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Revisiting the informal aspects of the activity of countries, studied through Social Accounting and Socio-Demographic Matrices, with an application to Mozambique.

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Abstract:

Approaches based on Social Accounting Matrices (SAMs) and Socio-Demographic Matrices (SDMs) will be presented as a way of capturing relevant networks of linkages and the corresponding multiplier effects, which can subsequently be used for modelling the activity of the countries to be studied. Emphasis will be placed on the activity of household unincorporated enterprises that will be identified with the informal sector.

Based on methodological principles derived mainly from the works of Richard Stone, a proposal will be made to study the economic activity of Mozambique in 2016 in a matrix format, with special attention to the informal sector in general and, within this, forestry, and logging. Such a proposal includes, on the one hand, people – represented by a SDM – and, on the other hand, activities, products, factors of production and institutions – represented by a SAM.

The exposition will mostly be accompanied by an application to the above-mentioned reality. Scenarios, involving changes in functional and institutional distribution of income, will be presented and the macroeconomic effects of these changes, will be summarised in the form of changes in the macroeconomic aggregates, such as, Gross Domestic Product, Gross National Income and Disposable Income.

Key words: Social Accounting Matrix; Socio-Demographic Matrices; Informal Economy.

JEL Codes: E01; E16; J11

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Poster (zoom + the page):

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Revealing the informal aspects of the activity of countries, studied through Social Accounting and Socio-Demographic Matrices, with an application to Mozambique.

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Tools that have specific features intended for studying the activity of countries - allow for the reading and interpretation of the reality under study

- offer the chance to experiment with different interventions in regard to its functioning
- both matrices cover movements in time and space

Social Accounting Matrix (SAM)

a **square flow matrix**, in which the sum of the **rows** is equal to the corresponding sum of the **columns**.

→ entries made in the rows represent **incomings** (resources, incomes, receipts or changes in liabilities and net worth)

→ entries made in columns represent **outgoings** (uses, outlays, expenditures or changes in assets)

Socio-Demographic Matrix (SDM)

a **stock-flow matrix**, with the **survivors from the preceding period** constituting the opening stock of the population and the **survivors into the succeeding period** constituting the closing stock:

→ population **flows in** partly along time from last year, through survival, and partly along space (from the outside world) through birth and immigration

→ population **flows out**, through death and emigration, and partly along time into next year, through survival.

SAM or SDM numerical versions

→ of the reality under study

→ the replication(s) after running a SAM or SDM-based model(s) in order to try out policy measures or other types of changes

one or more **scenarios** representing the macroeconomic effects of those changes, when compared with **can support the processes of policy decision-making and policy decision-taking**

Our study of the **informal aspects of the activity of Mozambique** (namely, those **related with forestry and logging**), involved the consideration of

- its **population and the group of the 'informally employed'** (owners' household unincorporated enterprises) in forestry and logging
- the **economic activity of this group** (the origin and the destiny of the corresponding income)

Purpose: to identify some macroeconomic effects of changes in either the incomes or the expenditures of those informally employed in forestry and logging

increments - understood - to be an effort to correct a possible undervaluation - as results of possible oriented policy measures

our attention ... focused on

- **Informal Labour**: employees and own-account workers (respectively, household unincorporated enterprises who operate with and without paid employees) [Formal Labour: employees]
- **Informal Households**: whose main source of income is the compensation of informal labour [Formal Households: according to their main source of income, are employees or recipients of property and transfer income]

the corresponding flows of income that are received and then spent by this group

a simple possible way of using the tools presented, in a study of the informal aspects of the activity of countries

SAM (numerical version) of Mozambique in 2016, for the study of the informal aspects of the forestry and logging (estimate)

		2016 (million euros)											
		Production						Income					
		1	2	3	4	5	6	7	8	9	10	11	12
1	Final consumption expenditure	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
2	Government consumption expenditure	100	100	100	100	100	100	100	100	100	100	100	100
3	Government consumption expenditure in kind	10	10	10	10	10	10	10	10	10	10	10	10
4	Government consumption expenditure in kind in kind	10	10	10	10	10	10	10	10	10	10	10	10
5	Government consumption expenditure in kind in kind in kind	10	10	10	10	10	10	10	10	10	10	10	10
6	Government consumption expenditure in kind in kind in kind in kind	10	10	10	10	10	10	10	10	10	10	10	10
7	Government consumption expenditure in kind in kind in kind in kind in kind	10	10	10	10	10	10	10	10	10	10	10	10
8	Government consumption expenditure in kind in kind in kind in kind in kind in kind	10	10	10	10	10	10	10	10	10	10	10	10
9	Government consumption expenditure in kind in kind in kind in kind in kind in kind in kind	10	10	10	10	10	10	10	10	10	10	10	10
10	Government consumption expenditure in kind in kind in kind in kind in kind in kind in kind in kind	10	10	10	10	10	10	10	10	10	10	10	10
11	Government consumption expenditure in kind in kind in kind in kind in kind in kind in kind in kind in kind	10	10	10	10	10	10	10	10	10	10	10	10
12	Government consumption expenditure in kind in kind in kind in kind in kind in kind in kind in kind in kind in kind	10	10	10	10	10	10	10	10	10	10	10	10

SDM of Mozambique in 2016, with population by age group (estimate)

		Population by age group (1000 inhabitants)				
		0-14	15-64	65 and over	Total	Sex
Male	11,123,000	1,800,000	4,500,000	4,800,000	11,100,000	5,500,000
Female	11,123,000	1,800,000	4,500,000	4,800,000	11,100,000	5,600,000
Total	22,246,000	3,600,000	9,000,000	9,600,000	22,200,000	11,100,000

SAM (algebraic version) - accounting multiplier model

		Endogenous		Exogenous		Total	
		Y	X	Z	W	Y	X
Endogenous	$Y = A_1 Y + A_2 X + A_3 Z + A_4 W$	1	0	0	0	$1 - A_1$	A_2
Exogenous	$X = A_5 Y + A_6 X + A_7 Z + A_8 W$	0	1	0	0	$-A_6$	$1 - A_5$
Total		Y_0	X_0	Z_0	W_0	Y_0	X_0

$Y_0 = (I - A_1)^{-1} (A_2 X_0 + A_3 Z_0 + A_4 W_0)$

$X_0 = (I - A_6)^{-1} (A_5 Y_0 + A_7 Z_0 + A_8 W_0)$

$Y_0 = (I - A_1 - A_6 A_5)^{-1} (A_2 X_0 + A_3 Z_0 + A_4 W_0)$

$X_0 = (I - A_6 - A_5 A_1)^{-1} (A_5 Y_0 + A_7 Z_0 + A_8 W_0)$

Percentage changes in macroeconomic aggregates

	Scenario A	Scenario B
Gross Domestic Product (GDP) - Total	0.18	3.17
Total	0.32	0.29
Informal Households	1.80	1.22
Disposable Income	0.31	0.28
(G)	1.30	1.18

Scenario A: an increase¹⁾ of 50% in the part of forestry and logging in the compensation of the informal labour, in the scope of functional distribution of income

Scenario B: an increase¹⁾ in the part of the gross national income relative to the compensation of informal labour received by informal households, in the same amount of scenario A, in the scope of institutional distribution of income

¹⁾ understood only to be an effort to correct a possible undervaluation of the informal aspects of the activity of the studied country, and as result of possible policy measures oriented to a better knowledge and way of working of the households unincorporated enterprises working in forestry and logging

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