How to Construct the Consumption Aggregate, Poverty Lines and Poverty Estimates with the 2016 Suriname Survey of Living Conditions

By Carlos E. Sobrado

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1. INTRODUCTION

This document includes a detailed description of the first two Reports/Deliverables from the IDB contract ID 00123458, # 0002 assigned to the consultant Carlos Eduardo Sobrado (vendor ID: 0020018085)

As per the terms of reference included in Annex A of the contract, these Reports/Deliverables are:

i. **Programs:** "Econometric scrips used to calculate the consumption aggregate, poverty and extreme poverty lines departing from the source raw datasets provided by IADB. Preference is for STATA programming language (do-files) but SPSS full programs are also acceptable."

ii. **New Data Files:** "Updated databases containing the consumption aggregates, poverty and extreme poverty lines (in both STATA and SPSS formats)."

2. PROGRAMS

INPUT DATA FILES

Raw files

The last version of the raw data files included the following eleven STATA files:

RT001_Public.dta
RT002_Public.dta
RT003_Public.dta
RT121_Public.dta
RT122_Public.dta
RT123_Public.dta
RT124_Public.dta
RT125_Public.dta
RT126_Public.dta
RT140_Public.dta
RT141_Public.dta

A data file with the interview dates for each household in the survey: RT001b_Public.dta was also included. From this file, the date for the last interview for each household was selected as the main interview date.

New names for the raw data files

The raw files were renamed to facilitate their use. The new data file names start with the questionnaire number of the first module included in the file, in some cases followed by a letter or several letters indicating other section(s); when more than one module is utilized, an underscore followed by the subsequent module number(s) and/or letter(s) are used. Each file name also includes a brief description of the contents. The names are:

00_12a_13_16_singles_Housing.sav [1]
01_to_11_Persons.sav
12b_Crops.sav
12c_Animals.sav
12d_Byproducts.sav
12e_Fish.sav
12f_Inputs.sav
12g_Assets.sav
14a_Food.sav
14bcd_NonFood.sav
15_Emigration.sav

The 12th data file with the interview dates was named: "Interview last date.sav".

Caloric content data file

A data file was created with a list of all the food products used to generate the extreme poverty line. For each food product, the file includes the kilocalories for 100 grams, the edible portion, kilograms per liters equivalency factor (for liquids), kilocalories in 100 gr./milliliter, and kilocalories in one Kilogram/liter. The file's name is: "kcal.sav".

Inflation data file

A second data file was created with the Surinam CPI monthly inflation from August 2016 to November 2019. The file also includes CPI food and non-food inflation data. For each inflation-series, an index was created using June 2017 as the base, i.e. the value in June 2017 = 1. The file's name is: "kcal.sav".

[1] The word "singles" refers to single questions or filters (one per household) at the start of several modules.

SINTAX FILES

There are 10 SPSS syntax files with the commands to create the consumption aggregate, poverty lines and poverty classifications (equivalent to the STATA "DO" files). Each file name starts with a number from 00 to 09, followed by a space and the name of the module being worked, or the process being performed or calculated.

The first syntax file creates a heading to be added to all the raw data files and saves the new files in a different directory with the new name (see list above). The first file also cleans the age and gender variables and select the last interview date for each household. The syntax file names are:

00 File names and heading.sps
01 Education.sps
02 Social programs.sps
03 Health.sps
04 Personal expenses.sps
05 Food.sps
06 House use value.sps
07 Non food expenses.sps
08 Aggregate.sps
09 Poverty lines.sps

DIRECTORIES[2]

Directories to put files

There are only two directories used by the syntax files, "C:\1 Suriname\Data\SPSS" and "C:\1 Suriname\Analysis".

"C:\1 Suriname\Data\SPSS**"** is used to place the raw data files. The STATA files were transformed to SPSS with Stat-transfer and saved in this directory. Only the first syntax file uses this directory.

"C:\1 Suriname\Analysis**"** is for all other uses. The rest of the work is performed from, or saved in this directory, including all the original 11 data files, the new heading file, the last interview date files, the heading data file, the CPI data and the calories file (15 data files), all 10 syntax files, the resulting 20 intermediate data files and 12 transformed original data files.[3]

[2] The terms "directory" and "folder" are interchangeable and refer to the place, position or path were files are stored.
[3] Including the transformed original 11 data files plus the transformed data file with the last interview date.

Directory references in the syntax files

The first syntax file (00 File names and heading.sps) opens the 14 data files from "C:\1 Suriname\Data\SPSS" change the names and saves the resulting files in "C:\1 Suriname\Analysis".[4] The first active command line is the "CD" command (Change Directory), specifically "cd 'C:\1 Suriname\'." To call the 14 source files the command "GET FILE='Data\SPSS\filename.sav" is used. To complete the path and save all the resulting files, the command "SAVE OUTFILE='Analysis\filename.sav"[5] is utilized.

To run the commands from a different directory in the first syntax file, replace the directory name C:\1 Suriname from the first command (cd) with the desired path, and then the Data\SPSS\ and/or the Analysis\ subdirectories as required.

For all other syntax files, the first active command is "cd 'C:\1 Suriname\Analysis' .". To run the commands from a different directory in syntax files 01 to 09, change the directory in the first command line "cd 'C:\1 Suriname\Analysis'." to the new directory name.

RUNNING THE SYNTAX FILES

The programs were run using SPSS 22. The only requirements were to have the 14 source data files in "C:\1 Suriname\Data\SPSS", save all new data files in "C:\1 Suriname\Analysis", and run the syntax files in sequential order from 0 to 09. No warning or error messages were created.

3. NEW DATA FILES

INTERMEDIATE FILES

After the first syntax file (file 00 in **Error! Reference source not found.**), the next seven (files 01 t o 07) open different module from the questionnaire to create the components for the consumption aggregate. Syntax file "08 Aggregate.sps" puts together all the components. Finally, the last syntax file, "09 Poverty lines.sps" creates the poverty lines and poverty classifications, and the final data files.

Syntax files 01 to 10 create two intermediate files (three for the consumption file and five for the poverty file). The intermediate file names start with a sequential letter (from "a" to "i") followed

[4] 11 raw files plus files with the interview date, calories, and inflation files.
[5] Writing the full path overwrites the CD command.

by a description and ending in numbers 1 or 2 (consumption and food basket files have 0, 1 and 2). The highest number file has the final estimate (**Error! Reference source not found.**).

File "j Poverty2.sav" has the final consumption aggregate values, poverty lines, quintiles, deciles, FGT values, poverty groups, etc.

Table 1 Intermediate files for consumption aggregate and poverty lines

Syntax file name	Output file 1	Output file 2	Output file 3
00 File names and heading.sps	15: 11 "new names for raw files", + interview date + kilocalories + inflation + heading		
01 Education.sps	a Education_1.sav	a Education_2.sav	
02 Social programs.sps	none (information not used)		
03 Health.sps	c Health_1.sav	c Health_2.sav	
04 Personal expenses.sps	d P_Expenses_1.sav	d P_Expenses_2.sav	
05 Food.sps	e Food1.sav	e Food2.sav	
06 House use value.sps	f House1.sav	f House2.sav	
07 Non food expenses.sps	g NonFood1.sav	g NonFood2.sav	
08 Aggregate.sps	h Consumption0.sav	h Consumption1.sav	h Consumption2.sav
09 Poverty lines.sps	i Food basket0.sav	i Food basket1.sav & i Food basket2.sav	j Poverty1.sav & j Poverty2.sav
Total of 10 syntax & 35 output files.	15		
	8	9	3

FINAL DATA FILES

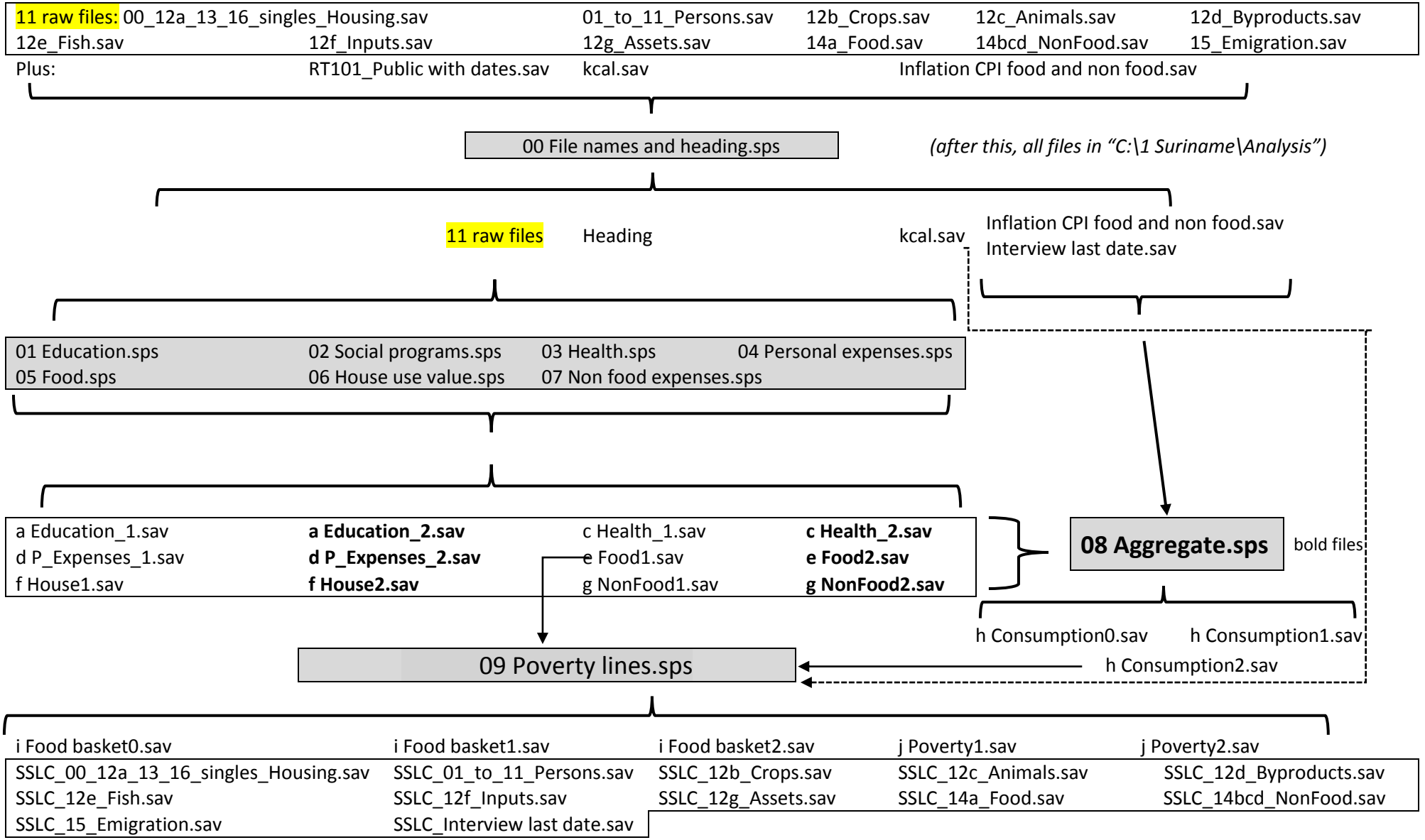
Finally, all the 11 raw data files and the data file with the last interview date were merged with the "j Poverty2.sav" file to include the new weights, quintile and decile classification, inflation index, per capita consumption aggregate (food, non-food and total), poverty lines values, and poverty classification: extreme poor, total poor and both.

The 12 final data files were save with the same name but starting with "SSLC_" (Surinam Survey of Living Conditions). Households without consumption aggregate were deleted from the files, and the weights were adjusted accordingly. The file names are:

SSLC_00_12a_13_16_singles_Housing.sav
SSLC_01_to_11_Persons.sav
SSLC_12b_Crops.sav
SSLC_12c_Animals.sav
SSLC_12d_Byproducts.sav
SSLC_12e_Fish.sav
SSLC_12f_Inputs.sav
SSLC_12g_Assets.sav
SSLC_14a_Food.sav
SSLC_14bcd_NonFood.sav
SSLC_15_Emigration.sav
SSLC_Interview last date.sav

4. FLOW CHART FOR DATA AND SYNTAX FILES

11 Raw data files + 3 extra data files saved in folder "C:\1 Suriname\Data\SPSS" in SPSS format



5. BASIC CONSUMPTION AND POVERTY RESULTS

CONSUMPTION

Figure 1 Per Capita consumption and household size by quintile, Surinam SSLC2016-2017

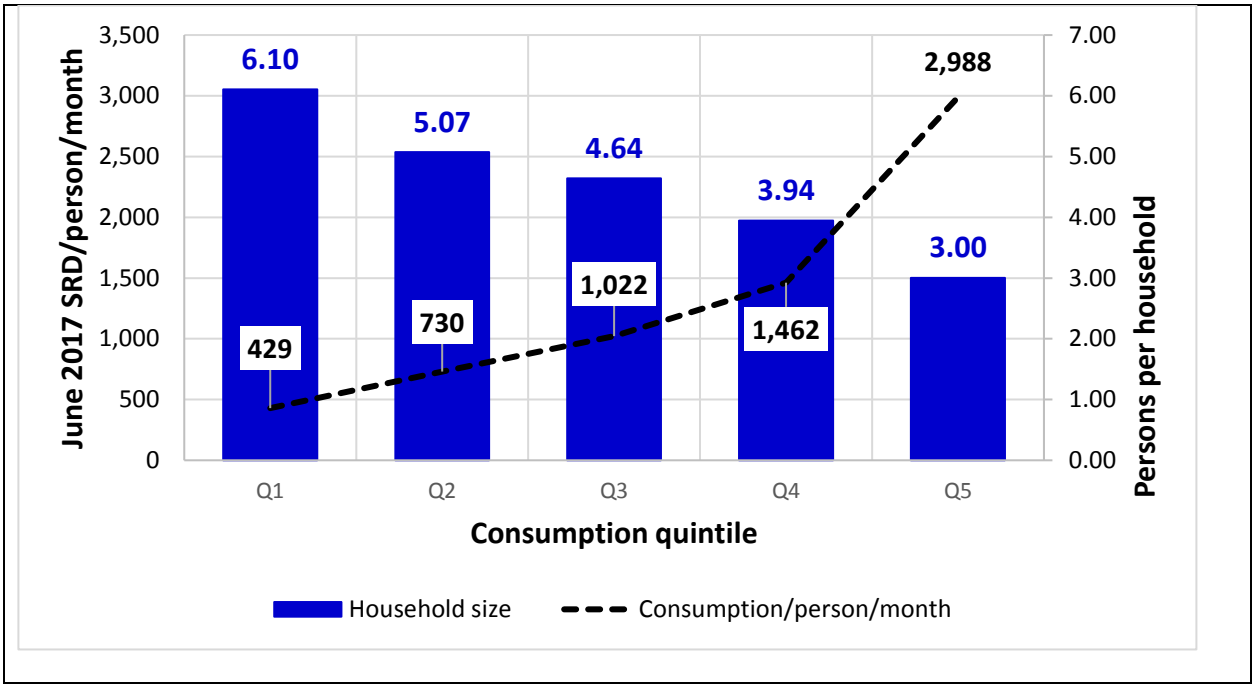


Table 2 Consumption (PC/Month/June 2017 SRD) by domain, Surinam SSLC 2016-2017

	Great Paramaribo	Rest of coastal R.	Interior	**Total SRD**	**Total %**
Food	526.46	436.68	346.15	496.87	37.5%
Rent or use value of the house	247.58	125.29	100.60	213.28	16.1%
Fuel, light, gas and water at home	62.32	51.61	16.60	57.32	4.3%
Education	49.74	32.67	16.33	44.16	3.3%
Health	54.37	27.58	13.60	46.33	3.5%
Transportation	217.44	179.15	141.38	204.87	15.4%
Communication	75.50	54.13	51.71	69.62	5.2%
Cleaning supplies, personal care, clothing, etc.	94.02	71.43	76.15	88.25	6.7%
Equipment, electronics, furniture, glassware, etc.	11.11	7.15	8.20	10.11	0.8%
Entertainment, services, games, celebrations, etc.	57.36	23.82	12.40	47.67	3.6%
Other consumption	54.12	32.87	26.14	48.01	3.6%
Consumption (pc/month/June 2017 SRD)	1,450.01	1,042.39	809.27	1,326.50	100%

POVERTY LINES, POVERTY, AND POPULATION

Table 3 Poverty line values (month/Per Capita/June 2017 SRD), Surinam 2016-2017

	Domain			Total
	Great Paramaribo	Rest of Costal R.	Interior	
Extreme poverty line	265.29	250.48	206.69	258.65
Overall poverty line	733.10	590.23	533.27	691.31

Table 4 Poverty headcount, gap and gap squared (FGT), Suriname, 2016-2017

	Great Paramaribo	Rest of Costal R.	Interior	Total
Overall Poverty (PERSONS)				
Headcount rate (P0)	23.7%	28.3%	47.9%	26.2%
Poverty gap index (P1)	0.064	0.080	0.212	0.076
Poverty gap squared (P2)	0.024	0.031	0.118	0.031
Extreme Poverty (PERSONS)				
Headcount rate (P0)	0.5%	1.8%	15.7%	1.7%
Poverty gap index (P1)	0.0011	0.0014	0.0356	0.0033
Poverty gap squared (P2)	0.0003	0.0001	0.0134	0.0010
Overall Poverty (HOUSEHOLDS)				
Headcount rate (P0)	16.1%	20.3%	33.6%	18.3%
Poverty gap index (P1)	0.039	0.053	0.132	0.049
Poverty gap squared (P2)	0.014	0.020	0.067	0.019
Extreme Poverty (HOUSEHOLDS)				
Headcount rate (P0)	0.2%	1.1%	7.6%	1.0%
Poverty gap index (P1)	0.0004	0.0008	0.0156	0.0017
Poverty gap squared (P2)	0.0001	0.0001	0.0055	0.0005

Table 5 # of persons and households by domain, Surinam SSLC 2016-2017

		Domain			
		Great Paramaribo	**Rest of Costal R.**	**Interior**	**Total**
Persons	**Number**	361,762	102,546	30,065	494,372
	Percentage	73.2%	20.7%	6.1%	100.0%
Households	**Number**	105,791	29,143	11,421	146,354
	Percentage	72.3%	19.9%	7.8%	100.0%