Social Accounting Matrix for Ecuador, an income distribution outlook

CENTRAL BANK OF ECUADOR

Seminar on National Accounts for Latin America and the Caribbean: The future of Economic Statistics

October 15th, 2020
What is a Social Accounting Matrix (SAM) and what is it used for?

1. Methodology
2. Information Sources
3. Developed Products
4. Analysis
5. Result Analysis
1: What is a Social Accounting Matrix (SAM) and what is it used for?
1: What is a SAM and what is it used for?

**Definition**

- It is a matrix that represents the circular flow of income for a particular economy and a specific year (particular time period).

- It links the productive sector with the functional distribution of income regarding economic actors and the use that the latter give to income.

- The SAM addresses issues of personal income distribution and household spending patterns.

**Applications**

- Distributive analysis of total income and expenditure structure.

- Industrial interrelationships with economic agents.

- SAM is an input for static simulations (fixed coefficient models).

- Input for the elaboration of computed general equilibrium models.
1: What is a SAM and what is it used for?

Types of matrices

- Traditional SAM
  - Table Supply and Demand (TSD) without transformation +
- Integrated Economy Table (IET)
- SAM Input Output Matrix (IOM)
  - TSD transformed in (IOM)
- SAM System Of National Accounting (SNA)
  - A perspective of resources and uses
2: Methodology
2: Methodology: Deductive Method

- Development of a Macro SAM
  - It shows the macroeconomic aggregates that must be divided
  - It allows a verification of the macroeconomic balances in National Accounts

- Development of a Micro SAM
  - Industries, products and agents are disaggregated
  - TSD at level 1 and IET for 5 institutional sectors including the Rest of the World
  - IOT I*I is also used

- Opening households
  - In order to obtain deciles of consumption and income, household surveys are carried out: there are 10 different households
  - Determination of variable structures are needed including: income, expenditure, transfers and salaries
  - An econometric model is applied to correct compensation for under-declaration and reach the level of the Macroeconomic National Accounts
  - An econometric model is applied for the structure of the Capital Account
2: Methodology: MICRO-SAM Opening

Production Matrix:
- Supply and intermediate demand (ID)
- IOT symmetric matrix
- Import + M de ID
- Taxation of products
- Subsidies of products
- Custom duties

Functional Income Distribution:
- Wages and salaries plus social contributions
- Gross operating surplus + mixed income
- Taxes on-production

Final Demand Vectors:
- Non-profit Institutions (NPI)
- Final Government Consumption
- Final Household Consumption
- Gross Fixed Capital Formation (GFCF)
- Exports

Redistribution of Income Matrix:
- Dividends
- Utilities
- Interest gains
- Transfers

Capital Account:
- Savings
- Change Existences
- Gross Fixed Capital Formation
- Net Loan
3: Information Sources
3: Information Sources

Supply – Demand Table (SDT)
- Generation and use of production in current values
- 72 products and 69 activities

Input and Output Matrix (IOM)
- It uses the symmetric matrix of 71 x 71 industries in current values

Integrated Economic Table (IET)
- It offers a global vision of the economy through institutional sectors: Societies, Households, Government, NPISH, Rest of the world

Conditions of Life Survey (ECV)
- Disaggregation through household deciles of income
- Functional and personal distribution of the income
- 5th and 6th ECV surveys were used (2006-2007 and 2014)

Income and Expenditure Household Survey (ENIGHUR)
- Disaggregation of deciles of consumption specific products

Employment and Unemployment Survey (Enemdu) + National Economic Census (CENEC)
- Disaggregation of deciles of income for Gross Fixed Capital Formation
4: Developed Products
4: Developed and Published

https://contenido.bce.fin.ec/documentos/PublicacionesNotas/Catalogo/CuentasNacionales/MCS/Indice.htm
- Matrix at macro and micro level
- Simulators
- Methodological Notebooks
- Distributive Analysis
5: Results Analysis
5: Results Analysis

1: Personal Household Income Structure

2: Household Expenditure Structure

Distributive Statistics
There is a distributive change in income between Ecuadorian households through the years 2006 and 2014.

Poverty and Extreme Poverty Consumption
National (urban y rural)

Gini Coefficient of consumption

Source: INEC, ECV
Developed by: Central Bank of Ecuador
5: Results Analysis, Personal Household’s Income

At a microeconomic, the total income between households is analyzed:

The richest decile (tenth) represented 15.6 times higher than the total income of the poorest decile in 2007, however for 2014 this relationship is 12.2 times richer.

![Graph showing the evolution of the participation of total income by deciles from 2007 to 2014.](image)
The growth in income is reflected in the final consumption expenditure of households.

**Structure of final consumption of manufactured products**

- **Decile 1**: 3.8% (2007), 4.2% (2014)
- **Decile 2**: 4.8% (2007), 5.4% (2014)
- **Decile 3**: 5.5% (2007), 6.0% (2014)
- **Decile 4**: 6.3% (2007), 6.9% (2014)
- **Decile 5**: 7.2% (2007), 7.6% (2014)
- **Decile 6**: 8.2% (2007), 8.7% (2014)
- **Decile 7**: 9.3% (2007), 9.8% (2014)
- **Decile 8**: 11.5% (2007), 11.4% (2014)
- **Decile 9**: 15.0% (2007), 14.7% (2014)
- **Decile 10**: 28.5% (2007), 25.4% (2014)