



Introduction to SAMs: Prices, Interindustry tables & Interpretation

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Outline

- *Introduction*
- *Circular Flow*
- *Overview of a SAM*
 - *LOOP*
- *Structure of a SAM*
- *National (T-)Accounts and a SAM*
- *Price System*
 - *LOOP*
 - *Inter-Industry Table*
- *SNA Production Boundary*
- *Interpreting a SAM*
- *SAM Leontief Model*

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Price System

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Complete & Consistent

- A SAM must **always** be Complete and Consistent
 - Complete: all transactions
 - Consistent: every expenditure has a matching and equal income
- Incomes equal expenditures for ALL agents

$$\sum_i p_{ij} \cdot q_{ij} = \sum_i T_{ij} = \sum_j T_{ij} = \sum_j p_{ij} \cdot q_{ij} \quad \forall i = j$$

But can each transaction have a unique price

NO

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LOOP

- Law of One Price (LOOP)
 - price for any transaction in a row is the same irrespective of the purchasing agent/account
 - quantities in any row are homogenous (undifferentiated)

$$\sum_j T_{ij} = \sum_j p_i q_{ij} = p_i Q_i \quad \text{and} \quad \sum_j q_{ij} = Q_i$$

LOOP is critical to understanding the price system in a SAM.

The price system embedded in a SAM defines the price system that must apply in any model calibrated with that SAM

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Price System in a SAM

- Purchaser Prices
 - prices paid by purchasers, which include transport and distribution margins and any VAT payable.
- Producer Prices
 - Prices paid to the producer by the purchaser less any VAT or other deductible tax and any transport or distribution charges invoiced separately.
- Basic Prices
 - prices paid to the producer by the purchaser less any tax payable plus any subsidy receivable but excluding any transport or distribution charges invoiced separately.

The system of prices in the System of National Accounts

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Price System in a SAM

Basic prices
+
Taxes on products excluding invoiced VAT
-
Subsidies on products
=
Producers' prices
+
VAT not deductible by the purchaser
+
Separately invoiced transport charges
+
Wholesalers' and retailers' margins
=
Purchasers' prices

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Inter-Industry Tables

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Inter-Industry Tables

- IOT vv SUT
- Data (in SNA) are collected as SUT
- IOT are derived tables from SUT
- Supply table
 - Basic prices
 - Components of Purchaser prices
- Use Table
 - Purchaser prices
- IOT
 - Basic prices



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Supply Table

		1
		Commodities
1	Margins	Marketing Margins
2	Activities	Production
6	Government	Commodity Taxes
8	Rest of World	Imports of Goods & Services
9	Totals	Commodity Supply

Often presented as the transpose of this presentation



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Use Table

		2	4	6	7	8	9	
		Margins	Activities	Households	Government	Capital	Rest of World	Account Total
1	Commodities	Marketing Margins	Intermediate Inputs	Household Consumption	Government Expenditure	Investment Expenditure	Exports of Goods & Services	Commodity Demand
3	Factors		Remuneration of Factors					
6	Government		Production Taxes					
9	Totals		Cost of Production					

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Production Boundary

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SNA Production Boundary

“All goods and services produced as outputs must be such that they can be sold on markets or at least be capable of being provided by one unit to another, with or without charge. The SNA includes within the production boundary all production actually destined for the market, whether for sale or barter. It also includes all goods or services provided free to individual households or collectively to the community by government units or NPISHs.” (*SNA, 2008, para 1.40*)

requirement that it must be possible to associate an ‘unambiguous’ market price to the output of activities if they are to be included within the production boundary

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Interpretation

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Interpreting a SAM

	Commodities	Activities	Factors	Transfers	Households	Other Institutions	Govt - Taxes on Products	Govt - Taxes on Production	Govt - Subsidies	Govt - Taxes on Income	Other Government	Capital	Rest of World
Commodities	-717	5,660	0	0	3,599	151	0	0	0	0	2,596	2,545	4,083
Activities	13,922	0	0	0	0	0	0	0	0	0	0	0	0
Factors	0	8,291	0	0	0	0	0	0	0	0	0	0	0
Transfers	0	0	0	0	170	4,649	0	0	0	0	1,067	0	626
Households	0	0	3,583	272	0	0	0	0	0	0	0	0	170
Other Institutions	0	0	4,183	3,070	0	0	0	0	0	0	0	0	1,010
Govt - Taxes on Products	1,087	0	0	0	0	0	0	0	0	0	0	0	0
Govt - Taxes on Production	0	15	0	0	0	0	0	0	0	0	0	0	0
Govt - Subsidies	0	-44	0	0	0	0	0	0	0	0	0	0	0
Govt - Taxes on Income	0	0	0	0	94	1,263	0	0	0	0	0	0	0
Other Government	0	0	525	2,528	0	0	1,087	15	-44	1,356	0	0	0
Capital	0	0	0	0	105	1,190	0	0	0	0	1,731	856	-481
Rest of World	3,625	0	0	641	57	1,012	0	0	0	0	73	0	2,322
Total	19,351	13,922	8,291	6,512	4,025	8,263	1,087	15	-44	1,356	5,467	3,402	7,729

Botswana (Macro) SAM for 1992/3

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- ## Interpreting a SAM
1. Before looking at the SAM learn about the economy.
 2. Check that the SAM has an appropriate set of accounts.
 3. Check that there are the same number of rows and columns.
 4. Check that the row totals and the column totals are identical.
 5. Compute the column coefficients.
 - The column coefficients are cost shares
 - Identical sets of column coefficients
 - Sub components
 - Intermediate Input Use (additional column coefficient matrices)
 - Factor Use by activity (additional column coefficient matrix)
 - Households
 - Exports
 6. Compute the row coefficients
 - What are the patterns of tax revenue/household incomes/Imports
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Exercises

- Interpreting the information in a SAMs
 - The second set of exercises involve interpreting the information in a SAM
 - These exercises are done in Excel

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The End

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