Components of the Income Aggregate:

"Living Standards Measurement Study, Albania 2002"

Prepared for the Rural Income Generating Activities (RIGA) Project[1]

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 Albania Living Standards Measurement Study survey was carried out in a period of five months in 2002. The household survey was conducted from April 2002 until early July 2002 and the community and price surveys until August/September of 2002.

The sample for this LSMS was drawn using a two-stage stratified sampling procedure using the 2001 General Census of Population and Housing. in which cities and villages in Albania were divided into Enumeration Areas (EAs); for the LSMS, only EAs with 50 – 120 occupied dwellings were included in the sampling frame. This sampling frame was divided into four regional strata and then again into (1) major cities; (2) other urban and (3) other rural.

3,600 households from 450 Primary Sampling Units (PSUs)[2] were selected for the final sample. The sampling unit is one occupied dwelling or housing unit (HU). To account for attrition within a PSU, four additional HUs were selected as reserve units; if more than four of the selected HUs could not be located for the survey, additional households were randomly selected.

The total sample was 3,599 households[3] and although certain PSUs are representative (e.g. Tirana), the overall sample is not self-weighting. The average household size in Albania is 4.2

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[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/lsms.

[2] This indicates eight households per PSU. It should be noted that this refers to a household, not a housing unit, since in Albania, more than one household can be found in a housing unit.

[3] One household was lost and its survey information was unrecoverable.

persons.[4] All money amounts are in New Lek (ALL). In 2002, the official exchange rate was 140 ALL = 1.0 USD.[5] **The income aggregates are calculated at the household level and all aggregates are annualized.**

There are 1,640 rural households and 1,959 urban households in the dataset. In the original datasets, URBRUR is the variable distinguishing urban from rural households. In the do-files, URBRUR is renamed to URBAN in order to use the same variable name across different surveys. Rural and urban areas are contained in each strata.[6] The exception is for Tirana, the fourth strata and major urban district which is organized into "urban" and "other urban."[7]

The various household-level modules of the LSMS survey can be linked using the unique household identifier, HHID (created using the PSU and HH variables). To merge the community and price questionnaire modules with the household questionnaire, the variable QUEST_NUM should be used.

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 are in **bold**. **All variables included in the aggregate income variable are net of costs, unless otherwise noted.**

Comments

- 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 previous 12 months, which contains the previous crop season. Two total crop income variables are created: c*ropincome1* and c*ropincome2*. *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 two-week Food Booklet completed by each household surveyed.
- For the Livestock, Other Income, Rentagric and Transfers sections, the reference period is the previous 12 months.
- Other Income includes income from nonfarm rental assets.
- Two estimates of Transfer income 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.

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[4] Estimate based on preliminary results of the 2001 General Census of Population and Housing. Preliminary Results available from the Albanian Institute of Statistics at: http://www.instat.gov.al/repoba/zyra_shtypit/prel_eng.htm

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

[6] The specific definition of rural is not documented within the Albania 2001 LSMS but it can be inferred to be either: (1) areas with fewer than 400 inhabitants (based on the UN Demographic Yearbook's definition of urban which is towns and other industrial centers of more than 400 inhabitants); or (2) all communes in Albania given that "the Republic of Albania is divided geographically into 12 Prefectures (Prefekturat). The latter are divided into Districts (Rrethet) which are, in turn, divided into Cities (Qyteti) and Commune (Komunat). **The Communes contain all the rural villages and the very small cities**" (Source: Basic Info document 2001).

[7] Albania 2002 LSMS Basic Information Document.

- In the Wage employment section, the reference period is the duration of employment as specified in the questionnaire for the primary and secondary full-time and part-time jobs held in the last 7 days and, if not in the last 7 days, in the last 12 months.
- The industry codes used for classifying wage employment follow the Statistical Classification of Economic Activities in the European Community, Rev. 1.1 (NACE) codes (which closely follow the United Nations International Standard Industrial Classification-ISIC). Given the survey classification of each employed household member by industry, the employment sectors include: (1) Agriculture and Fishing, (2) Mining, (3) Manufacturing, (4) Electricity and Utilities, (5) Construction, (6) Commerce, (7) Transportation, Storage and Communications, (8) Finance, Insurance and Real Estate and (9) Services.
- The division of employment into skilled and unskilled categories followed the International Standard Classification of Occupations (ISCO) 88 codes.
- Earnings from wage employment are net and include all in-cash and in-kind benefits received from the employer.
- The Self Employment (Selfemp) section accounted for income from nonfarm enterprises owned by the household. The reference period was the last 12 months. In Albania, the reporting of expenditures related to these home-owned nonfarm businesses was found to be overstated in the category of expenditures classified as "raw materials" (*mdb_q01* == 2) such that the standard check for outliers used did not capture the high level of expenditures in this exclusive category. The average reported expenditure for 'raw materials' was, on average, 933.66% greater than the expenditure reported in the other categories. This led the assumption to be drawn that households systematically were reporting *durable* rather than regular household expenditures. Since it was impossible to separate regular expenditures on raw materials from those that should be classified as durables purchases, a separate approach to checking for outliers in the nonfarm enterprise component of the income aggregate was taken. In this case, the outlier check was revised as follows:
    1. The check for outliers is calculated *after* obtaining net monthly income (revenues minus expenditures) for each nonfarm business, but preserving the information on costs and revenues. This estimate is herein referred to as "A".
    2. Expenditures are then aggregated by expenditure category (creating the variables *cost_cat##*);
    3. Two cost distributions are then created: the first (B) replaces all reported expenditures above the median expenditure for each cost category with the median while the second distribution (C) replaces all reported expenditures below the median with the median for that cost category;
    4. Net monthly income is recalculated using each distribution, creating two additional estimates of income for each household enterprise;
    5. The original estimate of net income (A) is then checked for outliers, with the definition of outlier being any value less than zero or greater than 0.5 standard deviations from the median. If A is less than zero, then A is replaced with estimate B. If A is greater than 0.5 standard deviations from the median, then A is replaced with estimate C.
    6. The three estimates of net income are annualized and estimate A is checked for outliers again, at the regional level, and using the standard criteria for identifying outliers (greater than or less than three standard deviations from the median).

7. The data is checked once more for outliers across the whole sample. In this check, outliers are defined as values greater than or less than two standard deviations from the median.

- Net annual income from nonfarm enterprises is disaggregated by industry (following the NACE Codes) to convey 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 M1_Q11 >6 & M1_Q03~=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, 24 households are dropped from this survey.

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

Table 1

do file name	Input Data Files	Output Data Files	Key Output Variables	Notes
Sample.do	Psupind.dta Wieghts.data	Sample.dta		
prices.do	bnonpurchased_cl.dta agr_c_cl.dta price_list.dta Sample.dta	prices.dta	pricedata1 pricedata2 pricedata3 pricedata4 pricedata5 pricedata6 pricedata7 pricedata8 pricedata9 pricedata10 pricedata11 pricedata12 pricedata13 pricedata14 pricedata15 pricedata16 pricedata17 pricedata18	Creates a set of prices for calculating consumption of home-produced crops.
Foodown_free.do	bnonpurchased_cl.dta prices.dta SAMPLE.DTA	foodown_free.dta foodown_crop.dta foodown_livstck.dta	foodnonpurchimp foodownconsimp	Calculates the household expenditure on non-purchased and home-produced food.
CropIncome.do	agr_c_cl_2.dta agr_a2_cl.dta agr_a3_cl.dta Foodown_crop.dta agr_d_cl_2.dta SAMPLE.DTA	cropinc.dta cropexp.dta **Cropincome.dta**	cropinc1imp cropinc2imp cropexpimp **cropincome1imp** **cropincome2imp**	Calculates net income from agricultural production of crops.
Employment1.do	labor_b_cl.DTA labor_c_cl.DTA labor_d_cl.DTA SAMPLE.DTA	employmainjob.dta employsecnjob.dta employsecnjobyr.dta employmainjobyr.dta Employment.dta	amount12imp amount212imp amount312imp amount412imp amount512imp amount612imp amount712imp wgeimp	
Employment2.do	Employment.dta	**Employment.dta**	**wgeimp1_1**	Calculates net

			wgeimp2_1 wgeimp3_1 wgeimp4_1 wgeimp5_1 wgeimp6_1 wgeimp7_1 wgeimp8_1 wgeimp9_1 wgeimp10_1 wgeimp1_2 wgeimp2_2 wgeimp3_2 wgeimp4_2 wgeimp5_2 wgeimp6_2 wgeimp7_2 wgeimp8_2 wgeimp9_2 wgeimp10_2 wgeimp1_3 wgeimp2_3 wgeimp3_3 wgeimp4_3 wgeimp5_3 wgeimp6_3 wgeimp7_3 wgeimp8_3 wgeimp9_3 wgeimp10_3	household income from wage employment by industry and skilled/unskilled classification.
Livestock.do	agr_e_cl.DTA agr_f_cl.dta foodown_livstck.dta SAMPLE.DTA	livestocksold.dta livestbypr.dta **Livestock.dta**	Livstinptimp Livstsoldimp Lbysoldimp **livstincimp**	Calculates net income from livestock sales and livestock byproduct sales.
Otherincome.do	income.dta SAMPLE.DTA	**Otherincome.dta**	**nonfarmrntimp**	Calculates net income from non-labor, nonfarm sources.
Rentagric.do	agr_a3_cl.DTA SAMPLE.DTA	Rentagric.DTA	**farmrntimp**	Calculates gross income from rental of agricultural plots.
Selfemp1.do	nonag_a_cl.dta nonag_b_cl_2.dta	Selfemplinc_hh.dta	gross_mo_earnimp	

	nonag_c_cl_2.dta SAMPLE.DTA			
Selfemp2.do	nonag_a_cl.dta nonag_b_cl_2.dta nonag_c_cl_2.dta nonag_d_cl_2.dta selfemplinc_hh.dta SAMPLE.DTA	**Selfemp.dta**	**selfimp1** **selfimp2** **Selfimp3** **Selfimp4** **Selfimp5** **Selfimp6** **Selfimp7** **Selfimp8** **Selfimp9** **Selfimp10**	Calculates net income from non-agricultural household enterprises, at the enterprise and household level.
Transfers.do	transfer_a.dta transfer_b.dta transfer_c_cl.dta SAMPLE.DTA	transfprivinc.dta transprivexp.dta pubtrans.dta **Transfers.dta**	Transfprivincimp Transfprivexpimp Socialtransimp Pensionsimp **transferstotimp** **transfersgrossimp**	Calculates gross and net income from public and private transfers.
Aggregateincome	Cropincome.dta Employment.dta Livestock.dta Otherincome.dta Selfemp.dta Transfers.dta Sample.dta	Income.dta	agr_wge nonagr_wge crop1 crop2 livestock other selfemp transfer totincome1 totincome2	Participation and Income Share variables are also included in the final income aggregate.

Table 2

Albania 2002	1,629 Rural HH Observations	Rural, Weighted, Leks						Rural, Weighted, USD	
Variable		# Participants	Participation Rate	Returns to Participation- Participant HHs	Returns to Participation- All HHs	Share of Total Income- All HHs (Mean of Shares)	Share of Total Income- All HHs (Share of Means)	Returns to Participation- Participant HHs	Returns to Participation- All HHs
agr_wge	Wage Employment- Agriculture	76	4.70%	142,168	6,675	2.36%	3.01%	1,014	48
nonagr_wge	Wage Employment- Nonfarm	439	27.84%	174,408	48,550	16.72%	21.91%	1,244	346
crop1	Crop Production	1315	79.56%	23,722	18,873	15.49%	8.52%	169	135
livestock	Livestock Production	1420	85.69%	83,055	71,167	27.36%	32.12%	593	508
selfemp	Non-Ag Self Employment	127	9.50%	114,013	10,837	5.00%	4.89%	814	77
transfer	Total Transfers	1138	67.85%	94,197	63,912	32.71%	28.85%	672	456
other	Other Income Sources	54	3.61%	42,806	1,544	0.37%	0.70%	305	11
totincome1	Total Household Income	1628	99.81%	221,982	221,559	100.00%	100.00%	1,584	1,581

Percent Rural (Weighted)	54.30%
New Lek/USD (April 30, 2002)	140

Notes:

1. Source data: 2002 Living Standards Measurement Survey.

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

3. The variable "crop1" is distinguished from "crop2" in the way home consumption of own production of crops (owncons) is calculated. In crop1, owncons = crop harvested minus crop sold. For crop2, owncons is based on the consumption reported in the 14 day Food Booklet. Total household income "totincome1" and "totincome2" are therefore calculated with the corresponding crop income variable.

4. 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

Albania 2002	1,629 Rural HH Observations			Rural, Weighted, Leks				Rural, Weighted, USD	
Variable		# Participants	Participation Rate	Returns to Participation- Participant HHs	Returns to Participation- All HHs	Share of Total Income- All HHs (Mean of Shares)	Share of Total Income- All HHs (Share of Means)	Returns to Participation- Participant HHs	Returns to Participation- All HHs
agr_wge	Wage Employment- Agriculture	76	4.70%	142,168	6,675	2.21%	2.69%	1,014	48
nonagr_wge	Wage Employment- Nonfarm	439	27.84%	174,408	48,550	15.41%	19.54%	1,244	346
crop2	Crop Production	1315	91.76%	49,933	45,819	15.15%	18.44%	356	327
livestock	Livestock Production	1420	85.69%	83,055	71,167	33.84%	28.64%	593	508
selfemp	Non-Ag Self Employment	127	9.50%	114,013	10,837	5.06%	4.36%	814	77
transfer	Total Transfers	1138	67.85%	94,197	63,912	28.02%	25.72%	672	456
other	Other Income Sources	54	3.61%	42,806	1,544	0.31%	0.62%	305	11
totincome2	Total Household Income	1628	99.91%	248,717	248,504	100.00%	100.00%	1,775	1,773

Percent Rural (Weighted)	54.42%
New Lek/USD (April 30, 2002)	140

Notes:

1. Source data: 2002 Living Standards Measurement Survey.

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

3. The variable "crop1" is distinguished from "crop2" in the way home consumption of own production of crops (owncons) is calculated. In crop1, owncons = crop harvested minus crop sold. For crop2, owncons is based on the consumption reported in the 14 day Food Booklet. Total household income "totincome1" and "totincome2" are therefore calculated with the corresponding crop income variable.

4. All values reported are annual and net of costs (with the exception of income from transfers and land rent, which are gross receipts).