

# Azerbaijan

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## 1. Introduction

Azerbaijan is not represented individually in version 6 of the GTAP Data Base. The country is only represented indirectly via the composite region *Rest of Former Soviet Union* (labeled XSU), which also accounts for 10 other member states of the Commonwealth of Independent States (CIS).

This document describes the procedure used for preparation of an input-output table for Azerbaijan to GTAP. The reference year of the table is 2001 and the original table has 25 sectors. Additional data is used to disaggregate the table, and the disaggregated table has 31 sectors.

## 2. The Original Input-Output Table

The State Statistical Committee of Azerbaijan Republic published a 25 sector input-output table for the year 2001 in *Statistical Yearbook of Azerbaijan 2005*. The unit of the table is millions of manats. The data is presented in basic prices.

The use matrix represents total use, i.e., the sum of domestic and imported commodities used as intermediates or consumed as final products. Imports are reported by commodities, but only as total imports (not by category of use). Matrices for the use of domestic and imported commodities are consequently obtained by pro-rating the totals across uses using the structure of the total use matrix. That is, it is assumed that the ratio of imports to domestic production is constant for each commodity across all uses.

The table has very little detail regarding taxes. Only “Other taxes on production” is presented. There is no data related to “Dwellings”.

Factor demands include “Wages and salaries” and “Social contributions”, which are mapped to “Labor”, and “Gross operating surplus” and “Consumption of fixed assets”, which are mapped to “Capital”.

Final demands distinguish household consumptions, government consumption, fixed capital formation, changes in inventories, and exports, which corresponds directly to the final demand categories used for submission of an input-output table to GTAP.

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### 3. *Sectoral Classification*

Most of the sectors in the input-output table correspond directly with many of the GTAP sectors. Table 1 shows the map between the 25 sectors in the original table and the 31 sectors in the disaggregated table. Table 2 shows the map between the 31 sectors and the GTAP sectors.

The *Statistical Yearbook of Azerbaijan 2005* includes a table with the structure of industrial production by 24 sectors, most of which are already included in the input-output table. Data from this table has been used to disaggregate the manufacturing sectors using the weights listed in Table 1.

Economic data on forestry could not be obtained. Physical data on output suggests that this sector is very small in Azerbaijan and a small weight is therefore assigned to this sector.

Coal is not produced in Azerbaijan, nor is it imported or consumed in any significant amounts. The weight for coal is therefore zero. Economic data on the decomposition of oil and gas production could not be obtained. Physical data on output suggests that gas production is significant, but that oil accounts for the majority of production in this sector.

The disaggregation procedure split domestic production, imports and final demands by pro-rating the all totals for the aggregate sector using the weights for the disaggregated sectors. This procedure underestimates the disaggregated sectors' use of own production, and these uses are therefore reallocated within the disaggregated sectors, keeping the totals constant.

Additional adjustments are made in the sectors for oil and gas. According to energy balances provided by the International Energy Agency (IEA), oil is not imported and domestic production is only used for exports and in refineries. The energy balance also shows that gas is not exported, is imported in large quantities, and that most of the gas is used for generation of electricity or by households.

A final adjustment increases stock changes in the sectors for trade and transport by the corresponding aggregate CIF/FOB margins. The data does not allow allocation of the CIF/FOB margins to the imports of individual commodities.

**Table 1. Map between sectors in original input-output table and disaggregated table**

| Acronym | Label                                                           | Weight                  | Acronym | Label                                                           |
|---------|-----------------------------------------------------------------|-------------------------|---------|-----------------------------------------------------------------|
| AGF     | Agriculture, hunting, and forestry                              | 0.999<br>0.001          | AGR     | Agriculture & hunting                                           |
| FOP     | Food products, beverages and tobacco                            | 1                       | FRS     | Forestry                                                        |
| FSH     | Fishing                                                         | 1                       | FOP     | Food products, beverages and tobacco                            |
| OIG     | Oil and gas production and services in this field               | 0<br>0.9<br>0.1         | FSH     | Fishing                                                         |
| OMN     | Mining and quarrying                                            | 1                       | COA     | Coal                                                            |
| TXT     | Textile and leather products                                    | 0.7<br>0.2<br>0.1       | OIL     | Oil                                                             |
| PPP     | Paper and paper products, publishing and printing               | 1                       | GAS     | Gas                                                             |
| P_C     | Petroleum products                                              | 1                       | OMN     | Mining and quarrying                                            |
| CRP     | Basic chemical and man made fibres, rubber and plastic products | 1                       | TEX     | Textiles                                                        |
| NMM     | Glass and construction materials                                | 1                       | WAP     | Wearing apparel                                                 |
| MTL     | Basic metals and fabricated metal products                      | 1                       | LEA     | Leather products                                                |
| MCH     | Machinery, equipment n.e.c                                      | 0.003<br>0.463<br>0.533 | PPP     | Paper and paper products, publishing and printing               |
| FUR     | Furniture and other industrial products                         | 1                       | P_C     | Petroleum products                                              |
| ELW     | Electricity, gas and water supply                               | 0.8<br>0.1<br>0.1       | CRP     | Basic chemical and man made fibres, rubber and plastic products |
| CNS     | Construction                                                    | 1                       | NMM     | Glass and construction materials                                |
| TDE     | Trade                                                           | 1                       | MTL     | Basic metals and fabricated metal products                      |
| HTL     | Hotels and restaurants                                          | 1                       | MVH     | Motor vehicles and parts                                        |
| TRN     | Transport and storage                                           | 1                       | OTN     | Transport equipment nec                                         |
| CMM     | Communication                                                   | 1                       | OME     | Machinery and equipment nec                                     |
| FIN     | Financial intermediation, insurance and pension funds           | 1                       | OMF     | Manufactures nec                                                |
| OBS     | Real estate activities, renting and other business activities   | 1                       | ELY     | Electricity                                                     |
| ROS     | Utility and other services                                      | 1                       | GDT     | Gas manufacture, distribution                                   |
| EDU     | Education                                                       | 1                       | WTR     | Water supply                                                    |
| HEA     | Health and social work activities                               | 1                       | CNS     | Construction                                                    |
| PUB     | Public administration and social security                       | 1                       | TRD     | Trade, hotels and restaurants                                   |
|         |                                                                 |                         | TRN     | Transport and storage                                           |
|         |                                                                 |                         | CMM     | Communication                                                   |
|         |                                                                 |                         | FIN     | Financial intermediation, insurance and pension funds           |
|         |                                                                 |                         | OBS     | Real estate activities, renting and other business activities   |
|         |                                                                 |                         | ROS     | Utility and other services                                      |
|         |                                                                 |                         | OSG     | Public administration, health, education, social work           |

**Table 2. Map between sectors in disaggregated table and GTAP sectors**

| Acronym | Label                                                           | Acronym | Label                                  |
|---------|-----------------------------------------------------------------|---------|----------------------------------------|
| AGR     | Agriculture & hunting                                           | PDR     | Paddy rice                             |
|         |                                                                 | WHT     | Wheat                                  |
|         |                                                                 | GRO     | Cereal grains nec                      |
|         |                                                                 | V_F     | Vegetables, fruit, nuts                |
|         |                                                                 | OSD     | Oil seeds                              |
|         |                                                                 | C_B     | Sugar cane, sugar beet                 |
|         |                                                                 | PFB     | Plant-based fibers                     |
|         |                                                                 | OCR     | Crops nec                              |
|         |                                                                 | CTL     | Bovine cattle, sheep and goats, horses |
|         |                                                                 | OAP     | Animal products nec                    |
|         |                                                                 | RMK     | Raw milk                               |
|         |                                                                 | WOL     | Wool, silk-worm cocoons                |
| FRS     | Forestry                                                        | FRS     | Forestry                               |
| FSH     | Fishing                                                         | FSH     | Fishing                                |
| COA     | Coal                                                            | COA     | Coal                                   |
| OIL     | Oil                                                             | OIL     | Oil                                    |
| GAS     | Gas                                                             | GAS     | Gas                                    |
| OMN     | Mining and quarrying                                            | OMN     | Minerals nec                           |
| FOP     | Food products, beverages and tobacco                            | CMT     | Bovine meat products                   |
|         |                                                                 | OMT     | Meat products nec                      |
|         |                                                                 | VOL     | Vegetable oils and fats                |
|         |                                                                 | MIL     | Dairy products                         |
|         |                                                                 | PCR     | Processed rice                         |
|         |                                                                 | SGR     | Sugar                                  |
|         |                                                                 | OFD     | Food products nec                      |
|         |                                                                 | B_T     | Beverages and tobacco products         |
| TEX     | Textiles                                                        | TEX     | Textiles                               |
| WAP     | Wearing apparel                                                 | WAP     | Wearing apparel                        |
| LEA     | Leather products                                                | LEA     | Leather products                       |
| PPP     | Paper and paper products, publishing and printing               | PPP     | Paper products, publishing             |
| P_C     | Petroleum products                                              | P_C     | Petroleum, coal products               |
| CRP     | Basic chemical and man made fibres, rubber and plastic products | CRP     | Chemical, rubber, plastic products     |
| NMM     | Glass and construction materials                                | NMM     | Mineral products nec                   |
| MTL     | Basic metals and fabricated metal products                      | I_S     | Ferrous metals                         |
|         |                                                                 | NFM     | Metals nec                             |
|         |                                                                 | FMP     | Metal products                         |
| MVH     | Motor vehicles and parts                                        | MVH     | Motor vehicles and parts               |
| OTN     | Transport equipment nec                                         | OTN     | Transport equipment nec                |
| OME     | Machinery and equipment nec                                     | OME     | Machinery and equipment nec            |
| OMF     | Manufactures nec                                                | OMF     | Manufactures nec                       |
|         |                                                                 | ELE     | Electronic equipment                   |
|         |                                                                 | LUM     | Wood products                          |
| ELY     | Electricity                                                     | ELY     | Electricity                            |

| Acronym | Label                                                            | Acronym | Label                                                |
|---------|------------------------------------------------------------------|---------|------------------------------------------------------|
| GDT     | Gas manufacture, distribution                                    | GDT     | Gas manufacture, distribution                        |
| WTR     | Water supply                                                     | WTR     | Water                                                |
| CNS     | Construction                                                     | CNS     | Construction                                         |
| TRD     | Trade, hotels and restaurants                                    | TRD     | Trade                                                |
| TRN     | Transport and storage                                            | OTP     | Transport nec                                        |
|         |                                                                  | WTP     | Water transport                                      |
|         |                                                                  | ATP     | Air transport                                        |
| CMM     | Communication                                                    | CMM     | Communication                                        |
| FIN     | Financial intermediation,<br>insurance and pension funds         | OFI     | Financial services nec                               |
|         |                                                                  | ISR     | Insurance                                            |
| OBS     | Real estate activities, renting<br>and other business activities | OBS     | Business services nec                                |
| ROS     | Utility and other services                                       | ROS     | Recreational and other services                      |
| OSG     | Public administration, health,<br>education, social work         | OSG     | Public Administration, Defense,<br>Education, Health |