

N.1 Introduction

This chapter describes the transformation of the 2018 Social Accounting Matrix (SAM) for Nigeria into the GTAP Input-Output Table format. The next section presents the source data. Section 3 describes the reformatting steps. Section 4 describes the concordance between the original classification of sectors and the GTAP sectors.

N.2 Source Data

The Nigerian SAM is part of the Nexus Project between the International Food Policy Research Institute (IFPRI) and national statistical agencies. The initial SAM had 42 sectors measured in billions of Naira.³⁴ Vectors taxes are available for direct, factor, and activities.

N.3 Data processing

The Input-Output Table (IOT) derived from this SAM does not fully satisfy the requirements of the GTAP data base described in Huff et al. 2000. Main adjustments to the derived IOT are as follows:

- Split total use into import and domestic matrices and
- Construct the Product-Tax Matrix

The derivation of the IOT from a SAM and further adjustments to meet the GTAP IOT format are implemented using the GAMS programs documented in Aguiar and Pereira n.d.³⁵

The matrix of imports is estimated assuming the import share is uniform across users, except for exports as it would imply re-exports. Domestic flows are then obtained as residual given the initial data and the newly estimated matrix of imports.

The product-tax matrix is constructed for the newly developed domestic and import components. No taxes are levied on changes in stocks and lower taxes are levied on export and intermediate users.

³⁴Available from Thurlow 2021

³⁵Programs and further documentation are available upon request.

N.4 Concordance between original sectors and GSEC3

The original data sectors were first aggregated and then mapped to the GTAP classification of 65 sectors (Table 8.27).

Table 8.27: Concordance between Original sectors and GTAP sectors

No.	Original I-O sectors	GTAP 65
maiz	Maize	gro
rice	Rice	pdr
ocer	Other cereals	gro
puls	Pulses	v_f
oils	Oilseeds	osd
root	Roots	v_f
vege	Vegetables	v_f
sugr	Sugarcane	c_b
toba	Tobacco	ocr
cott	Cotton and fibres	pfb
frui	Fruits and nuts	v_f
coff	Coffee, tea and cocoa	ocr
ocrp	Other crops	ocr
catt	Cattle and raw milk	ctl_rmk
poul	Poultry and eggs	oap
oliv	Other livestock	oap
fore	Forestry	frs
fish	Fisheries	fsh
mine	Mining	GTAP15-18
food	Processed foods	GTAP19-25
beve	Beverage and tobacco	b_t
text	Textiles, clothing and footwear	tex
wood	Wood and paper products	GTAP30-31
chem	Chemicals and petroleum	GTAP32-35
nmet	Non-metal minerals	nmm
metl	Metals and metal products	GTAP37-39
mach	Machinery, equipment and vehicles	ome
oman	Other manufacturing	omf
elec	Electricity, gas and steam	GTAP46-47
watr	Water supply and sewage	wtr
cons	Construction	cns
trad	Wholesale and retail trade	trd
tran	Transportation and storage	GTAP52-55
hotl	Accommodation and food services	afs
comm	Information and communication	cmn
fsrv	Finance and insurance	GTAP57-58
real	Real estate activities	GTAP59-65
bsrv	Business services	obs
padm	Public administration	osg
educ	Education	edu
heal	Health and social work	hht
osrv	Other services	ros

N.5 Diagnostics

Before and after conversion, the data met all balance and sign conditions. There were no tax rates over 100% in the data. The GTAP cost shares comparisons appear correct or at least consistent with the original data.

References

- Aguiar, Angel H and Maria Seara e Pereira (n.d.). “Transforming a Social Accounting Matrix (SAM) into GTAP format”.
- Huff, Karen et al. (2000). *Contributing Input-Output Tables to the GTAP Data Base*. GTAP Technical Paper 01. Department of Agricultural Economics, Purdue University, West Lafayette, IN: Global Trade Analysis Project (GTAP). URL: https://www.gtap.agecon.purdue.edu/resources/res_display.asp?RecordID=304.
- Thurlow, James (Dec. 2021). “2018 Social Accounting Matrix for Nigeria: A Nexus Project SAM”. en. In: DOI: 10.2499/p15738coll2.134812. URL: <https://hdl.handle.net/10568/143039> (visited on 11/03/2025).