Bosnia and Herzegovina - Living Standards Measurement Survey 2002 (Wave 2 Panel)

State Agency for Statistics (BHAS), Republika Srpska Institute of Statistics (RSIS), Federation of BiH Institute of Statistics (FIS)

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Identification

SURVEY ID NUMBER
BIH_2002_LSMS-W2_v01_ES_M_v01_A_OCS

TITLE
Living Standards Measurement Survey 2002 (Wave 2 Panel)

COUNTRY

Name	Country code
Bosnia and Herzegovina	BIH

STUDY TYPE
Living Standards Measurement Study [hh/lsms]

SERIES INFORMATION
This is the second Living Standards Measurement Survey conducted in Bosnia and Herzegovina. It provides Wave 2 of a panel survey which also includes LSMS surveys 2001, 2003, and 2004.
This Household Survey Panel Series (HSPS - “Living in BiH”) allows annual measurement of change and will permit the aggregation of data for individuals across time to derive estimates of the impact of changes in a manner that cross sectional data cannot allow.

ABSTRACT
In 2001, the World Bank in co-operation with the Republika Srpska Institute for Statistics (RSIS), the Federal Office of Statistics (FOS) and the Agency for Statistics of Bosnia and Herzegovina (BHAS), carried out a Living Standards Measurement Survey (LSMS).

The Living Standard Measurement Survey LSMS, in addition to collecting the information necessary to obtain a comprehensive as possible measure of the basic dimensions of household living standards, has three basic objectives, as follows:
1. To provide the public sector, government, the business community, scientific institutions, international donor organizations and social organizations with information on different indicators of the population's living conditions, as well as on available resources for satisfying basic needs.
2. To provide information for the evaluation of the results of different forms of government policy and programs developed with the aim to improve the population's living standard. The survey will enable the analysis of the relations between and among different aspects of living standards (housing, consumption, education, health, labor) at a given time, as well as within a household.
3. To provide key contributions for development of government's Poverty Reduction Strategy Paper, based on analyzed data.

The Department for International Development, UK (DFID) contributed funding to the LSMS and is also providing funding for a further two years of data collection for a panel survey, to be known as the Household Survey Panel Series (HSPS). Birks Sinclair & Associates Ltd. are responsible for the management of the HSPS with technical advice and support being provided by the Institute for Social and Economic Research (ISER), University of Essex, UK.

The aim of the panel survey is to provide longitudinal data through re-interviewing approximately half the LSMS respondents for two years following the LSMS, in the autumn of 2002 and again in 2003. The LSMS constitutes wave 1 of the panel survey so there will be three years of panel data available for analysis under current funding plans. For the purposes of this document we are using the following convention to describe the different rounds of the panel survey:
Wave 1 LSMS conducted in 2001 forms the baseline survey for the panel
Wave 2 Second interview of 50% of LSMS respondents in Autumn/Winter 2002
Wave 3 Third interview with sub-sample respondents in Autumn/Winter 2003

The panel data will allow the analysis of key transitions and events over this period such as labour market or geographical mobility and observe the consequent outcomes for the well-being of individuals and households in the survey.

The panel data will provide information on income and labour market dynamics within FBiH and RS. A key policy area is developing strategies for the reduction of poverty within FBiH and RS. The panel will provide information on the extent to which continuous poverty is experienced by different types of households and individuals over the three year period. And most importantly, the co-variates associated with moves into and out of poverty and the relative risks of poverty for different people can be assessed. As such, the panel aims to provide data, which will inform the policy debates within FBiH and RS at

a time of social reform and rapid change.

KIND OF DATA
Sample survey data [ssd]

UNIT OF ANALYSIS
Households, Individuals

Scope

NOTES
The household questionnaires includes modules on:
- Housing
- Individual demography and education
- Health
- Labour
- Social protection and finances
- Migration
- Values and opinions

Coverage

GEOGRAPHIC COVERAGE
National coverage.
Domains: Urban/rural/mixed; Federation, Republic

Producers and sponsors

PRIMARY INVESTIGATORS

Name
State Agency for Statistics (BHAS)
Republika Srpska Institute of Statistics (RSIS)
Federation of BiH Institute of Statistics (FIS)

PRODUCERS

Name	Role
The World Bank	Technical assistance

FUNDING AGENCY/SPONSOR

Name	Abbreviation
UK Department for International Development	DFID

Sampling

SAMPLING PROCEDURE
The panel survey sample is made up of over 3,000 households drawn from the Living Standards Measurement Survey (LSMS) conducted by the World Bank in co-operation with the SIs in 2002. Approximately half the households interviewed on the LSMS were selected and carried forward into the panel survey. These households were re-interviewed in 2003 and will be interviewed for a third time in September 2004.

Sampling Frame

The 5,400 households interviewed on LSMS formed the sampling frame for the panel survey. The aim was to achieve interviews with approximately half of these (2,700) at wave 2 (1,500 in FBiH and 1,200 in RS). A response rate of 90% was anticipated (as the sample is based on households that have already co-operated with LSMS) and therefore the selected sample consisted of 3,000 households. Unlike the LSMS, the HSPS does not have a replacement element to the sample, only the original 3,000 issued addresses. This approach was new to the Supervisors and Interviewers and special training was given on how to keep non-response to a minimum.

The LSMS Sample

The LSMS sample design process experienced some difficulties which resulted in a sample with a disproportionately high number of households being selected in urban areas. Work by Peter Lynn from ISER identified the source of this problem by establishing the selection probabilities at each stage of the LSMS sampling process. Essentially, the procedures used for selecting households within municipalities would have been appropriate had municipalities been selected with equal probabilities. But in fact municipalities had been selected with probability proportional to size, and using different overall sampling fractions in each of three strata. The details are documented in a memo by Peter Lynn dated 25-3-2002. Consequently, household selection probabilities varied considerably across municipalities.

Compensating for the LSMS sample imbalance

Having established the selection probability of every LSMS household, it became possible to derive design-based weights that should provide unbiased estimates for LSMS. However, the considerable variability in these weights means that the variance of estimates (and hence standard errors and confidence intervals) is greatly increased. For the HSPS, there was an opportunity to reduce the variability in weights by constructing the subsample in a way that minimised the variability in overall selection probabilities. The overall selection probability for each household would be the product of two probabilities - the probability of being selected for LSMS, and the probability of being selected for HSPS, conditional upon having been selected for LSMS, i.e.
P(HSPS) = P(LSMS) * P(HSPS)/(LSMS)

Ideally, then, we would have set the values of P(HSPS)/(LSMS) to be inversely proportional to P(LSMS). This would have resulted in each HSPS household having the same overall selection probability, P(HSPS), so that there would no longer be an increase in the variance of estimates due to variability in selection probabilities. However, this was not possible due to the very considerable variation in P(LSMS) and the limited flexibility provided by a large overall sampling fraction for HSPS (3,000 out of 5,400).

The best that could be done was to minimise the variability in sampling fractions by retaining all the LSMS households in the (mainly rural or mixed urban/rural) municipalities where LSMS household selection probabilities had been lowest and sub-sampling only in the municipalities where LSMS selection probabilities had been much higher. In 16 of the 25 LSMS municipalities, all households were retained for HSPS. In the other 9 municipalities, households were sub-sampled, with sampling fractions ranging from 83% in Travnik to just 25% in Banja Luka and Tuzla.

To select the required number of households within each municipality, every group of enumeration districts (GND) was retained from LSMS. The sub-sampling took place within the GNDs. Households were sub-sampled using systematic random sampling, with a random start and fixed interval. For example, in Novo Sarajevo, where the sampling fraction was 1 in 2, 6 households were selected out of the 12 LSMS households in each GND by selecting alternate households. In Prijedor, where the fraction was 1 in 3, 4 out of 12 were selected by taking every third LSMS household. And so on.

The total selected sample for the HSPS consists of 3,007 households (1681 in the FBIH and 1326 in the RS).

The overall design weight for the HSPS sample will be the product of the LSMS weight for the household and this extra design weight (which will of course tend to increase the size of the smallest LSMS weights).

Panel design

Eligibility for inclusion

The household and household membership definitions are the same standard definitions as used on the LSMS (see Supervisor Instructions, Annex A). While the sample membership status and eligibility for interview are as follows:
i) All members of households interviewed at wave 1 (LSMS) have been designated as original sample members (OSMs). OSMs include children within households even if they are too young for interview.
ii) Any new members joining a household containing at least one OSM, are eligible for inclusion and are designated as new

sample members (NSMs).
iii) At each wave, all OSMs and NSMs are eligible for inclusion, apart from those who move outof-scope (see discussion below).
iv) All household members aged 15 or over are eligible for interview, including OSMs and NSMs.

Following rules and the definition of 'out-of-scope'

The panel design means that sample members who move from their previous wave address at either wave 2 or 3 must be traced and followed to their new address for interview. The LSMS sample was clustered and over the two waves of the panel some de-clustering will occur as people move. In some cases the whole household will move together but in others an individual member may move away from their previous wave household and form a new split-off household of their own.

Following rules

All sample members, OSMs and NSMs, are followed at each wave and an interview attempted. This means that a four person household at Wave 1 could generate three additional households at wave 2 if three members, either OSMs or NSMs, move away to form separate households. This method has the benefit of maintaining the maximum number of respondents within the panel and being relatively straightforward to implement in the field.

Definition of 'out-of scope'
It is important to maintain movers within the sample to maintain sample sizes and reduce attrition and also for substantive research on patterns of geographical mobility and migration. The rules for determining when a respondent is 'out-of-scope' are as follows:

i. Movers out of the country altogether i.e. outside FBiH and RS
This category of mover is clear. Sample members moving to another country outside FBiH and RS will be out-of-scope for that year of the survey and not eligible for interview.

ii. Movers between entities
Respondents moving between entities are followed for interview. The personal details of the respondent are passed between the statistical institutes and a new interviewer assigned in that entity.

iii. Movers into institutions
Although institutional addresses were not included in the original LSMS sample, wave 2 individuals who have subsequently moved into some institutions are followed. The definitions for which institutions are included are found in the Supervisor Instructions.

iv. Movers into the district of Brcko are followed for interview.

RESPONSE RATE

The quality of panel data relies heavily on gaining high re-interview rates. High levels of attrition, especially differential attrition between sub-groups in the sample, can lead to bias and reduce the quality of the data.
The response rates for wave 2 are shown in Tables 3 and 4 below. The level of cases that were unable to be traced is extremely low as are the whole household refusal or non-contact rates.

At Wave 2, 3007 households were issued for interview, 1681 for the Federation of Bosnia and Herzegovina (FBiH) and 1326 for the Republika Srpska (RS). As the panel survey design allows for new households to be created as individuals from the original households move away to form their own household, 3086 households were identified during fieldwork. Of these, 3050 were potentially eligible for interview. That is 36 households had either moved out of BiH or were deceased.

The response rates at Wave 2 were high. By international standards, the expected response rates at wave 2 of a panel survey would be in the region of 88%, so the BiH panel has performed extremely well compared to other national panels.

In total, 9,708 individuals including children under 15 were enumerated within the sample households. Within the 3,050 interviewed households, 8060 individuals aged 15 or over were eligible for interview with 7527 (93.4%) being successfully interviewed in total, 209 of whom were new entrants to the survey at Wave 2. The household response rate for responding households was therefore high

WEIGHTING

Following data checking weights were produced for the wave 2 panel data. A weight has been derived that should be used for all longitudinal analysis of wave 2 data (i.e. analysis that requires data from both waves 1 and 2). It is called b_weight.

b_weight has been calculated as the product of two components, sel_wt and nrwt (i.e. b_weight = sel_wt x nrwt).

sel_wt is a weight to correct for the variation in selection probabilities. This accounts for BOTH the variation between municipalities in selection probabilities for the LSMS AND the variation between municipalities in the sub-sampling fractions for the panel.
nrwt is a weight to correct for differences between subgroups in response rates at wave 2, conditional upon response to wave 1. The subgroups were identified by fitting a segmentation model to predict response/non-response based on a set of 25 potential predictor variables. 28 subgroups (weighting classes) were identified, with individual-level response rates ranging from 56.9% to 100.0%.

The non-response analysis was based upon the 9325 persons who were not new entrants at wave 2 and were not known to be dead at wave 2. Of these, 8558 were respondents at wave 2 (91.8%). Thus, 8558 persons have a non-zero value of b_weight. For non-respondents and wave 2 new entrants, b_weight takes the value 0.

Further weights to be used for wave 2 cross-sectional analysis (i.e. when you want to include the wave 2 new entrants and only require data from wave 2) are being developed. Note: There are only 205 respondent new entrants at wave 2, so basing cross-sectional analysis on the other wave 2 respondents using b_weight should provide good estimates in the meanwhile.

Data Collection

DATES OF DATA COLLECTION

Start	End
2002-12-15	2003-01-15

DATA COLLECTION MODE
Face-to-face [f2f]

Data Processing

DATA EDITING
CSPro was the chosen data entry software. This was the software used for the LSMS and considerable skill in programming this software had been acquired by some SIG members. The CSPro program consists of two main features to reduce to number of keying errors and to reduce the editing required following data entry:
- Data entry screens that included all skip patterns.
- Range checks for each question (allowing three exceptions for inappropriate, don't know and missing codes).

Unlike the LSMS, where data entry was carried out simultaneously in the field, interviewers delivered their completed questionnaires to the Field Office in Banja Luka or Sarajevo for data entry. Ten computer staff were engaged in each Field Office to enter all questionnaires and Control Forms Two, one day, training events were held on October 3rd and 4th in the Chamber of Commerce in Banja Luka. Training was conducted by Fahrudin Memic, Donald Prohaska, Dario Lozancic and Vladan Sibinovic. A short introduction to the survey was delivered by the FBSTA.

Actual questionnaires returned from the field were entered by the DE operators during training. In this way it was possible to fine-tune the program and identify any problems with data entry personnel.

Data entry was completed by December 2003. A mission from December 8-13 was undertaken by Heather Laurie and Fran Williams (ISER) to identify what level of cleaning was required. A further mission undertaken by Fran Williams from 16-22 March examined what data cleaning had been carried out and what was yet to be completed. Fran Williams has completed substantial cleaning work and a clean version of data was ready by June 2003.

Access policy

CONTACTS

Name	Affiliation	Email	URL
LSMS Data Manager	The World Bank	lsms@worldbank.org	surveys.worldbank.org/lsms

CONFIDENTIALITY

The users shall not take any action with the purpose of identifying any individual entity (i.e. person, household, enterprise, etc.) in the micro dataset(s). If such a disclosure is made inadvertently, no use will be made of the information, and it will be reported immediately to FAO

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- The micro dataset will only be used for statistical and/or research purposes;
- Any results derived from the micro dataset will be used solely for reporting aggregated information, and not for any specific individual entities or data subjects;
- The users shall not take any action with the purpose of identifying any individual entity (i.e. person, household, enterprise, etc.) in the micro dataset(s). If such a disclosure is made inadvertently, no use will be made of the information, and it will be reported immediately to FAO;
- The micro dataset cannot be re-disseminated by users or shared with anyone other than the individuals that are granted access to the micro dataset by FAO.

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DISCLAIMER

The user of the data acknowledges that the original collector of the data, the authorized distributor of the data, and the relevant funding agency bear no responsibility for use of the data or for interpretations or inferences based upon such uses

Metadata production

DDI DOCUMENT ID

DDI_BIH_2002_LSMS-W2_v01_ES_M_v01_A_OCS

PRODUCERS

Name	Abbreviation	Affiliation	Role
World Bank			Metadata producer
Office of Chief Statistician	OCS	Food and Agriculture Organization	Metadata adapted for FAM

DDI DOCUMENT VERSION

BIH_2002_LSMS-W2_v01_ES_M_v01_A_OCS_v01

Data Description

Data file	Cases	Variables
bbhcfhh Wave 2 - Control form. Address information.	3086	16
bbhcfind Wave 2 - Control form. Individual information. Reasons for joining household. Household relationships. Includes weights.	9884	47
BBHHHPOS Wave 2 - Household possessions (b2_49 to b2_52)	1546	7
BBHIHH Wave 2 - Household questionnaire (module 2).	3086	123
bbhiind Wave 2 - Individual questionnaire (modules 3, 4, 5, 7, 8, 9, 10). Includes weights.	7530	255
bbhjhist Wave 2 - Individual job history – by spell (module 6).	520	10
sub_AAglab Cross-sectional data (W1 LSMS) - Agricultural activities (not in Wave 2). Part of module 13 – a13_c4 – hiring of labour, by work code.	1503	16
sub_aagmach Cross-sectional data (W1 LSMS) - Agricultural activities (not in Wave 2). Part of module 13 – a13_c5 – hiring of machinery, by type of work code.	6240	16
sub_aanfeed Cross-sectional data (W1 LSMS) - Animal feed - a13_d2 – by feed code.	7210	20
sub_aanfp Cross-sectional data (W1 LSMS) - Gift item, use, value – a11c2 (not in Wave 2). By gift code.	141984	14
sub_abhcfhh Wave 1 - Panel data - Control form – household level (renamed version of ACFHHOLD)	2999	28
sub_abhcfind Wave 1 - Panel data - Control form – individual level (renamed version of ACFIND), includes weights.	9464	33
sub_abhhhpos Wave 1 - Panel data - Household possessions (part of module 2), a2c_45 to a2c_48 (renamed version of AHHPOS)	23477	14
sub_abhihh Wave 1 - Panel data - Household questionnaire (renamed version of AIHHOLD)	3003	180
sub_abhiind Wave 1 - Panel data - Individual questionnaire (taken from AALLIND and AADIND), includes weights.	9554	285
sub_acrops Cross-sectional data (W1 LSMS) - Agricultural activities (not in Wave 2). Part of module 13: a13_b2 and a13_c1, by crop code.	66816	40
sub_afarmcap Cross-sectional data (W1 LSMS) - Agricultural activities (not in Wave 2). Part of module 13: a13_e. Farm capital assets.	6864	22
sub_afertuse Cross-sectional data (W1 LSMS) - Agricultural activities (not in Wave 2). Part of module 13: a13_c2. Fertiliser use.	8256	18
sub_afoodc1 Cross-sectional data (W1 LSMS) - Food consumption (not in Wave 2), a11b1, by food code.	130240	17
sub_afoodc2 Cross-sectional data (W1 LSMS) - Food consumption (not in Wave 2), a11b2, by food code.	65109	19

sub_aforuse Cross-sectional data (W1 LSMS) - Agricultural activities (not in Wave 2). Part of module 13: a13_b1.	403	16
sub_afueluse Cross-sectional data (W1 LSMS) - Agricultural activities (not in Wave 2). Part of module 13: a13_c3. By fuel code.	912	18
sub_ahhbus Cross-sectional data (W1 LSMS) - Non-agricultural business or activities (not in Wave 2). Module 12.	229	60
sub_alandown Cross-sectional data (W1 LSMS) - Agricultural activities (not in Wave 2): a13_2, renting out plots, by plot.	838	20
sub_alanduse Cross-sectional data (W1 LSMS) - Agricultural activities (not in Wave 2): a13_1, cultivating plots, by plot.	2753	22
sub_alstock Cross-sectional data (W1 LSMS) - Agricultural activities (not in Wave 2): a13_d, livestock, by animal code.	15440	31