

### **AG.1 Introduction**

This document describes the adaptation of the Supply and Use Table (SUT) of Mali for the year 2017 to the format of the Global Trade Analysis Project (GTAP) database. After a first introductory section, this paper presents in section 2 the description of the source SUT data. Section 3 shows the strengths and limitations of the source SRT data. Section 4 deals with the procedures for adjusting the source data for their consideration in GTAP. Section 5 presents the passage between the sectors of the source TRE and the 65 sectors of GTAP.

### **AG.2 Description of source SUT data**

The source data comes from the Supply and Use Table (SUT) of thirty-six (36) sectors for Mali. This TRE is developed by the National Institute of Statistics of Mali (INSTAT). The descriptive elements of this TAR are as follows:

a) Reference year: this is the SUT for the year 2017; b) Unit: the figures contained in the source SUT are in millions of CFA Francs; c) Presentation of data: the data is presented in the form of “Industry” by “Product”. Indeed, the lines of the source SUT represent the products and the columns represent the industries; d) Valuation: production is at the base price, imports are priced at cost insurance freight (CIF), uses (intermediate consumption, final consumption, investments and exports) are at the market price; e) Structure of the SUT: the source SUT is compatible with GTAP. It has thirty-six (36) products and 36 industries. It is composed of three (3) large matrices namely:

- Resource matrix: this matrix counts the column vectors of taxes and subsidies on products, import duties and taxes, trade and transport margins, imports and the production matrix. The latter shows the production of 36 products by 36 industries. However, it is not diagonal because an industry can produce more than one product. Production is generally valued at the base price and imports at the CIF price;
- Use matrix: it is composed of the matrix of intermediate consumption of 36 products by 36 industries and the column vectors of exports, final consumption of households, public administrations and non-profit institutions serving households (NPISH), gross fixed capital formation (GFCF), changes in inventories and acquisitions of valuables. All components of the employment matrix are valued at market price;
- Matrix of factors: it presents the line vectors of value added, compensation of employees, taxes and duties net of subsidies on production, and gross operating surplus/mixed income for the 36 industries.

### **AG.3 Strengths and limitations of the Source Supply and Use Table (SUT) data**

A number of source SUT data checks are performed. These verifications relate to the conditions of non-negativity, the equilibrium conditions of the tables, the plausibility of tax rates and margin rates as well as the cost and sales structure of the industries. This section shows the strengths and limitations of the source data.

#### **Strengths**

1. The source SUT does not show any negative flows excluding inventory changes.
2. All component tables are balanced.
3. Trade and transport margin rates are plausible and applied only to goods.
4. Tax rates on products are plausible.
5. There are no re-exports of products.
6. All flows for service inventory changes are zero.
7. There are data on taxes and subsidies on production.
8. There is a distinction between customs duties and export taxes.

#### **Limitations**

1. The data from the source SUT is a little more aggregated (36 sectors) compared to the 65 sectors of GTAP.
2. Imports are presented as a single column vector declaring total imports by product. A priori, there are no separate use matrices (intermediate and final) for national and imported products.
3. Taxes and duties on products (VAT, subsidies on products, other taxes on products, and taxes on exports) are not separate for domestic and imported products.
4. Two column vectors for trade and transport margins appear in the source SUT while the GTAP database does not isolate them.
5. The share of exports in domestic production seems high or low for some products by international standards.
6. The raw material utilization ratio of some products by some industries also seems high or low by international standards.

7. There are no separate values for mixed income and capital. Both are combined in the single vector of gross operating surplus/mixed income.
8. The share of labor remuneration in the total payment of factors is too low or too high according to international standards at the level of certain industries. These cases are generally found in the primary sector where the workforce is mainly informal and less valued.
9. The share of capital in the total payment of factors is too low or too high according to international standards at the level of certain industries.
10. There are no data on land rents.

## **AG.4 Procedures for adjusting source data**

This section describes the source data adjustment procedures and assumptions made to address the data issues outlined in the previous section.

1. The transition table provided in the following section allows to see the correspondences between the 36 sectors of source TRE and the 65 sectors of GTAP.
2. With regard to the breakdown of the vector of imports into a matrix of uses, the procedure applied is as follows: For each line of the vector of imports, the total of the line is allocated pro rata between the uses (intermediate and final) by applying the structure of the matrix of total uses. In other words, for each row of the total employment matrix, the percentage of each type of employment is calculated. Then, the imports matrix is filled in by multiplying these percentages by the total of each row of the imports vector. Finally, this new import matrix is subtracted from the total employment matrix to obtain the domestic employment matrix.
3. Concerning taxes and duties on products, the breakdown is done in two stages: Step 1 : each of the column vectors for taxes and duties on products is split into two column vectors for imported products and for domestic products. Indeed, for each line of the matrix of total uses, the percentage of imported uses is calculated. The vector of resulting coefficients is then multiplied by each vector of total taxes and duties on products. This new vector of taxes and duties on imported products is subtracted from the total taxes and duties on products to obtain the vector of taxes and duties on domestic products. Step 2 : the vector of taxes and duties on imported products is then distributed on a pro rata basis between the different types of uses (intermediate and final) by applying the structure of the matrix of imported uses. And the vector of taxes and duties on domestic products is broken down on a pro rata basis between the types of uses according to the structure of the matrix of domestic uses.
4. Trade and transport margins refer to goods only. In the logic of the source SUT, the sum of the trade margins is assumed to be a production of the "trade" industry and the sum of the transport margins is assumed to be a production of the "transport" industry. On this basis, the total trade and transport margins are broken down into uses (intermediate and final) in "trade" and "transport" products.

5. The high or low share of exports in domestic production for certain products is not corrected because it reflects the reality of the Malian economy. For example, at the product level of “extractive industries”, the share of exports is high. This is normal because raw gold is Mali’s main export product.
6. The high or low coefficients of use of raw materials for certain products by certain industries are not also corrected. This is a reality specific to the Malian economy. We can cite as an example the case of other manufacturing industries which use a high level of the product of the extractive industries. At this level, it is jewelers who use raw gold as a raw material. So the high level of this coefficient is very real.
7. To separate mixed income from capital, detailed data from the operating accounts of industries for each institutional sector (State, companies, households) are used. The balance of the operating account of the “household” institutional sector is retained as mixed income. The mixed income vector resulting from this processing is subtracted from the gross operating surplus/mixed income vector of the source SUT to obtain the capital vector.
8. For the low or high share of labor compensation in total factor payment, adjustments are made. Indeed, a hypothesis relating to the fact that the mixed income contains a part of the labor remuneration especially for the self-employed is adopted. On this basis, the mixed income is allocated between labor and capital according to the labor/capital weights of the source SUT. Despite these adjustments, some branches of activity emerged with too high a share of capital. The branches of activity concerned are:
  - A01: Agriculture;
  - A02: Breeding and hunting
  - A03: Forestry and lumbering
  - A04: Fishing, fish farming and aquaculture
  - C01: Manufacture of food and beverage products

These industries are more than 70% informal where capital should not have a very high weight. Thus, the coefficient of sharing of mixed income between labor and capital is revised with 60% for labor and 40% for capital.

9. Regarding the high or low share of capital in the total payment of factors, the approach used at the level of labor remuneration also made it possible to adjust the level of capital.
10. As for land rents, there was no additional data to populate this vector.

## **AG.5 Conversion of the Malian Supply and Use Table (SUT) to GTAP format**

### **Products from the source SUT not taken into account in GTAP**

The source SUT contains two products namely:

- Y01: territorial correction
- Z99: pending product.

These two products have no match in GTAP's list of 65 sectors. Then they are deleted and the values allocated to them are retrieved from other products.

Indeed, the “territorial correction” product comes from the “travel” item of the balance of payments. It takes into import, the final consumption expenditures that Malian households have made in the rest of the world and exports the final consumption expenditures that foreign households have made in Mali. Thus, the overall value of final household consumption must be increased by exports and decreased by imports of this “territorial correction” product. Since this product is deleted, its values are assigned to the product “I01: accommodation and catering service”.

With regard to the product “Z99: pending product”, it contains the value of the Freight Insurance Cost (CIF) correction at the balance of payments level. This CIF value is shared between imports of products “H01: transport and storage services” and “K01: financial and insurance services” according to their weight.

### Concordance between Malian SUT sectors and GTAP sectors

The passage between the 65 sectors of GTAP and the 36 sectors of the Malian SUT is shown in the following table. It should be noted that the 171 products of the nomenclature of the national accounts of Mali are also added to this table for more precision.

Table 8.77: Concordance between the 65 sectors of GTAP and the 36 sectors of the Malian SUT

| No. | GSC3 | Description                                                                    | Sector Code<br>SUT<br>Mali | Mali SUT sector<br>description | Mali<br>Product<br>Code | Mali product<br>description |
|-----|------|--------------------------------------------------------------------------------|----------------------------|--------------------------------|-------------------------|-----------------------------|
| 1   | pdr  | Rice: seed, paddy (not husked)                                                 | A01                        | AGRICULTURAL PRODUCT           | A01001003               | paddy rice                  |
| 2   | wht  | Wheat: seed, other                                                             | A01                        | AGRICULTURAL PRODUCT           | A01001001               | Wheat                       |
| 3   | gro  | Other Grains: maize (corn), sorghum, barley, rye, oats, millets, other cereals | A01                        | AGRICULTURAL PRODUCT           | A01001002               | Corn                        |
|     |      |                                                                                | A01                        | AGRICULTURAL PRODUCT           | A01001004               | Mil                         |
|     |      |                                                                                | A01                        | AGRICULTURAL PRODUCT           | A01001005               | Sorghum                     |
|     |      |                                                                                | A01                        | AGRICULTURAL PRODUCT           | A01001006               | Fonio                       |

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| No. | GSC3 | Description                                                                       | Sector Code<br>SUT<br>Mali | Mali SUT sector<br>description | Mali Product<br>Code | Mali product<br>description            |
|-----|------|-----------------------------------------------------------------------------------|----------------------------|--------------------------------|----------------------|----------------------------------------|
|     |      |                                                                                   | A01                        | AGRICULTURAL<br>PRODUCT        | A01001009            | Other cereals n.e.c.                   |
| 4   | v_f  | Veg & Fruit:<br>vegetables, fruit and<br>nuts, edible roots and<br>tubers, pulses | A01                        | AGRICULTURAL<br>PRODUCT        | A01006001            | Fresh vegetables                       |
|     |      |                                                                                   | A01                        | AGRICULTURAL<br>PRODUCT        | A01006002            | Mangoes                                |
|     |      |                                                                                   | A01                        | AGRICULTURAL<br>PRODUCT        | A01006003            | Plants and flowers                     |
|     |      |                                                                                   | A01                        | AGRICULTURAL<br>PRODUCT        | A01006004            | Spices                                 |
|     |      |                                                                                   | A01                        | AGRICULTURAL<br>PRODUCT        | A01006009            | Other fruit n.e.c.                     |
|     |      |                                                                                   | A01                        | AGRICULTURAL<br>PRODUCT        | A01002001            | Potatoes                               |
|     |      |                                                                                   | A01                        | AGRICULTURAL<br>PRODUCT        | A01002002            | Yam                                    |
|     |      |                                                                                   | A01                        | AGRICULTURAL<br>PRODUCT        | A01002009            | Other tubers and pulses                |
| 5   | osd  | Oil Seeds: oil seeds<br>and oleaginous fruit                                      | A01                        | AGRICULTURAL<br>PRODUCT        | A01003001            | Peanuts                                |
|     |      |                                                                                   | A01                        | AGRICULTURAL<br>PRODUCT        | A01003002            | Shea nuts and almonds                  |
|     |      |                                                                                   | A01                        | AGRICULTURAL<br>PRODUCT        | A01003009            | Other oilseed plant<br>products n.e.c. |
|     |      |                                                                                   | A01                        | AGRICULTURAL<br>PRODUCT        | A01004000            | Seed cotton                            |
|     |      |                                                                                   | A01                        | AGRICULTURAL<br>PRODUCT        | A01005002            | cotton seeds                           |
| 6   | c_b  | Cane & Beet: sugar<br>crops                                                       | A01                        | AGRICULTURAL<br>PRODUCT        | A01007001            | Sugar cane                             |
| 7   | pfb  | Fibres crops                                                                      | A01                        | AGRICULTURAL<br>PRODUCT        | A01005001            | cotton fiber                           |

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| No. | GSC3 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      | Sector Code<br>SUT<br>Mali | Mali SUT sector<br>description    | Mali Product<br>Code | Mali product<br>description |
|-----|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------|----------------------|-----------------------------|
| 8   | ocr  | Other Crops: stimulant; spice and aromatic crops; forage products; plants and parts of plants used primarily in perfumery, pharmacy, or for insecticidal, fungicidal or similar purposes; beet seeds (excluding sugar beet seeds) and seeds of forage plants; natural rubber in primary forms or in plates, sheets or strip, living plants; cut flowers and flower buds; flower seeds, unmanufactured tobacco; other raw vegetable materials nec | A01                        | AGRICULTURAL PRODUCT              | A01007009            | Other crops n.e.c.          |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A01                        | AGRICULTURAL PRODUCT              | A01007002            | Cultural support services   |
| 9   | ctl  | Cattle: bovine animals, live, other ruminants, horses and other equines, bovine semen                                                                                                                                                                                                                                                                                                                                                            | A02                        | PRODUCTS OF LIVESTOCK AND HUNTING | A02001001            | Cattle on the hoof          |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A02                        | PRODUCTS OF LIVESTOCK AND HUNTING | A02001002            | Live sheep                  |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A02                        | PRODUCTS OF LIVESTOCK AND HUNTING | A02001003            | Live goats                  |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A02                        | PRODUCTS OF LIVESTOCK AND HUNTING | A02003009 (20%)      | Other livestock products    |

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| No. | GSC3 | Description                                                                                                                                                                                                                                                                                                                                                                      | Sector Code<br>SUT<br>Mali | Mali SUT sector<br>description     | Mali<br>Product<br>Code | Mali product<br>description            |
|-----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------------------------------|-------------------------|----------------------------------------|
| 10  | oap  | Other Animal Products: swine; poultry; other live animals; eggs of hens or other birds in shell, fresh; reproductive materials of animals; natural honey; snails, fresh, chilled, frozen, dried, salted or in brine, except sea snails; edible products of animal origin n.e.c.; hides, skins and furskins, raw; insect waxes and spermaceti, whether or not refined or coloured | A02                        | PRODUCTS OF LIVESTOCK AND HUNTING  | A02001004               | Pigs on the hoof                       |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                  | A02                        | PRODUCTS OF LIVESTOCK AND HUNTING  | A02002001               | Poultry                                |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                  | A02                        | PRODUCTS OF LIVESTOCK AND HUNTING  | A02002002               | Eggs                                   |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                  | A02                        | PRODUCTS OF LIVESTOCK AND HUNTING  | A02003001               | Honey                                  |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                  | A02                        | PRODUCTS OF LIVESTOCK AND HUNTING  | A02003002               | Livestock support services             |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                  | A02                        | PRODUCTS OF LIVESTOCK AND HUNTING  | A02003009 (80%)         | Other livestock products               |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                  | C01                        | FOOD, BEVERAGES AND PRODUCTS       | C01001009               | Raw hides and other slaughter products |
| 11  | rmk  | Raw milk                                                                                                                                                                                                                                                                                                                                                                         | A02                        | PRODUCTS OF LIVESTOCK AND HUNTING  | A02001005               | raw milk                               |
| 12  | wol  | Wool: wool, silk, and other raw animal materials used in textile                                                                                                                                                                                                                                                                                                                 | A02                        | PRODUCTS OF LIVESTOCK AND HUNTING  | A02003009 (0%)          | Other livestock products               |
| 13  | frs  | Forestry: forestry, logging and related service activities                                                                                                                                                                                                                                                                                                                       | A03                        | PRODUCT OF FORESTRY AND HARVESTING | A03001001               | Firewood                               |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                  | A03                        | PRODUCT OF FORESTRY AND HARVESTING | A03001002               | Charcoal                               |

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| No. | GSC3 | Description                                                                                                                                         | Sector Code<br>SUT<br>Mali | Mali SUT sector<br>description         | Mali<br>Product<br>Code | Mali product<br>description                                |
|-----|------|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------------------|-------------------------|------------------------------------------------------------|
|     |      |                                                                                                                                                     | A03                        | PRODUCT OF FORESTRY AND HARVESTING     | A03001003               | Forest support services                                    |
|     |      |                                                                                                                                                     | A03                        | PRODUCT OF FORESTRY AND HARVESTING     | A03001009               | Other standing timber, forest products and charcoal n.e.c. |
|     |      |                                                                                                                                                     | A03                        | PRODUCT OF FORESTRY AND HARVESTING     | A03002001               | Gum arabic                                                 |
|     |      |                                                                                                                                                     | A03                        | PRODUCT OF FORESTRY AND HARVESTING     | A03002002               | Vines (Zaban)                                              |
|     |      |                                                                                                                                                     | A03                        | PRODUCT OF FORESTRY AND HARVESTING     | A03002009               | Other forest and gathering products                        |
| 14  | fsh  | Fishing: hunting, trapping and game propagation including related service activities, fishing, fish farms; service activities incidental to fishing | A04                        | PRODUCT OF FISHERIES, FISH FARMING AND | A04000000               | Fishery, fish farming and aquaculture products             |
|     |      |                                                                                                                                                     | A02                        | PRODUCTS OF LIVESTOCK AND HUNTING      | A02004001               | Hunting products                                           |
|     |      |                                                                                                                                                     | A02                        | PRODUCTS OF LIVESTOCK AND HUNTING      | A02004002               | Services incidental to hunting                             |
| 15  | coa  | Coal: mining and agglomeration of hard coal, lignite and peat                                                                                       | B01                        | PRODUCTS OF EXTRACTIVE INDUSTRIES      | B01002009 (0%)          | Other extractive industry products                         |
| 16  | oil  | Oil: extraction of crude petroleum, service activities incidental to oil and gas extraction excluding surveying (part)                              | B01                        | PRODUCTS OF EXTRACTIVE INDUSTRIES      | B01002009 (0%)          | Other extractive industry products                         |
| 17  | gas  | Gas: extraction of natural gas, service activities incidental to oil and gas extraction excluding surveying (part)                                  | B01                        | PRODUCTS OF EXTRACTIVE INDUSTRIES      | B01002009 (0%)          | Other extractive industry products                         |
| 18  | oxt  | Other Mining Extraction: mining of metal ores; other mining and quarrying                                                                           | B01                        | PRODUCTS OF EXTRACTIVE INDUSTRIES      | B01001001               | gold ores                                                  |

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| No. | GSC3 | Description                                                                                                                                                                                                                                                                                                                                                                                               | Sector Code<br>SUT<br>Mali | Mali SUT sector<br>description          | Mali Product<br>Code | Mali product<br>description                                 |
|-----|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------------|----------------------|-------------------------------------------------------------|
|     |      |                                                                                                                                                                                                                                                                                                                                                                                                           | B01                        | PRODUCTS OF<br>EXTRACTIVE<br>INDUSTRIES | B01001002            | iron ores                                                   |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                                           | B01                        | PRODUCTS OF<br>EXTRACTIVE<br>INDUSTRIES | B01001009            | Other metallic ores<br>n.e.c.                               |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                                           | B01                        | PRODUCTS OF<br>EXTRACTIVE<br>INDUSTRIES | B01002001            | Sands, clays and stones<br>for construction and<br>industry |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                                           | B01                        | PRODUCTS OF<br>EXTRACTIVE<br>INDUSTRIES | B01002002            | Extractive industry<br>support services                     |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                                           | B01                        | PRODUCTS OF<br>EXTRACTIVE<br>INDUSTRIES | B01002009<br>(100%)  | Other extractive<br>industry products                       |
| 19  | cmt  | Cattle Meat: fresh or<br>chilled; meat of<br>buffalo, fresh or<br>chilled; meat of sheep,<br>fresh or chilled; meat<br>of goat, fresh or<br>chilled; meat of camels<br>and camelids, fresh or<br>chilled; meat of horses<br>and other equines,<br>fresh or chilled; other<br>meat of mammals,<br>fresh or chilled; meat<br>of mammals, frozen;<br>edible offal of<br>mammals, fresh,<br>chilled or frozen | C01                        | FOOD, BEVERAGES<br>AND PRODUCTS         | C01001001            | Butcher meat                                                |

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| No. | GSC3 | Description                                                                                                                                                                                                                                                                                                                                                                                | Sector Code<br>SUT<br>Mali | Mali SUT sector<br>description | Mali Product<br>Code | Mali product<br>description                  |
|-----|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------------|----------------------|----------------------------------------------|
| 20  | omt  | Other Meat: meat of pigs, fresh or chilled; meat of rabbits and hares, fresh or chilled; meat of poultry, fresh or chilled; meat of poultry, frozen; edible offal of poultry, fresh, chilled or frozen; other meat and edible offal, fresh, chilled or frozen; preserves and preparations of meat, meat offal or blood; flours, meals and pellets of meat or meat offal, inedible; greaves | C01                        | FOOD, BEVERAGES AND PRODUCTS   | C01001002            | Poultry meat                                 |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                            | C01                        | FOOD, BEVERAGES AND PRODUCTS   | C01001003            | Other meats, meat preparations and preserves |
| 21  | vol  | Vegetable Oils: margarine and similar preparations; cotton linters; oil-cake and other residues resulting from the extraction of vegetable fats or oils; flours and meals of oil seeds or oleaginous fruits, except those of mustard; vegetable waxes, except triglycerides; degreas; residues resulting from the treatment of fatty substances or animal or vegetable waxes; animal fats  | C01                        | FOOD, BEVERAGES AND PRODUCTS   | C01004001            | Shea Butter                                  |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                            | C01                        | FOOD, BEVERAGES AND PRODUCTS   | C01004002            | Other crude oils                             |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                            | C01                        | FOOD, BEVERAGES AND PRODUCTS   | C01004003            | Refined peanut and cottonseed oil            |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                            | C01                        | FOOD, BEVERAGES AND PRODUCTS   | C01004009            | Other refined oils                           |
| 22  | mil  | Milk: dairy products                                                                                                                                                                                                                                                                                                                                                                       | C01                        | FOOD, BEVERAGES AND PRODUCTS   | C01005000            | Dairy products and ice cream                 |

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| No. | GSC3 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Sector Code<br>SUT<br>Mali | Mali SUT sector<br>description | Mali Product<br>Code | Mali product<br>description                            |
|-----|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------------|----------------------|--------------------------------------------------------|
| 23  | pcr  | Processed Rice: semi- or wholly milled, or husked                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | C01                        | FOOD, BEVERAGES AND PRODUCTS   | C01006001            | husked rice                                            |
| 24  | sgr  | Sugar and molasses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | C01                        | FOOD, BEVERAGES AND PRODUCTS   | C01010001            | Sugar                                                  |
| 25  | ofd  | Other Food: prepared and preserved fish, crustaceans, molluscs and other aquatic invertebrates; prepared and preserved vegetables, pulses and potatoes; prepared and preserved fruits and nuts; wheat and meslin flour; other cereal flours; groats, meal and pellets of wheat and other cereals; other cereal grain products (including corn flakes); other vegetable flours and meals; mixes and doughs for the preparation of bakers' wares; starches and starch products; sugars and sugar syrups n.e.c.; preparations used in animal feeding; lucerne (alfalfa) meal and pellets; bakery products; cocoa, chocolate and sugar confectionery; macaroni, noodles, couscous and similar farinaceous products; food products n.e.c. | C01                        | FOOD, BEVERAGES AND PRODUCTS   | C01002001            | Frozen or deep-frozen fish, crustaceans and molluscs   |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | C01                        | FOOD, BEVERAGES AND PRODUCTS   | C01002002            | Dried, salted or smoked fish, crustaceans and molluscs |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | C01                        | FOOD, BEVERAGES AND PRODUCTS   | C01002009            | Other processed fish, crustaceans and molluscs         |
|     |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | C01                        | FOOD, BEVERAGES AND PRODUCTS   | C01003001            | Canned vegetables and fruits                           |

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| No. | GSC3 | Description                    | Sector Code SUT Mali | Mali SUT sector description           | Mali Product Code | Mali product description                         |
|-----|------|--------------------------------|----------------------|---------------------------------------|-------------------|--------------------------------------------------|
|     |      |                                | C01                  | FOOD, BEVERAGES AND PRODUCTS          | C01003002         | Fruit and vegetable juices                       |
|     |      |                                | C01                  | FOOD, BEVERAGES AND PRODUCTS          | C01003009         | Other fruit and vegetable products               |
|     |      |                                | C01                  | FOOD, BEVERAGES AND PRODUCTS          | C01006002         | Wheat flour                                      |
|     |      |                                | C01                  | FOOD, BEVERAGES AND PRODUCTS          | C01006009         | Other grain and starch processing products       |
|     |      |                                | C01                  | FOOD, BEVERAGES AND PRODUCTS          | C01007000         | Bread, cookies and pastries                      |
|     |      |                                | C01                  | FOOD, BEVERAGES AND PRODUCTS          | C01008000         | Pasta, couscous and similar farinaceous products |
|     |      |                                | C01                  | FOOD, BEVERAGES AND PRODUCTS          | C01009000         | Prepared animal feed                             |
|     |      |                                | C01                  | FOOD, BEVERAGES AND PRODUCTS          | C01010002         | Cocoa, chocolate and confectionery products      |
|     |      |                                | C01                  | FOOD, BEVERAGES AND PRODUCTS          | C01011000         | Other food products n.e.c.                       |
| 26  | b_t  | Beverages and Tobacco products | C01                  | FOOD, BEVERAGES AND PRODUCTS          | C01012001         | Alcoholic beverages                              |
|     |      |                                | C01                  | FOOD, BEVERAGES AND PRODUCTS          | C01012002         | Table water (including in sachets)               |
|     |      |                                | C01                  | FOOD, BEVERAGES AND PRODUCTS          | C01012003         | Miscellaneous non-alcoholic beverages            |
|     |      |                                | C01                  | FOOD, BEVERAGES AND PRODUCTS          | C01013000         | Cigarettes and tobacco products                  |
| 27  | tex  | Manufacture of textiles        | C02                  | TEXTILE PRODUCTS OF CLOTHING ARTICLES | C02001001         | Son                                              |
|     |      |                                | C02                  | TEXTILE PRODUCTS OF CLOTHING ARTICLES | C02001002         | Fabrics                                          |
|     |      |                                | C02                  | TEXTILE PRODUCTS OF CLOTHING ARTICLES | C02001003         | Textile finishing services                       |
|     |      |                                | C02                  | TEXTILE PRODUCTS OF CLOTHING ARTICLES | C02002000         | Other non-clothing textile articles              |
| 28  | wap  | Manufacture of wearing apparel | C02                  | TEXTILE PRODUCTS OF CLOTHING ARTICLES | C02003000         | Clothing items                                   |

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| No. | GSC3 | Description                                                                                                                             | Sector Code<br>SUT<br>Mali | Mali SUT sector description           | Mali Product Code | Mali product description                                         |
|-----|------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------------|-------------------|------------------------------------------------------------------|
| 29  | lea  | Manufacture of leather and related products                                                                                             | C02                        | TEXTILE PRODUCTS OF CLOTHING ARTICLES | C02004000         | Worked leather, travel goods and shoes                           |
| 30  | lum  | Lumber: manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials | C03                        | WORKED WOOD, WOODEN OR VALVE ITEMS    | C03001000         | Worked wood, wooden articles or wickerwork (excluding furniture) |
| 31  | ppp  | Paper & Paper Products: includes printing and reproduction of recorded media                                                            | C03                        | WORKED WOOD, WOODEN OR VALVE ITEMS    | C03002000         | Paper, paper or cardboard articles                               |
|     |      |                                                                                                                                         | C03                        | WORKED WOOD, WOODEN OR VALVE ITEMS    | C03003000         | Printing of newspapers and Other printing works                  |
|     |      |                                                                                                                                         | C03                        | WORKED WOOD, WOODEN OR VALVE ITEMS    | C03004000         | Playback of recordings                                           |
| 32  | p-c  | Petroleum & Coke: manufacture of coke and refined petroleum products                                                                    | C04                        | REFINING AND COKING PRODUCTS          | C04000000         | Refined petroleum products and coking                            |
| 33  | chm  | Manufacture of chemicals and chemical products                                                                                          | C05                        | CHEMICALS AND PHARMACEUTICALS         | C05001001         | Nitrogen products and fertilizers                                |
|     |      |                                                                                                                                         | C05                        | CHEMICALS AND PHARMACEUTICALS         | C05001002         | Other Basic Chemicals                                            |
|     |      |                                                                                                                                         | C05                        | CHEMICALS AND PHARMACEUTICALS         | C05001003         | Soaps and cleaning products                                      |
|     |      |                                                                                                                                         | C05                        | CHEMICALS AND PHARMACEUTICALS         | C05001004         | Agrochemicals                                                    |
|     |      |                                                                                                                                         | C05                        | CHEMICALS AND PHARMACEUTICALS         | C05001009         | Other Functional Chemicals                                       |
| 34  | bph  | Manufacture of pharmaceuticals, medicinal chemical and botanical products                                                               | C05                        | CHEMICALS AND PHARMACEUTICALS         | C05002001         | Pharmaceutical products                                          |
|     |      |                                                                                                                                         | C05                        | CHEMICALS AND PHARMACEUTICALS         | C05002002         | Traditional medicines                                            |

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| No. | GSC3 | Description                                                                                   | Sector Code<br>SUT<br>Mali | Mali SUT sector<br>description      | Mali<br>Product<br>Code | Mali product<br>description                                                                      |
|-----|------|-----------------------------------------------------------------------------------------------|----------------------------|-------------------------------------|-------------------------|--------------------------------------------------------------------------------------------------|
| 35  | rpp  | Manufacture of rubber and plastics products                                                   | C06                        | RUBBER AND PLA WORKING PRODUCTS     | C06000000               | Rubber and plastic working products                                                              |
| 36  | nmm  | Manufacture of other non-metallic mineral products                                            | C07                        | MINERAL MATERIALS                   | C07001001               | Cement                                                                                           |
|     |      |                                                                                               | C07                        | MINERAL MATERIALS                   | C07001009               | Other mineral materials                                                                          |
|     |      |                                                                                               | C07                        | MINERAL MATERIALS                   | C07002000               | Materials and works in cement, concrete or plaster; stone working, non-metallic materials n.e.c. |
| 37  | i.s  | Iron & Steel: basic production and casting                                                    | C08                        | METALLURGICAL AND FOUNDRY PRODUCTS  | C08001009<br>(70%)      | Other Steel, Metallurgy and Foundry Products                                                     |
| 38  | nfm  | Non-Ferrous Metals: production and casting of copper, aluminium, zinc, lead, gold, and silver | C08                        | METALLURGICAL AND FOUNDRY PRODUCTS  | C08001001               | Gold                                                                                             |
|     |      |                                                                                               | C08                        | METALLURGICAL AND FOUNDRY PRODUCTS  | C08001009<br>(30%)      | Other Steel, Metallurgy and Foundry Products                                                     |
| 39  | fmp  | Manufacture of fabricated metal products, except machinery and equipment                      | C09                        | WORKS OF METAL; METALWORK           | C09000000               | Articles of metal; metalwork                                                                     |
| 40  | ele  | Manufacture of computer, electronic and optical products                                      | C10                        | MACHINERY AND EQUIPMENT             | C10000001               | Electronic and computer products                                                                 |
| 41  | eeq  | Manufacture of electrical equipment                                                           | C10                        | MACHINERY AND EQUIPMENT             | C10000002               | Electrical equipment                                                                             |
| 42  | ome  | Manufacture of machinery and equipment n.e.c.                                                 | C10                        | MACHINERY AND EQUIPMENT             | C10000003               | Machinery n.e.c.                                                                                 |
| 43  | mvh  | Manufacture of motor vehicles, trailers and semi-trailers                                     | C10                        | MACHINERY AND EQUIPMENT             | C10000004               | Vehicles, automobiles and accessories                                                            |
| 44  | otn  | Manufacture of other transport equipment                                                      | C10                        | MACHINERY AND EQUIPMENT             | C10000009               | Other transport equipment                                                                        |
| 45  | omf  | Other Manufacturing: includes furniture                                                       | C11                        | FURNITURE AND MATTRESSES            | C11000000               | furniture, mattresses and box springs                                                            |
|     |      |                                                                                               | C12                        | MISCELLANEOUS MANUFACTURED PRODUCTS | C12000001               | Jewelry                                                                                          |

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| No. | GSC3 | Description                                                          | Sector Code SUT Mali | Mali SUT sector description              | Mali Product Code | Mali product description                                                       |
|-----|------|----------------------------------------------------------------------|----------------------|------------------------------------------|-------------------|--------------------------------------------------------------------------------|
|     |      |                                                                      | C12                  | MISCELLANEOUS MANUFACTURED PRODUCTS      | C12000009         | Other manufactured products n.e.c.                                             |
|     |      |                                                                      | C13                  | REPAIR AND INSTALLATION OF MACHINERY AND | C13000000         | Repair and installation of professional machinery and equipment                |
| 46  | ely  | Electricity; steam and air conditioning supply                       | D01                  | ELECTRICITY, GAS AND ENERGY SUPPORTS     | D01000001         | electricity                                                                    |
|     |      |                                                                      | D01                  | ELECTRICITY, GAS AND ENERGY SUPPORTS     | D01000002         | Distributed gas and other energy carriers                                      |
| 47  | gdt  | Gas manufacture, distribution                                        | D01                  | ELECTRICITY, GAS AND ENERGY SUPPORTS     | D01000002         | Distributed gas and other energy carriers                                      |
| 48  | wtr  | Water supply; sewerage, waste management and remediation activities  | E01                  | WATER, SANITATION, WASTE TREATMENT       | E01001000         | Water captured and distributed                                                 |
|     |      |                                                                      | E01                  | WATER, SANITATION, WASTE TREATMENT       | E01002001         | Treated collected wastewater and sludge                                        |
|     |      |                                                                      | E01                  | WATER, SANITATION, WASTE TREATMENT       | E01002002         | Waste collected, treated, eliminated and depollution                           |
| 49  | cns  | Construction: building houses factories offices and roads            | F01                  | CONSTRUCTIONS AND CONSTRUCTION WORKS     | F01001000         | Real estate development (Complete buildings)                                   |
|     |      |                                                                      | F01                  | CONSTRUCTIONS AND CONSTRUCTION WORKS     | F01002001         | Complete building construction works                                           |
|     |      |                                                                      | F01                  | CONSTRUCTIONS AND CONSTRUCTION WORKS     | F01002002         | Specialized construction work                                                  |
|     |      |                                                                      | F01                  | CONSTRUCTIONS AND CONSTRUCTION WORKS     | F01003000         | Structures and construction works for civil engineering structures             |
| 50  | trd  | Wholesale and retail trade; repair of motor vehicles and motorcycles | G01                  | SALE                                     | G01001000         | Sale of motor vehicles and motorcycles, spare parts and automotive accessories |

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| No. | GSC3 | Description                                | Sector Code<br>SUT<br>Mali | Mali SUT sector<br>description         | Mali Product<br>Code | Mali product<br>description                                  |
|-----|------|--------------------------------------------|----------------------------|----------------------------------------|----------------------|--------------------------------------------------------------|
|     |      |                                            | G01                        | SALE                                   | G01002000            | Motor vehicle and motorcycle maintenance and repair services |
|     |      |                                            | G01                        | SALE                                   | G01003000            | Wholesale and intermediary services                          |
|     |      |                                            | G01                        | SALE                                   | G01004000            | Retail                                                       |
| 51  | afs  | Accommodation, Food and service activities | I01                        | ACCOMMODATION AND CATERING SERVICES    | I01000001            | Hosting services                                             |
|     |      |                                            | I01                        | ACCOMMODATION AND CATERING SERVICES    | I01000002            | Services of restaurants, caterers and drinking places        |
| 52  | otp  | Land transport and transport via pipelines | H01                        | TRANSPORTATION, WAREHOUSING AND SERV   | H01001001            | Rail passenger transport services                            |
|     |      |                                            | H01                        | TRANSPORTATION, WAREHOUSING AND SERV   | H01001002            | Rail freight services                                        |
|     |      |                                            | H01                        | TRANSPORTATION, WAREHOUSING AND SERV   | H01002001            | Passenger road transport services                            |
|     |      |                                            | H01                        | TRANSPORTATION, WAREHOUSING AND SERV   | H01002002            | Road freight transport services                              |
|     |      |                                            | H01                        | TRANSPORTATION, WAREHOUSING AND SERV   | H01005000            | Other transport services                                     |
| 53  | wtp  | Water transport                            | H01                        | TRANSPORTATION, WAREHOUSING AND SERV   | H01003001            | River passenger transport services                           |
|     |      |                                            | H01                        | TRANSPORTATION, WAREHOUSING AND SERV   | H01003002            | River freight transport services                             |
| 54  | atp  | Air transport                              | H01                        | TRANSPORTATION, WAREHOUSING AND SERV   | H01004001            | Passenger air transport services                             |
|     |      |                                            | H01                        | TRANSPORTATION, WAREHOUSING AND SERV   | H01004002            | Freight air transport services                               |
| 55  | whs  | Warehousing and support activities         | H01                        | TRANSPORTATION, WAREHOUSING AND SERV   | H01006000            | Warehousing and other ancillary transport services           |
| 56  | cmn  | Information and communication              | H02                        | POSTAL AND COURIER SERVICES            | H02000000            | Post and courier service                                     |
|     |      |                                            | J01                        | INFORMATION AND COMMUNICATION SERVICES | J01001000            | Publishing products                                          |

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| No. | GSC3 | Description                                                                                         | Sector Code SUT Mali | Mali SUT sector description            | Mali Product Code | Mali product description                                 |
|-----|------|-----------------------------------------------------------------------------------------------------|----------------------|----------------------------------------|-------------------|----------------------------------------------------------|
|     |      |                                                                                                     | J01                  | INFORMATION AND COMMUNICATION SERVICES | J01002000         | income from audio and video activities                   |
|     |      |                                                                                                     | J01                  | INFORMATION AND COMMUNICATION SERVICES | J01003000         | television programming and radio broadcasting services   |
|     |      |                                                                                                     | J01                  | INFORMATION AND COMMUNICATION SERVICES | J01004000         | Telecommunications services                              |
|     |      |                                                                                                     | J01                  | INFORMATION AND COMMUNICATION SERVICES | J01005000         | computer services, consulting and programming            |
|     |      |                                                                                                     | J01                  | INFORMATION AND COMMUNICATION SERVICES | J01006000         | Information-related services                             |
| 57  | ofi  | Other Financial Intermediation: includes auxiliary activities but not insurance and pension funding | K01                  | FINANCIAL AND INSURANCE SERVICES       | K01001001         | Central banking services                                 |
|     |      |                                                                                                     | K01                  | FINANCIAL AND INSURANCE SERVICES       | K01001002         | Other services of financial institutions excluding FISIM |
|     |      |                                                                                                     | K01                  | FINANCIAL AND INSURANCE SERVICES       | K01001003         | FISIM of financial institutions                          |
|     |      |                                                                                                     | K01                  | FINANCIAL AND INSURANCE SERVICES       | K01002001         | Microfinance service excluding FISIM                     |
|     |      |                                                                                                     | K01                  | FINANCIAL AND INSURANCE SERVICES       | K01002002         | Microfinance FISIM                                       |
|     |      |                                                                                                     | K01                  | FINANCIAL AND INSURANCE SERVICES       | K01004000 (40%)   | Financial auxiliaries and insurance services             |
| 58  | ins  | Insurance: includes pension funding, except compulsory social security                              | K01                  | FINANCIAL AND INSURANCE SERVICES       | K01003001         | Life insurance and pension fund services                 |
|     |      |                                                                                                     | K01                  | FINANCIAL AND INSURANCE SERVICES       | K01003002         | Property and casualty insurance and reinsurance services |
|     |      |                                                                                                     | K01                  | FINANCIAL AND INSURANCE SERVICES       | K01004000 (60%)   | Financial auxiliaries and insurance services             |

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| No. | GSC3 | Description                                                                                                                                                | Sector Code<br>SUT<br>Mali | Mali SUT sector<br>description                 | Mali<br>Product<br>Code | Mali product<br>description                                  |
|-----|------|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------------------------------------------|-------------------------|--------------------------------------------------------------|
| 59  | rsa  | Real estate activities                                                                                                                                     | L01                        | REAL ESTATE SERVICES                           | L01000001               | Real estate rental and real estate agency services           |
| 60  | obs  | Other Business Services nec                                                                                                                                | M01                        | SPECIALIZED, SCIENTIFIC AND TECHNICAL SERVICES | M01001000               | Research and development and mineral exploration services    |
|     |      |                                                                                                                                                            | M01                        | SPECIALIZED, SCIENTIFIC AND TECHNICAL SERVICES | M01002000               | Veterinary services                                          |
|     |      |                                                                                                                                                            | M01                        | SPECIALIZED, SCIENTIFIC AND TECHNICAL SERVICES | M01003000               | Other specialized scientific and technical activity services |
|     |      |                                                                                                                                                            | N01                        | SUPPORT AND OFFICE SERVICES                    | N01001000               | Services of booking agencies and tour operators              |
|     |      |                                                                                                                                                            | N01                        | SUPPORT AND OFFICE SERVICES                    | N01002000               | Investigation and security services                          |
|     |      |                                                                                                                                                            | N01                        | SUPPORT AND OFFICE SERVICES                    | N01003001               | Rental and leasing services                                  |
|     |      |                                                                                                                                                            | N01                        | SUPPORT AND OFFICE SERVICES                    | N01003009               | Other support and office services                            |
| 61  | ros  | Recreation & Other Services: recreational, cultural and sporting activities, other service activities; private households with employed persons (servants) | R01                        | ARTISTIC, SPORTS AND RECREATIONAL SERVICES     | R01000001               | Games of chance and money                                    |
|     |      |                                                                                                                                                            | R01                        | ARTISTIC, SPORTS AND RECREATIONAL SERVICES     | R01000009               | Other artistic, sporting and recreational services           |
|     |      |                                                                                                                                                            | S01                        | OTHER SERVICES N.E.C.                          | S01001000               | Services provided by membership organizations                |
|     |      |                                                                                                                                                            | S01                        | OTHER SERVICES N.E.C.                          | S01002000               | Repair of computers, personal and household goods            |
|     |      |                                                                                                                                                            | S01                        | OTHER SERVICES N.E.C.                          | S01003000               | Other personal services                                      |
|     |      |                                                                                                                                                            | T01                        | SPECIAL HOUSEHOLD SERVICES                     | T01000000               | Domestic services and other special household services       |

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| No. | GSC3 | Description                                                                                                                                                                           | Sector Code<br>SUT<br>Mali | Mali SUT sector<br>description          | Mali<br>Product<br>Code | Mali product<br>description    |
|-----|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------------|-------------------------|--------------------------------|
| 62  | osg  | Other Services (Government): public administration and defense; compulsory social security, activities of membership organizations n.e.c., extra-territorial organizations and bodies | O01                        | PUBLIC ADMINISTRATION SERVICES          | O01000000               | public administration services |
| 63  | edu  | Education                                                                                                                                                                             | P01                        | TEACHING SERVICE                        | P01000000               | Teaching service               |
| 64  | hht  | Human health and social work                                                                                                                                                          | Q01                        | SERVICES FOR HUMAN HEALTH AND SO ACTION | Q01000001               | Human health services          |
|     |      |                                                                                                                                                                                       | Q01                        | SERVICES FOR HUMAN HEALTH AND SO ACTION | Q01000002               | Social action services         |
| 65  | dwe  | Dwellings: ownership of dwellings (imputed rents of houses occupied by owners)                                                                                                        | L01                        | REAL ESTATE SERVICES                    | L01000002               | Imputed rent services          |