

Components of the Income Aggregate: “Integrated Household Survey, Bulgaria 2001”

Prepared for the Rural Income Generating Activities (RIGA) Project¹

of the Agricultural Development Economics Division,

Food and Agriculture Organization

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This document provides the survey-specific details associated with the income aggregate construction. For more information about the RIGA project, please refer to <http://www.fao.org/es/esa/riga>. For additional detail regarding the overall RIGA income aggregate construction approach, please refer to Carletto, et al (2007), “Rural Income Generating Activities Study: Methodological note on the construction of income aggregates,” found on the RIGA website.

The Bulgaria Integrated Household Survey (BIHS) survey was conducted in April and May 2001 using a stratified two-stage cluster design. The sample used the pre-census listing of the 2001 Population Census as frame and is nationally representative.

Five households were selected in each of 500 randomly selected census clusters, and a total of 2,500 households were interviewed. In addition, 133 Roma households were over sampled to allow more significant statistical comparisons of the group in some of the analyses.² In total, 2633 households were interviewed with an average household size being 2.9 persons.³

There are 877 rural households and 1756 urban households in the dataset. In the original datasets, LOC_TYPE is the variable distinguishing urban from rural households. A settlement with a population over 3000 inhabitants is usually regarded as urban⁴. Rural is not specifically defined but, by definition, it applies to all areas not encompassed by the definition of urban. In the calculation of the income aggregate, LOC_TYPE is renamed to URBAN in order to use the same variable name across different surveys.

All money amounts are in New Lev (BGN). In July 1999, the Lev was redenominated so that 1000 Lev (BGL) now equal to 1 BGN. In 2001, the official exchange rate was 2.18 BGN = 1.0

¹ The RIGA Project is a collaboration between FAO, the World Bank and American University in Washington, D.C. Original data can be obtained from the World Bank’s Living Standards Measurement Study by visiting the LSMS website at: <http://www.worldbank.org/lsm>.

² Basic Info Bulgaria – Data and Methodology

³ Source: Bulgaria Poverty Assessment, October 29, 2002

⁴ Source: source of the definition is an e-mail from Bulgaria’s National Statistical Institute

USD.⁵ **The income aggregates are calculated at the household level and all aggregates are annualized.**

The various household-level modules of the BIHS survey can be linked using variable HHNUMBER that creates the unique household identifier. This variable is renamed to HH in the final aggregate file in order to ensure consistency across countries within the study.

Regarding income from different sources, revenues and costs were disaggregated when such information was available. The disaggregated sources for each income component are summarized in output variables column of Table 1. The net variables and the data files included in the final total income aggregate (Income.dta) are in **bold**. **All variables included in the aggregate income variable are net of costs, unless otherwise noted.**

Comments

- The income aggregate was constructed for the full sample of households, but in order to generate representative figures, the 133 oversampled households must be excluded.
- In the modified dataset keys entered “refuse to answer” and “don’t know” were coded -1 and -2 respectively. These have been recoded to “missing” (= .)
- In all sections, the raw data undergoes a transformation (it is annualized, aggregated, taken from person – household level, etc) before a check for outliers takes place.
- In the Crop Production section, the reference period is the last season (April 2000-March 2001). Two total crop income variables are created. Two total crop income variables are created: *cropincome1* and *cropincome2*. *Cropincome1* includes estimates of own crop consumption based on the agricultural production module of the household questionnaire. *Cropincome2* includes estimates of own crop consumption based on the Food Booklet completed by each household surveyed.
- In the Transfers section, the reference period is the duration of receiving transfers. If the duration of receiving transfers is not specified in the questionnaire, the duration is estimated by calculating the difference between the starting month and ending month of receiving these transfers
- For Transfer income, two estimates are calculated: gross and net. The household income aggregate, however, considers the gross value rather than net.
- Rentagric calculates gross income from the rental of agricultural land..
- For the Livestock, Other Income, Rentagric , the reference period is the previous 12 months
- The classification of wage employment activities into industries and skilled/unskilled categories follow the United Nations International Standard Industrial Classification (ISIC) and the International Standard Classification of Occupations (ISCO 88) codes. Given the survey classification of each employed household member by industry, the employment sectors include: Agriculture and fishing, Manufacturing, Commerce, Finance insurance and real state, Services and Unknown. The survey did not include “Mining”, “Construction”, “Electricity and utilities” and “Transport, storage and communication” as categories in its classification system.
- Earnings from wage employment are net and include all in-cash and in-kind benefits in cash received from the employer. The reference period is the duration the wage was received. If

⁵ Exchange rate used is the period average official exchange rate from the World Development Indicators.

the duration of receiving wages is not specified in the questionnaire, the duration is assumed to be 12 months.

- The Self Employment section accounted for income from non-farm enterprises owned by the household. The reference period was the last 12 months.
- Net annual income from nonfarm enterprises is disaggregated by industry (corresponding with the ISIC Codes) to convey information about the diversity of household activities.
- For all sections, whenever information was available regarding the share of a business, enterprise, or any other income activity owned by the household, the income earned from that activity was weighted by the share owned by the household.
- Only present household members who are not heads are kept in the final income aggregate. Present is defined as a having been absent from the households for 6 or fewer months in the previous 12 months for non-head household members. Household heads are included regardless of their location status because in their position they can still serve as primary income sources. Thus, drop if `ABS_MTHS >6 & RELASHIONSHIP=1`.
- Participation and income share variables are also included in the final income aggregate.
- A final outlier check is imposed at the end of the `Aggregateincome.do` file in which households with income shares from any given activity greater than or less than 3 (300%) are dropped from the final income aggregate. Using this criteria, 7 households are dropped from this survey.

The programs that calculate each household's income aggregate component are summarized in Table 1. Tables 2 and 3 summarize the results from the created income aggregate.

Table 1

| do file | input dta files | output dta files | output variables |
|----------------------------------|---|---|---|
| Sample.do | householdinformation.dta | Sample.dta | |
| prices.do | R5_1.DTA r6_6_1.dta r6_8.dta Sample.dta | prices.dta | pricedata1 pricedata2 pricedata3 pricedata4 pricedata5 pricedata6 pricedata7 pricedata8 pricedata9 pricedata10 pricedata11 pricedata12 pricedata13 pricedata14 pricedata15 pricedata16 pricedata17 pricedata18 pricedata19 pricedata20 |
| Food.do | R5_1.DTA | Food.dta | foodcons(imp) foodpurch(imp) foodfree(imp) cropown(imp) livstown(imp) |
| Cropincome1.do Cropincome2.do | R6_6_2.dta r6_6_1.dta food.dta othercrop.dta Sample.dta | cropexp.dta cropinc.dta Cropincome.dta | cropexp(imp) cropsold(imp) cropinput(imp) cropown1(imp) cropincome1 cropincome2 |
| Employment1.do Employment2.do | R6_2.dta R6_3.dta Sample.dta | employ1.dta employ2.dta Employment.dta | wge (by industry, skilled) wgem wgeimp |
| Livestock1.do Livestock2.do | R6_9.dta R6_8.dta R6_8.dta | livstexp.dta livstinc.dta livstbyprdinc.dta | livstinpt(imp) livstsold(imp) livstbypr(imp) |

| | Food.dta Sample.dta | Livestock.dta | livstinc(imp) |
|---------------|--|--|---|
| Otherinc1.do | r6_9.dta | othercrop.dta | farmlaborexp(imp) farmsrvexp(imp) farmotherinc(imp) otherinc(imp) |
| Otherinc2.do | r8_10.dta Sample.dta | Otherinc.dta | |
| Rentagric.do | r9_2.dta Sample.dta | Rentinc.dta Rentagric.dta | nonfarmrntinc(imp) farmrntinc(imp) farmrnt(imp) |
| Selfemp.do | R6_4_1.DTA R6_4_2.DTA Sample.dta | Selfemp.dta | hhexp(imp) hhinc(imp) selfempinc(imp) |
| Transfers1.do | R0.dta R8_5.dta R8_6.dta | unempbenef.dta materbenef.dta | pension512 (imp) childallow512(imp) stipend612(imp) childallow612(imp) soccast612(imp) |
| Transfers2.do | R0.dta R8_7.dta R8_8.dta | inkindbenef.dta allowbenef.dta | trasnp712(imp) inkind712(imp) allow812(imp) |
| Transfers3.do | R8_9.dta R0.dta unempbenef.dta materbenef.dta inkindbenef.dta allowbenef.dta | housbenef.dta Transfsocial.dta | housebf912(imp) socialtransfers(imp) |
| Transfers4.do | R8_1.dta R8_2.dta | pensionsstate.dta pensionsprivate.dta | pensions112(imp) childallow112(imp) pensions212(imp) |
| Transfers5.do | R8_3.dta R8_4.dta pensionprivate.dta pensionsurvivor.dta pensionsdisability.dta pensionsstate.dta | pensionssurvivor.dta pensionsdisability.dta transfpensions.dta | pensions312(imp) childallow312(imp) pensions412(imp) childallow412(imp) pensionstransfers(imp) |
| Transfers6.do | R7_1.dta | transprivinc.dta | d_cash12(imp) ikprivtransinc(imp) |

| | | | |
|--------------------|--|--|--|
| | R7_2.dta | transprivexp.dta | d_sent12(imp) ikprivtransexp(imp) transprivimp |
| Transfers7.do | transprivexp.dta transprivinc.dta Sample.dta transfpensions.dta transfpriv.dta transfsocial.dta | transfpriv.dta Transfers.dta | privtrans pubtrans(imp) transfersgross(imp) transferstot(imp) |
| Aggregateincome.do | Cropincome.dta Employment.dta Livestock.dta Otherinc.dta Rentagric.dta Selfemp.dta Transfers.dta | Income.dta | agr_wge nonagr_wge crop1 crop2 livestock other selfemp transfer totincome1 totincome2 |

Table 2

| Bulgaria 2001 | | 877 Rural HH Observations | | Rural, Leva | | | | Rural, USD | |
|----------------------|------------------------------|----------------------------------|---------------------------|--|--|--|--|--|--|
| <i>Variable</i> | | <i># Participants</i> | <i>Participation Rate</i> | <i>Returns to Participation- Participant HHs</i> | <i>Returns to Participation- All HHs</i> | <i>Share of Total Income- All HHs (Mean of Shares)</i> | <i>Share of Total Income- All HHs (Share of Means)</i> | <i>Returns to Participation- Participant HHs</i> | <i>Returns to Participation- All HHs</i> |
| agr_wge | Wage Employment- Agriculture | 74 | 8.44% | 2,030 | 171 | 4.49% | 4.46% | 931 | 79 |
| nonagr_wge | Wage Employment- Nonfarm | 232 | 26.45% | 2,699 | 714 | 15.41% | 18.61% | 1,238 | 328 |
| crop1 | Crop Production | 548 | 62.49% | 2,390 | 1,494 | 19.47% | 38.93% | 1,096 | 685 |
| livestock | Livestock Production | 562 | 64.08% | 497 | 318 | 3.10% | 8.30% | 228 | 146 |
| selfemp | Non-ag Self Employment | 21 | 2.39% | 307 | 7 | 1.53% | 0.19% | 141 | 3 |
| transfer | Total Transfers | 783 | 89.28% | 1,239 | 1,106 | 54.84% | 28.84% | 568 | 507 |
| other | Other Income Sources | 110 | 12.54% | 202 | 25 | 1.16% | 0.66% | 93 | 12 |
| totincome1 | Total Household Income | 863 | 98.40% | 3,899 | 3,836 | 100.00% | 100.00% | 1,788 | 1,760 |
| Percent Rural | | 33.45% | | | | | | | |
| Leva/USD | | 2.18 | | | | | | | |
| July 26, 2002 | | 2.18 | | | | | | | |

Notes:

1. Source data: 2001 Bulgaria Integrated Household Survey (BIHS).
2. Exchange rate used is the period average official exchange rate from the World Development Indicators.
3. Bulgaria's IHS is a nationally representative survey, therefore weights were not applied in the computation of these summary statistics.
4. The variable "crop1" is distinguished from "crop2" in the way home consumption of own production of crops (owncons) is calculated. In crop1, owncons is calculated from the question in the agricultural production section of the household questionnaire that asks about household consumption of agricultural production. For crop2, owncons is calculated from the food expenditure section of the household questionnaire. Total household income "totincome1" and "totincome2" are therefore calculated with the corresponding crop income variable.
5. All values reported are annual and net of costs (with the exception of income from transfers and land rent, which are gross receipts).

Table 3

| <i>Bulgaria 2001</i> | | 877 Rural HH Observations | | Rural, Leva | | | | Rural, USD | |
|----------------------|------------------------------|---------------------------|---------------------------|--|--|--|--|--|--|
| <i>Variable</i> | | <i># Participants</i> | <i>Participation Rate</i> | <i>Returns to Participation- Participant HHs</i> | <i>Returns to Participation- All HHs</i> | <i>Share of Total Income- All HHs (Mean of Shares)</i> | <i>Share of Total Income- All HHs (Share of Means)</i> | <i>Returns to Participation- Participant HHs</i> | <i>Returns to Participation- All HHs</i> |
| agr_wge | Wage Employment- Agriculture | 74 | 8.44% | 2,030 | 171 | 4.61% | 6.94% | 931 | 79 |
| nonagr_wge | Wage Employment- Nonfarm | 232 | 26.45% | 2,699 | 714 | 16.51% | 28.94% | 1,238 | 328 |
| crop2 | Crop Production | 599 | 68.30% | 183 | 125 | 3.90% | 5.05% | 84 | 57 |
| livestock | Livestock Production | 562 | 64.08% | 497 | 318 | 11.97% | 12.91% | 228 | 146 |
| selfemp | Non-ag Self Employment | 21 | 2.39% | 307 | 7 | 1.31% | 0.30% | 141 | 3 |
| transfer | Total Transfers | 783 | 89.28% | 1,239 | 1,106 | 60.46% | 44.84% | 568 | 507 |
| other | Other Income Sources | 110 | 12.54% | 202 | 25 | 1.24% | 1.03% | 93 | 12 |
| totincome2 | Total Household Income | 864 | 98.52% | 2,505 | 2,467 | 100.00% | 100.00% | 1,149 | 1,132 |
| Percent Rural | | 33.45% | | | | | | | |
| Leva/USD | | 2.18 | | | | | | | |
| July 26, 2002 | | | | | | | | | |

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