SAM-Based Accounting Modeling and Analysis Sudan 2000

Presented By

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Introduction

- In Sudan the share of agricultural exports out of total exports is declined from 80% in 1998 to 6% in 2008.
- The agriculture remains the backbone of the economy as it:
 - Contributes about 40% of the GDP (2000-2008).
 - Employs about 55% of the labor force and
 - Supports the industrial sector with raw materials
 - The aim of the research is to examine the nature of the multiplier effects of an income injection in the total outputs of the different production activities on Sudan economy.

Research Methods

- SAM multiplier model has been used to determine the total effects that arise from an exogenous shock.
- The SAM used in this research is an aggregated version of Sudan SAM for year 2000. <u>Sudan SAM 2000.doc</u>
- The SAM multiplier formula can be calculated as follows:
 Z = (I- M)⁻¹ E = Ma *E

where

- Z: is a vector of endogenous variables;
- E: is a vector of exogenous variables;
- M: is the matrix of average propensities of expenditures for endogenous accounts;
- I: is the identity matrix and
- Ma or $(I M)^{-1}$: is the matrix of aggregate accounting multipliers.

Model Results

• Table 1: Multiplier effect (SD billion) of Exogenous Shock on Endogenous Accounts

Accounts		Commodities			households
Activities		Agric.	industry	service	
	Agric.	2.12	1.34	1.23	1.40
	industry	0.58	1.57	0.60	0.69
	service	1.82	1.82	2.63	2.11
Commodities	Agric.	2.38	1.51	1.38	1.58
	industry	0.63	1.72	0.65	0.75
	service	2.10	2.11	3.05	2.44
Factor of prod.	lab	0.79	0.81	0.86	0.77
	сар	2.35	2.14	2.15	2.05
households		2.99	2.81	2.86	3.69

Model Results

• Table 2: Impact of Total Multiplier on Output, GDP, Household Income and Consumption

Multiplier		Commodi	Household	
	Agric	industry	service	
Output	4.51	4.74	4.46	4.20
GDP	3.14	2.95	3.00	2.82
Household income	2.99	2.81	2.86	3.69
Consumption	5.12	5.34	5.08	4.77