

Syntax files for Constructing a Consumption Aggregate and Poverty Lines in Bosnia and Herzegovina, using the 2001 LSMS Survey

1. Introduction

1. Welfare in Bosnia and Herzegovina in 2001 was measured using the Living Standards Measurement Study Survey data (LSMS) carried out by the State Agency for Statistics, the Federation of BiH Institute of Statistics and the Republika Sprska Institute of Statistics. For more information on the LSMS survey and the resulting data sets see “Bosnia and Herzegovina, Basic Information Document” on this CD-Rom.
2. The welfare measure used was per capita consumption. See the paper “Welfare in Bosnia and Herzegovina, 2001: Measurement and Findings” on this CD-Rom, for background on how and why consumption was used.
3. In the attached *.zip file are all of the SPSSpc syntax (program) files that were used to construct the per capita consumption measure. The syntax files used to construct the extreme poverty line and the general poverty line and the indicators of poverty are also included.
4. The purpose of including the syntax files is to make as transparent as possible the process used to measure welfare and the assumptions that were made in the process. Thus, any researcher or analyst who wishes to, can easily reproduce the work done and understand all of the steps involved. The hope is that a researcher or analyst who has read the two papers mentioned above will be able to use the attached syntax and understand what is being done in each step.
5. In order to assist the researcher in understanding the process by which welfare was measured, we have not tried to make the syntax files here the most efficient or ‘elegant’. The files often have lines of code that are not needed to simply construct the welfare measure but are useful for helping the researcher understand the steps used. Also the way in which the programs are set out vary a bit among files as the analysis was done by a team of people: each person with his or her own programming style, We have added notes and comments to each syntax file to help clarify what is being done in the program.
6. The present document lists the syntax files used (and the order in which they should be used) as well as the basic data files used in each step and the outputs of each syntax file.

2. Getting Started

The syntax files are written assuming that all of the basic data files (M1.sav to M13_E.sav) are in the directory:

C: \BIH

If you put the data files in another directory, you will need to change the syntax files to reflect the location of the directory where you have placed the data.

The syntax files are written to save all of the data files that will be created by the syntax files into the same directory. If you want your output or new data files to be saved in another location, you will have to edit the syntax files to reflect this different location.

The statistical software used for the analysis is SPSS, version 11. If you have an earlier version of SPSS, you will need to do some editing of the syntax files as some commands have changed. If you wish to use another statistical software package such as SAS or STATA, the syntax files used here will have to be re-written in their entirety (following the same logic of course) to meet the demands of these other software packages.

In SPSS, Version 11: any file which ends with the extension:

- *.sps is a syntax file, containing the code used to transform the data. These are the files contained here.
- *.sav is a data file. All of the LSMS data is in *.sav files on this CD-Rom. An ASCII version is also included.
- *.spo is an output file that shows the results of running a syntax file with a given data set. No output files are included here, each user will generate his or her own output files.

3. Constructing the Consumption Aggregate

1. Components of the Consumption Aggregate

The first step in the process is to construct a consumption aggregate, in other words, a variable that contains the annual value of total consumption per household and then per individual (per capita). The consumption aggregate is made up of all types of consumption by households including housing (expenditures and consumption or the value of using the housing), utilities, the use value of durable goods owned by the household, education, all food (including purchased food, home produced food and food received as gifts) and all non-food consumption ranging from soap to shoes to household furnishings to recreation.

Table 1 shows all of the components or types of consumption that are included in the consumption aggregate. For each component, the basic data file that is used is identified, the syntax file written to analyze the data is given and the outputs of running the syntax file listed. The main output is a new data file containing the value of yearly consumption of the component of consumption in question. To facilitate the analysts' work, the name of the variable in the new data file that contains the annual value of that component of consumption is also identified.

Table 1: Components of Consumption, Data and Syntax Files

Component	Data files used	Syntax File	Data file Created	Variables for Consumption Aggregate
Use value of housing	M2_AB.sav	IMPUTEDRENT.sps	IMPUTEDRENT.sav	USEHSNG
Expenditures on Utilities	M2_AB.sav	UTILITY.sps	UTILITY.sav	TOTUTILI
Use value of durable goods	M2_C.sav	DURABLES.sps	DURABLES.sav	DURABLE
Education	M1.sav	EDUC_EXP.sps	EDUC_EXP.sav	EDUCEXP
Expenditures	M3.sav			
Daily expenditures	M11_A1.sav	DAILYEXP1.sps	DAILYEXP1.sav	DAYEXP1
Meals eaten outside the home	M11_A2.sav	DAILYEXP2.sps	DAILYEXP2.sav	DAYEXP2
Food consumption, purchased, produced and gifts (seasonal included)	M11_B1.sav M11_B2.sav	FOOD.sps	FOOD.sav FOOD_ALL.sav	TOTFOODC
Monthly expenditures	M11_C1	NONFOODPART1.sps	NONFOODPART1.sav	TOTNFC1
Annual expenditures	M11_C2	NONFOODPART2.sps	NONFOODPART2.sav	TOTNFC2

Table 2 shows the mean value, in KM, of each component of consumption in the individual consumption component file created in the previous steps. Note that these values are not yet adjusted for differences in the

cost of living across the country (this is done is a later step). These values are presented here simply to help the analyst check that the programs he or she has run are producing the expected outputs.

Table 2: Annual Value of Each Component of Consumption

Consumption Component	Mean	Median	Std	Min	Max
USEHSNG	2665	2400	23303	36	19758
TOTUTIL	1524	1380	704	0	6900
DURABLE	317	152	423	0	6182
EDUCEXP	237	0	641	0	10000
DAILY1	692	520	542	12	5448
DAILY2	1407	936	1472	26	18200
FOOD	3610	3282	1971	16	32076
TOTNF1	966	717	935	24	18780
TOTNF2	1172	760	1453	1	28840

Note: These values are annual ones that have not been adjusted for the cost of living differences in the country.

2. *Creating the Total Consumption Aggregate*

The second step in creating the consumption aggregate is to sum all of the components of consumption by household. A price index is created from the data which allows one to adjust each household's total consumption by the cost of living to ensure that the levels of consumption are comparable across the country. Once the total adjusted household consumption is created, household composition data are merged in to allow the construction of per capita annual consumption.

The syntax files used in these steps are listed in Table 3 along with the data files used, the output files created and the new variables created that will be used in the next step of measuring welfare. Note the order in which these are run is important. The first syntax file run should be HHCHAR.sps, the second PRICEINDEX.sps and then the file CONS_AGGREGATE.sps can be run.

Table 3: Creating the Welfare Measure: Per Capita Consumption Aggregate

Action	Data files used	Syntax File	Data file Created	Variables created
Create file with household characteristics or composition	M1.sav	HHCHAR.sps	HHCHAR.sav	ADULT CHILD HEADAGE HEADSEX HEADMARR HHLDSIZE PAE_OECD
Create weights to be used in all analysis				WHHD WPOP
Price Index	FOOD_ALL.sav	PRICEINDEX.sps	PRICEINDEX.sav	PINDEX
Creating the household consumption aggregate and then per capita, per adult equivalent and the normalized per adult equivalent consumption*	HHCHAR.sav PRICEINDEX.sav IMPUTEDRENT.sav UTILITY.sav DURABLES.sav EDUC_EXP.sav DAILYEXP1.sav DAILYEXP2.sav FOOD.sav NONFOODPART1.sav NONFOODPART2.sav	CONS_AGGREGATE.sps	CONS_AGGREGATE.sav	ADJYRCON PCAYRCON PAE_CONS NPAECONS
Also creating a file that contains the reference households for the construction of the food basket			REF_HHLD.sav	

*Note: See the paper "Welfare in Bosnia and Herzegovina, 2001: Measurement and Findings" on this CD-Rom, for an explanation of per adult equivalent consumption.

3. *Creating the Poverty Lines and Poverty Indicators*

Once the per capita consumption aggregate is constructed, two poverty lines are created. The first poverty line measures extreme or food poverty and is set to the value of consumption below which a person would be considered poor. The second line is the general poverty line and incorporates the value needed to cover both food and non-food needs of individuals. Table 4 shows the steps needed to construct these lines and the files (data and syntax) that are used as well as the outputs. Note that the syntax files must be run in the order listed here.

The final syntax file listed is the one that creates the basic poverty indicators.

Table 4: Constructing Poverty Lines and Indicators

Action	Data files used	Syntax File	Data file Created	Variables created
Assigning caloric value to food items	M11_B1.sav M11_B2.sav	CALORIES.sps	CALORIES.sav	CAL_UNIT
Creating the food poverty line	HHCHAR.sav FOOD_ALL.sav B_PRICE_NATUNITPQ.sav CALORIES.SAV REF_HHLD.sav	POVLINE1.sps	TOTALEXP.sav	TOTALEXP
Creating the general poverty line	CONS_AGGREGATE.sav TOTALEXP.sav	POVLINE2.sps	POVERTY1.sav	EXTPLINE GENPLINE POOR GAP SEVERITY SHORTFAL
Running poverty, Gini and Lorenz curves for both entities and BIH	POVERTY1.sav	POV_INDICATORS.sps	GINI3_RS.sav GINI3_FE.sav GINI3_BH.sav	QUINTILE DECILE GINI