J Central African Republic

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J.1 Introduction

This document describes the process of developing the Supply and Use Tables (SUT) and then converting it to GTAP format. It is as follows (A) the collection and processing of data; (B) the process of obtaining the TRE under the ERETES[16] software; (C) conversion of the SUT into GTAP format.

J.2 Data Collection for the Preparation of the 2017 Accounts

The first activity carried out consists of making an inventory of the main sources of existing data. For missing sources, we proceed by collecting data from the various institutions that produce them, see Table 8.22.

Table 8.22: Report on data collection and processing

	Source or operation	Report on data collection and processing
1	Trade,	Information Collected and Processed
2	Chamber of Commerce	Information Collected and Processed
3	Balance of Payments (BOP)	Information Collected and Processed
4	Statistical and Tax Declaration (DSF) of non-financial corporations	Information Collected and Processed
5	BEAC financial statement	Information Collected and Processed
6	Statistical and Tax Declaration (DSF) of banks	Information Collected and Processed
7	Statistical and Tax Declaration (DSF) of insurance	Information Collected and Processed
8	Execution of the State budget	Information Collected and Processed
9	Table of State Financial Operations (TOFE)	Information Collected and Processed
10	Statistics of civil servants and agents of the State	Information Collected and Processed
11	Build the GFCF matrix	Information Collected and Processed
12	Financial statement of NPISHs	Information Collected and Processed
13	ASECNA financial statement	Information Collected and Processed
14	Employment Matrix Projection	Information Collected and Processed
15	Informal data estimation	Information Collected and Processed
16	Financial statement of local authorities	Information Collected and Processed
17	CNSS financial statement	Information Collected and Processed
18	Private employee statistics by branch of activity	Information Collected and Processed

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[16]Equilibre Ressources Emplois –Tableau Entrées Sorties (ERETES) is a software package that provides assistance in compiling National Accounts compliant with the international standards (SNA 1993 and SNA 2008) until the milestone of their implementation.

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	Source or operation	Report on data collection and processing
19	Production and export of diamonds and gold, plus river and land transport	Information Collected and Processed
20	Cotton production and export	Information Collected and Processed
21	Coffee production and export	Information Collected and Processed
22	Subsistence agriculture production	Information Collected and Processed
23	Public investment expenditure by type	Information Collected and Processed
24	International aid	Information Collected and Processed
25	Industrial Production Index by branch and by product	Information Collected and Processed
26	Price index by product	Information Collected and Processed
27	Final consumption matrix	Information Collected and Processed
28	Production of livestock products, hunting and fishing	Information Collected and Processed
29	Production of forestry and logging products	Information Collected and Processed
30	GFCF in household housing	Information Collected and Processed
31	Imputed rents	Information Collected and Processed
32	Consumption of Fixed Capital (CCF) of Public Administrations	Information Collected and Processed

Source processing

The following sources were addressed: (i) agriculture and livestock; (ii) logging; (iii) diamond and gold; (iv) statistical and tax declarations (DSF); (v) the informal sector; (vi) foreign trade and the balance of payments.

Agriculture and animal husbandry

A distinction is made between subsistence farming and farming of products intended for industry and export.

— Subsistence agriculture Seven main products are concerned, which are: cassava, maize, millet/sorghum, paddy rice, other cereals, fruits and vegetables. Other tubers and other food crop products complete the first seven products for which we have production in quantity.

The treatment for the first seven products is to use a quantity index and a price index derived from the Consumer Price Index (CPI). These indicators are applied to the values of these speculations as retained in the ERETES database the previous year.

With regard to other food products, other cereals, other tubers and fruits and vegetables, the volume indicator is population growth while that of prices is the CPI, except for other cereals where it is considered the average of maize and millet/sorghum price indices.

— Agriculture of products for industry and export. These are cotton, coffee, and other products including pumpkin seeds, groundnuts, sesame.

For all these products for which the quantities produced are available, a quantity indicator has been calculated. The price indicator is the CPI except for coffee where export prices were considered.

— Breeding

The bovine, ovine, caprine, porcine and poultry species have been processed in accordance with the methodology contained in the "methodological guide for the preparation of national accounts in AFRISTAT member states". However, animal prices have followed the evolution of meat prices in the CPI. For other livestock and livestock products, the volume indicator was population growth and the price indicator was the CPI.

Logging

These are logs and processed wood. Silviculture is negligible. The quantities produced (m3), sold locally and exported are available. The prices are those of the BDP on exports.

Diamond and gold

The quantities produced and exported are available. The appraisal value of the diamond by the Diamond and Gold Appraisal and Control Office (BECDOR) is the basis for diamond export taxation. Hence the FOB export value of the diamond is the appraised value plus the export tax of the diamond. Moreover, the production, which is artisanal, is estimated at 75% of the assessment value; the equilibrium of the product is obtained by the margin of the traders. As far as gold is concerned, production is estimated at 80% of the appraisal value. Export taxes represent approximately 5.5% of the appraisal value. The rest is traders' margin.

Statistical and tax declarations (DSF)

The DSF source presents the entry of 206 companies after cleaning through 5 specific entry sheets: - CI and others, - Raw materials, - Productions, - GFCF, - Jobs. This processing is carried out using dynamic cross tables enabling data to be combined by branch of activity with details by product for intermediate consumption, production and GFCF. A dynamic loading table has been set up in conjunction with the various processing sheets. A first processing of this DSF source was set up and loaded into the ERETES database.

Foreign trade and the balance of payments

For the "Foreign trade" source, the source used until then provided by ICASEES was used. It provides quantities and values for each 8-character HS position (CIF for imports and FOB for exports). Thus the following elements have been loaded into the database: - CIF (imports) and

FOB (exports) value at current price; - Import duties and taxes excluding VAT and export duties and taxes at current prices. The processing was carried out completely for the year 2017.

The informal sector in general

An overall treatment of the informal sector excluding agriculture and livestock has been carried out; the branches considered are those with informal production in past years. In general, the products falling within each branch concerned, whose production mode is five, followed in volume the demo for the self-consumed part and the growth in final consumption expenditure for the marketed part. Prices followed the evolution of the consumer price index. After having processed and loaded all the sources into the ERETES database, the second step consists in comparing the data coming from the various sources (accounting). This task known as ”Pre-arbitration work”.

J.3 Preparation of Accounts

Loading source data

The processed information is then organized, according to the language of national accounts, in the form of tables, then loaded into the ERETES database.

Pre-arbitration work

The primary objective of the pre-arbitrations is therefore to complete the preparation of the data. In some cases, it may also involve a first sorting between the sources, and sometimes even making certain arbitrations. The most important works relate to the following operations: GFCF, taxes (on products and on production), stocks and their variation, foreign trade, compensation of employees, final household consumption and jobs.

Work on EREs and Branch Accounts

Before proceeding with work on the EREs and branch accounts, the database must be decentralized. This task is devolved to the Administrator of the ERETES software who is responsible for distributing the various decentralized files between the national accountants responsible for the branches. As their name suggests, work on the EREs allows the development of the goods and services account, for each of the basic headings provided for in the product nomenclature. It must be repeated as many times as there are elementary products in the nomenclature.

ERE in value, current year

The ERE proposed for the current year is the central tool for compiling accounts at constant prices. The ERE in the current year adds an additional dimension (time) to that of the base year which already contains two (by differentiation of valuation methods), without losing any of the information it contains. The result is a much larger picture, and therefore more unwieldy. The different elements of the valuation are introduced in lines, operation by operation. For resources, nothing changes, since only the valuation at base price is used. It is in jobs that the table stretches downwards. Thus, for each of the operations appearing in uses, we find successively the following elements:

the transaction valued at the base price
+ transport margins
+ trade margins
+ net taxes
+ non-deductible VAT
= the transaction valued at acquisition price.

The columns are therefore devoted to:

— data for year n-1, at their values at the prices of year n-1 (at current prices),

— data for year n, at their values at the prices of year n-1 (at constant prices),

— data for year n, at their values at the prices of year n, (at current prices).

Work on Branch Accounts (CB)

Work on Branch Accounts aims to produce production and operating accounts and the employment matrix for a given branch. Here too, work is carried out at current and constant prices. The use of the mode of production attribute in the context of production and operating accounts by branch meets a triple objective:

— differentiate production functions within branches ;

— isolate activities informal and/ or underground ;

— allow the passage between branches and institutional sectors (a tool is moreover proposed within the framework of the module to make it possible).

Thus, online, the table successively proposes:

— operations of the production account: for production, a distinction is made between market and non-market production, and for each, main production and secondary production; for intermediate consumption, only the total is proposed ;

— operations of the operating account: the proposed balance is the gross operating surplus (which becomes mixed income for production carried out by households); a line is provided for the consumption of fixed capital, but it is not shown as such net operating surplus ;

— data relating to the work performed, according to the different categories of employed working population ;

— economic ratios making it possible to check the validity of the results obtained (this economic validation is the only one possible, because such a table does not contain any accounting balance constraint, unlike the EREs).

In the column, a breakdown of these accounts according to the different modes of production selected is proposed.

Transversal work on operations and the "who to whom" matrix

The "who-to-whom" matrix is in fact the only work table that allows intervention on the operations belonging to the scope of the TCEI, and for which such a matrix makes sense. These transactions are essentially distributive transactions (various transfers between institutional sectors) and financial assets (flows or stocks). The objective of the work on the "who to whom" matrix is therefore to facilitate arbitration on qualified data from the point of view of the institutional sectors and which do not belong to the field of the ERR (Table of Resources and Uses). For these data, the "who to whom" matrix makes it possible to present, for each operation, the economic data in a "credited sector * debited sector" matrix on the basis of the principle that each entry concerning a sector finds its counterpart in another sector. So :

— for a non-financial flow, the resource of one sector is employment for another sector;

— for a financial instrument, the assets of one segment are the liabilities of another segment .

Synthesis work

As part of the process of developing an accounts campaign, the objective of the synthesis is to finalize the accounting between all the statistical sources used, in order to arrive at a set of macroeconomic data:

— balanced with each other ;

— and economically significant.

Its objective is to finalize the development of the two tables that make up the central framework of the SNA: the Table of Resources and Uses (TRE) and the Table of Integrated Economic Accounts

(TCEI). But taking into account the method proposed to lead the elaboration of the accounts, the work to be carried out during the synthesis on these two tables, turns out to be very different; it is indeed:

- reach an accounting balance, with regard to the ERR,
- achieve an array economically significant , with respect to the TCEI .

Summary of the TAR

Last phase of the work on the TRE, the synthesis takes place through arbitration on the TEI (Table of intermediate jobs), the only table not yet to have been balanced. The last phase of the work therefore consists in balancing the TEI. The TEI is in fact the matrix of intermediate consumptions of the ERR. It presents the intermediate consumption of the branches according to the different products of the nomenclature. It is within the framework of this table that the ERETES software proposes the production of the summary for all the accounts appearing in the TAR. Intermediate consumption is assessed according to two contradictory points of view in the software:

- branch demand;
- the supply of products on the market.

The TEI is then the instrument proposed to ensure this convergence, thanks to a simultaneous presentation of the state of the information gathered according to the two points of view. The table is limited to intermediate consumption only. In column, we find the CI of the branches; online, the product offering as it results from the EREs. And the objective is to reach an identical amount for the two values belonging to the same box of the matrix

Summary in current year

In the current year, the situation differs radically from that encountered in the year of basis , and this for two reasons:

- we have a reference TEI, drawn up for the previous year, from which a projection can be made;
- we must construct two TEIs, one at current prices, the other at constant prices.

The summary for the current year is undoubtedly less difficult to obtain than for the base year (the major decisions have already been made); but the method to follow is more technical:

- a projection based on the Leontiev model ;

— compliance with the required boxes;

— compliance with intermediate consumption and added value known in value.

The method proposed here assumes that the CIs are projected in accordance with the recommendations made previously. Three successive stages are proposed to carry out this synthesis work:

— 1st step: arbitrate the TEI at constant prices,

— 2nd step: arbitrate the TEI at current prices,

— 3rd step : complete the synthesis .

After balancing the TEI, the ERR is generated and contains the following main matrices:

1. the matrix of taxes and margins;

2. the production matrix;

3. the table of intermediate jobs (TEI);

4. the demand matrix (household final consumption expenditure, general government final consumption expenditure, non-profit institutions final consumption expenditure), change in inventories, gross capital formation and exports.

J.4 Conversion into GTAP format

The GTAP format has 24 aggregate branches and 24 aggregate products while the Central African TRE format contains 46 branches and 96 products. Hence the need to convert the Central African TRE into GTAP format. It is therefore possible to obtain this format by preparing a transition table from classifications of Central African products and branches to GTAP classifications. After compliance with the GTAP nomenclature, tests were carried out to verify:

— the balance between the sale and purchase of goods and services,

— data consistency

After all these checks, the Central African ERR GTAP format is validated.

Table 8.23: Transition from Central African nomenclature to GTAP nomenclature

Branch code_GTAP	GTAP branch	SCN Branch Code	Code Product SCN	SCN product
pdr	paddy rice	001001	001001005	paddy rice
wht	Wheat			
gro	Cereal grains nec	001001	001001004	But
gro		001001	001001006	Millet and sogho
gro		001001	001001007	Other cereals
v_f	Vegetables , fruits, nuts	001001	001001008	Fruits and vegetables
osd	Oilseeds	001002	001002004	Peanut
osd		001002	001002005	Sesame
osd		001002	001002006	Pumpkin seeds
c_b	Sugar cane, sugar beet			
pfb	Plant- based fibers	001002	001002001	Seed cotton (mass cotton)
ocr	Nec Crops	001001	001001001	Cassava
ocr		001001	001001002	Plantain
ocr		001001	001001003	Other tubers
ocr		001001	001001009	Other subsistence agriculture products
ocr		001002	001002002	Hard coffee (cherry)
ocr		001002	001002007	Other products of industrial or export agriculture
ctl	Bovine cattle , sheep and goats , horses	002001	002001001	Live cattle
ctl		002001	002001002	Sheep and goats
ctl		002001	002001003	Live poultry
ctl		002001	002001004	Live pigs
ctl		002001	002001005	Other animals and other livestock products
oap	Animal products nec	002002	002002000	Fresh, smoked or dried game
rmk	Raw milk			
wol	Wool , silk-worm cocoons			
cmt	Bovine meat products	005001	005001001	Prod . meat processing and canning
omt	Meat nec products	005001	005001002	Prod . fish processing and canning
osd	vegetables oils and fats	005002	005002000	Oils and other edible fats
mil	Dairy products	005004	005004002	Dairy products and ice cream
pcr	Processed rice	005003	005003001	Grain processing products, starch products
sgr	Sugar	005003	005003003	Sugar, confectionery, chocolate, coffee and tea
ofd	Nec food products	005003	005003002	Bread , pasta food, floury products and pastries
ofd		005004	005004001	Fruit and vegetable products
ofd		005004	005004003	Condiments and seasonings
ofd		005006	005006000	Miscellaneous food products n ,c,a
b_t	Beverages and tobacco products	005005	005005001	Drinks
b_t		005005	005005002	Cigars, cigarettes...
coa	Coal			
oil	Oil			
gas	Gas			
p_c	Petroleum , coal products	008000	008000001	Refined petroleum products and derivatives
ely	Electricity	014001	014001000	electricity

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Branch code_GTAP	GTAP branch	SCN Branch Code	Code Product SCN	SCN product
gdt	Gas manufacturing, distribution	008000	008000	
frs	forestry	003000	003000001	Raw wood (logs)
frs		003000	003000002	Charcoal
frs		003000	003000003	Forestry
frs		003000	003000004	Other products (including picking)
fsh	Fishing	002003	002003000	Fresh fish and other fish products
oxt	Other Extraction (formerly omn Minerals nec)	004000	004000001	Diamond
oxt		004000	004000002	Gold
oxt		004000	004000003	Uranium
oxt		004000	004000004	Other extraction products
tex	textiles	006001	006001001	cotton fiber
tex		006001	006001002	cottonseed
tex		006002	006002001	Yarns, fabrics and other textile articles
wap	Wearing apparel	006002	006002002	Clothing items
lea	Leather products	006003	006003000	Leather, worked skins, leather goods and footwear
lum	Wood products	010000	010000000	Processed wood
ppp	paper products , publishing	007000	007000001	Paper, cardboard and paper and cardboard articles
ppp		007000	007000002	Printed, reproduced and publishing products
chm	chemical products	008000	008000004	Other chemicals
bph	Basic pharmaceutical products	008000	008000002	Soaps, perfumes and cleaning products
bph		008000	008000003	Pharmaceutical products
ppp	Rubber and plastic products	008000	008000005	Rubber and plastic products and articles
nmm	Mineral nec products	009000	009000001	Cement
nmm		009000	009000002	Glass, pottery and other building materials
i_s	Ferrous metals	011000	011000000	Metal products and metal works
nfm	nec metals	011000	011000000	Metal products and metal works
fmp	Metal products	011000	011000000	Metal products and metal works
ele	Computer, electronic and optical products	012001	012001000	Machinery and equipment
eeq	Electrical equipment	012001	012001000	Machinery and equipment
home	Machinery and equipment nec	012001	012001000	Machinery and equipment
mvh	Engine vehicles and parts	012002	012002000	Transportation equipment
otn	Transport equipment nec	012002	012002000	Transportation equipment
omf	nec manufactures	013000	013000001	Furniture
omf	nec manufactures	013000	013000002	Miscellaneous and recycled manufactured products
wtr	Water	014002	014002000	Distributed water
wtr	Water	014003	014003000	Edible ice cream
cns	Construction	015000	015000001	Building construction work

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Branch code_GTAP	GTAP branch	SCN Branch Code	Code Product SCN	SCN product
cns	Construction	015000	015000002	Civil works and others
cns	Construction	015000	015000003	Installation and finishing works
trd	Trade	016000	016000000	Sales
business	Accommodation, Food and service activities	017000	017000001	Hotel services
business	Accommodation, Food and service activities	017000	017000002	Food services and bars
otp	nec transportation	018001	018001001	Road transport services
wtp	water transportation	018001	018001002	Maritime and river transport services
atp	air transportation	018001	018001003	Air transport services
whs	Warehousing and support activities	018001	018001004	Services auxiliary to transport (travel agencies, etc.)
cmn	Communication	018002	018002000	Post and telecommunications services
yes	Financial services nec	019001	019001000	Financial intermediation services
yes	Financial services nec	023000	023000000	Financial intermediation service indirectly measured
ins	Insurance (formerly isr)	019002	019002001	Insurance Services
ins	Insurance (formerly isr)	019002	019002002	Financial auxiliary services
ins	Insurance (formerly isr)	021002	021002000	Social security services
rsa	real estate activities	020002	020002001	Rental of real estate
rsa	real estate activities	020002	020002002	Housing Services
obs	Nec business services	020001	020001000	Repair and maintenance services
obs	Nec business services	020003	020003000	Services provided to companies
obs	Nec business services	024000	024000000	Territorial correction
ros	Recreational and other services	022001	022001001	Sanitation services and waste management
ros	Recreational and other services	022001	022001002	Recreational, cultural and sports services
ros	Recreational and other services	022001	022001003	Other collective or personal services
ros	Recreational and other services	022002	022002000	Services provided by membership organizations
osg	Public Administration and Defense	021001	021001000	General public administration services
edu	Education	021003	021003000	Education services
hht	human health and social work activities	021004	021004001	Human health and social work services
hht	human health and social work activities	021004	021004002	Veterinary services
dwe	Dwellings	022003	022003000	Domestic services