
34 ELECCST	Total electricity bill previous month for HH	No	106 OTHEMPLE	Non-head of household employee	No
35 EMPLOYEE	Head of household employee	Yes	107 OTHEMPLR	Non-head of household employer	No
36 EMPLOYER	Head of household employer	Yes	108 OTHSEMP	Non-head of household self employed	No
37 ERCENLK	Eco-region - Central Region Lakeshore	Yes	109 OTHUNEMP	Non-head of household unemployed	No
38 ERCENMID	Eco-region - Central Region Mid-altitude plateau	Yes	110 OWNTAP	HH gets water from own tap	Yes
39 ERCENUP	Eco-region - Central Region Uplands	Yes	111 PCCLOTH	Per capita clothing purchases	Yes
40 ERLOSH	Eco-region - Lower Shire	Yes	112 PCELEC	Per capita electric bill	Yes
41 ERNORLK	Eco-region - Northern Region Lakeshore	Yes	113 PCINC	Per capita household income	Yes
42 ERNORMID	Eco-region - Northern Region Mid-altitude plateau	Yes	114 PCLAND	Per capita acreage cultivated	Yes
43 ERSHHIE	Eco-region - Shire Highlands East	Yes	115 PCLVSVAL	Per capita value of livestock owned	Yes
44 ERSHHIW	Eco-region - Shire Highlands West	Yes	116 PHALOMBE	HH in Phalombe district	No
45 ERUPMDSH	Eco-region - Upper & Middle Shire	Yes	117 PLOUGH	HH owns a plough	Yes
46 FACACCSS	Mean time (hr) to disp., bus, ADMARC, bank, PO	Yes	118 PROF	HH member - professional, admin, clerical occup.	Yes
47 FARMER	HH member with agricultural occupation	Yes	119 PROPDEAD	Proportion of kids born alive in hh who	No
48 FEB	HH interviewed in February	Yes	120 PVTSCH	Child in private school	Yes
49 FEMHHH	Female headed household	Yes	121 RADIO	HH owns a radio	Yes
50 FERTCSCR	HH used fertilizer on cash crop	Yes	122 RIVERH2O	HH gets water from river or lake	Yes
51 FERTFDCR	HH used fertilizer on food crop	Yes	123 RUMPHI	HH in Rumphi district	No
52 FORFISH	HH engaged in forestry/fishing	Yes	124 SALECONS	Total net consumption & sales of business goods	No
53 FRIDGE	HH owns a fridge	Yes	125 SALIMA	HH in Salima district	No
54 GIFT	HH gave income transfer	Yes	126 SECNDRY	Child in secondary school	Yes
55 GOVTEMP	HH member employed by government	Yes	127 SELFEMPL	Head of household self employed	Yes
56 HAZLT2	Child in hh with height for age Z-score less than -2	No	128 SEP	HH interviewed in September	Yes
57 HAZLT3	Child in hh with height for age Z-score less than -3	No	129 SERVICE	HH engaged in service provision	Yes
58 HHHLIT	Literate head of household	Yes	130 SERVIND	HH member in service industry	Yes
59 HHHSEEKW	HH head seeking work	Yes	131 SRURAL	HH in Southern rural	No
60 HHSIZE	Household size	Yes	132 THYOLO	HH in Thyolo district	Yes
61 HHSIZE2	squared household size	Yes	133 TOBACCO	HH grows tobacco	No
62 HOUSEOWN	HH owns house in which it lives	Yes	134 TOPCLASS	Highest class for employed hh member	No
63 HYBMAIZE	HH grows hybrid maize	Yes	135 TOTLVST	Total value of livestock owned by HH	No
64 IMMUNIZ	Mean proportion of the eight immunization which children in HH have received	Yes	136 TRADDOC	HH member treated by traditional healer in previous 2 weeks	No
65 INCTOT	Total income from employ, transfers, other sources	No	137 TRNSREC	HH received income transfer	Yes
66 INSTCRED	HH received credit from institutional source	Yes	138 UNEMPLOY	Head of household unemployed	Yes
67 JAN	HH interviewed in January	Yes	139 UNIV	Child in university	No
68 JUL	HH interviewed in July	Yes	140 VINPCSCR	Total value of inputs used by HH on cash crops	Yes
69 JUN	HH interviewed in June	Yes	141 VINPFDCR	Total value of inputs used by HH on food crops	Yes
70 KARONGA	HH in Karonga district	No	142 ZOMBARUR	HH in Zomba Rural district	No
71 KASUNGU	HH in Kasungu district	No	143 ZOMBAURB	HH in Zomba Municipality	No
72 KIDDIED	Child age 15 or under died in hh in previous year	No			

*Table 7: Coefficients of the regression model to compute proxy welfare indicator  
– dependent variable: natural log of welfare indicator.*

Variable	Coefficient	Std. Error	Significance	Variable	Coefficient	Std. Error	Significance
Constant	3.35031	0.065	0.000	HOUSEOWN	-0.03023	0.023	0.188
AGEHHH	-0.00859	0.002	0.000	HYBMAIZE	0.01353	0.016	0.395
AGEHHH2	0.00009	0.000	0.000	IMMUNIZ	0.01849	0.021	0.384
APR	-0.02517	0.030	0.406	INSTCRED	0.02450	0.030	0.418
AUG	0.00203	0.030	0.946	JAN	-0.09095	0.031	0.003
BED	0.19665	0.016	0.000	JUL	0.00304	0.029	0.917
BICYCLE	0.09850	0.015	0.000	JUN	0.04162	0.030	0.165
CANOE	0.22727	0.083	0.006	LITELEC	0.10884	0.037	0.004
CARMBIKE	0.41232	0.052	0.000	LTAGE5	-0.02837	0.013	0.034
CASSAVA	0.05932	0.026	0.020	MANUFACT	0.01856	0.024	0.441
COLFIRWD	-0.15305	0.020	0.000	MAR	-0.04747	0.030	0.112
COTTON	0.00771	0.042	0.856	MAXYRSED	0.00866	0.002	0.000
DPNDRAT	-0.40754	0.092	0.000	MAY	-0.00658	0.030	0.826
DPNDRAT2	0.28631	0.098	0.003	MILSORG	0.03534	0.030	0.243
EDCOST	0.00002	0.000	0.000	MISSSCH	0.03010	0.024	0.213
EMPLOYEE	0.01974	0.032	0.536	MOMYRSED	0.00854	0.002	0.000
EMPLOYER	0.05827	0.081	0.472	NOV	0.05749	0.028	0.043
ERCENLK	-0.42181	0.041	0.000	OCT	-0.14026	0.034	0.000
ERCENMID	-0.41255	0.032	0.000	OWNTAP	0.11432	0.039	0.003
ERCENUP	-0.42574	0.035	0.000	PCCLOTH	0.00045	0.000	0.000
ERLOSH	-0.40173	0.045	0.000	PCELEC	0.00150	0.000	0.000
ERNORLK	-0.08461	0.041	0.038	PCINC	0.00002	0.000	0.001
ERNORMID	-0.36245	0.037	0.000	PCLAND	0.07618	0.012	0.000
ERSHHIE	-0.58884	0.035	0.000	PCLVSVAL	0.00001	0.000	0.038
ERSHHIW	-0.65557	0.032	0.000	PLOUGH	0.26180	0.064	0.000
ERUPMDSH	-0.58525	0.034	0.000	PROF	0.11917	0.024	0.000
FACACCSS	-0.03346	0.009	0.000	PVTSCH	0.17278	0.044	0.000
FARMER	-0.01172	0.021	0.571	RADIO	0.08130	0.025	0.001
FEB	-0.08723	0.030	0.003	RIVERH2O	0.03510	0.021	0.089
FEMHHH	-0.01987	0.017	0.253	SECNDRY	0.02741	0.025	0.268
FERTCSCR	0.05443	0.032	0.087	SELFEMPL	0.00181	0.035	0.959
FERTFDCR	-0.00113	0.018	0.949	SEP	-0.05405	0.033	0.101
FORFISH	0.03746	0.046	0.417	SERVICE	0.08767	0.050	0.077
FRIDGE	0.24080	0.052	0.000	SERVIND	0.05230	0.024	0.027
GIFT	0.22837	0.016	0.000	THYOLO	0.11233	0.028	0.000
GOVTEMP	-0.02357	0.031	0.443	TRNSREC	0.02184	0.016	0.165
HHHLIT	0.03821	0.019	0.050	UNEMPLOY	-0.00782	0.075	0.917
HHHSEEKW	-0.00997	0.105	0.924	VINPCSCR	0.00000	0.000	0.569
HHSIZE	-0.20678	0.012	0.000	VINPFDCR	0.00004	0.000	0.000
HHSIZE2	0.01021	0.001	0.000				