



INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE
sustainable solutions for ending hunger and poverty

African Growth and Development Policy (AGRODEP) Modeling Consortium

Training Course on Building and Updating a Social Accounting Matrix

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Updating a Social Accounting Matrix (Session 5)

Part A: Replicating the Original SAM

Part B: Updating the Social Accounting Matrix

Part A: Replicating the Original SAM

Open the original SAM and redefine the account names, including the Total. For simplicity use ordered numbers, such as A1, A2, A3..., An. You can do this by creating a new column while you want to keep the original account names, for easy reading purpose. Save the result as SAM0. Resave the same file as SAM1 (using the “Save as” option).

Open the GAMS program to balance a SAM available at <http://www.pep-net.org/fileadmin/medias/pdf/sambal.gms>. The procedure is illustrated in 10 steps. At this stage, only step 1 and 2 requires modifications.

Part A: Replicating the Original SAM (cont.)

The GAMS program to balance a
SAM

Part A: Replicating the Original SAM (cont.)

Step 4: The identification and the transposition of negative values

SAM0 (INT, JNT)

	A1	A2	A3
A1	10	-10	-5
A2		5	2
A3			4

NEG (INT, JNT)

	A1	A2	A3
A1		1	1
A2			
A3			

SAM0 (JNT, INT)

	A1	A2	A3
A1	10		
A2	-10	5	
A3	-5	2	4

$$SAM0(INT, JNT) \$(SAM0(JNT, INT) LT 0) = SAM0(INT, JNT) - SAM0(JNT, INT)$$

	A1	A2	A3
A1	10	-10	-5
A2	10	5	2
A3	5		4

$$SAM0(JNT, INT) \$(SAM0(JNT, INT) LT 0) = 0$$

	A1	A2	A3
A1	10		
A2	10	5	2
A3	5		4

Part B: Updating the SAM

1. Replicating the Original SAM

Step 1: Redefine the account sets

All accounts: $A_1 * A_n$ (A_n is the Total)

All account excluding the total: $A_1 * A_{n-1}$

Step 2: Input data

Initial SAM (“*SAM0*”) is called using different facilities: “*xlimport*” from XLLINK program; or “*GDXXRW*” from GDX program. Provide the range of the SAM excluding the row and column totals

Part B: Updating the SAM (cont.)

2. Updating the SAM

Integrate (assign) the first constraint at step 7 (Follow the “&&&” for the new syntaxes)

Define the first constraint at step 7: one new variable (“*GDP*”) and two subsets (“*IFAC*” & “*JACT1*”) come with the constraining equation

Assign the GDP Equation at step 7

Define the GDP Equation at step 7

Define the GDP Variable at step 7

Assign the GDP Variable at step 8

Assign the new GDP Parameter at step 3

Define the new GDP Parameter at step 3

Defined the subsets (“*IFAC*”, “*JACT1*”, and other subsets related to the GDP equation) as needed at step 1

Part B: Updating the SAM (cont.)

Part B: Updating the SAM (cont.)

Integrate (assign and define) other constraining equations at step 7
(Follow the “\$\$\$” for the new syntaxes)

Add the subsets as needed for the new equations at step 1

Run (delete the *) the other constraining equations one by one at
step 7

Adjust to the new GDP value at step 10

END