

Armenia

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1. Introduction

Armenia 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 Armenia to GTAP. The reference year of the table is 2002 and the original table has 25 sectors. Additional data is used to disaggregate the table, and the disaggregated table has 30 sectors.

2. The Original Input-Output Table

An official input-output table for Armenia is not available. The table submitted to GTAP is based on a table included in a social accounting matrix developed by Miles K. Light, Ekaterine Vashakmadze, and Artsvi Khatchatryan. Their table is for the year 2002, has 25 sectors and is produced using official data provided by Armenian Ministries and Departments including the National Statistical Service, the Customs Authorities, and the Tax Authorities. IMF data and coefficients from GTAP input-output tables are also employed to produce a balanced table for Armenia.

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 some detail regarding taxes. There is data on VAT, excise taxes and import duties by commodity. VAT and excise taxes are assumed to apply uniformly to uses of both imported and domestically produced commodities.

Factor demands include “Skilled labor” and “Unskilled labor”, which are mapped to “Labor”, and “Capital” and “Land”. Final demands distinguish household consumptions, government consumption, fixed capital formation, and exports, which corresponds directly to the final demand categories used for submission of an input-output table to GTAP.

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 30 sectors in the disaggregated table. Table 2 shows the map between the 30 sectors and the GTAP sectors.

Coal and oil are not produced in Armenia, nor are they imported or consumed in any significant amounts. The weights for coal and oil are therefore zero.

The sector for energy in the original table mainly covers gas and petroleum products. None of them are produced in Armenia. According to data published by UNCTAD/WTO, the value of imports of gas and petroleum are roughly equal, and the two sectors are therefore both assigned the same weight.

Three other sectors in the original table are split into a total of 6 sectors in the disaggregated table to match the compulsory splits of GTAP sectors. Economic data on the disaggregated sectors could not be obtained, and the weights are therefore based on analysis of the corresponding sectors in other GTAP regions.

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 for the uses of gas and petroleum products. According to energy balances provided by the International Energy Agency (IEA), fossil fuel based electricity generation is purely based on gas. Petroleum products are mainly used for transportation purposes, both by the transportation sectors and by households.

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

Acronym	Label	Weight	Acronym	Label
WPL	Wheat potatoes and legumes	1	WPL	Wheat potatoes and legumes
V_F	Vegetables and fruits including grapes and dried fruits	1	V_F	Vegetables, fruit, nuts
VOF	Vegetable oils and fats	1	VOF	Vegetable oils and fats
OTC	Crops not elsewhere classified	0.5	OTC	Crops not elsewhere classified
		0.5	FRS	Forestry
DPR	Diary products including eggs and milk	1	DPR	Diary products including eggs and milk
TBC	Tobacco products	1	FOD	Food processing and beverages
FOD	Food processing and beverages	0.95	FOD	
		0.05	FSH	Fishing
ANI	Animals: Beef pork mutton and poultry	1	ANI	Animals: Beef pork mutton and poultry
ENR	Energy - oil and natural gas	0	COA	Coal
		0	OIL	Oil
		0.5	GAS	Gas
		0.5	P_C	Petroleum products
OMN	Mining and quarrying	1	OMN	Mining and quarrying
LMF	Light manufacturing and textiles	1	LMF	Light manufacturing and textiles
CRP	Chemicals rubbers and plastics	1	CRP	Chemicals rubbers and plastics
MTL	Metals and metal products	1	MTL	Metals and metal products
NMM	Mineral products and precious stones	1	NMM	Mineral products and precious stones
MCH	Machinery equipment and motor vehicles and precision optical equipment	1	MCH	Machinery equipment and motor vehicles and precision optical equipment
OTM	Other manufacturing	1	OTM	Other manufacturing
ELY	Electricity supply and distribution	1	ELY	Electricity supply and distribution
UTL	Gas and water supply	0.25	GDT	Gas manufacture, distribution
		0.75	WTR	Water supply
CNS	Construction	1	CNS	Construction
TRD	Retail and wholesale trade and public catering	1	TRD	Retail and wholesale trade and public catering
TRC	Transport and communication	1	TRC	Transport and communication
FIN	Banking lending and insurance	1	FIN	Banking lending and insurance
OSR	Other Services not elsewhere classified	1	OSR	Other Services not elsewhere classified
OSG	Governance, Defense, and public procurements	1	OSG	Governance, Defense, and public procurements
DWE	Housing and dwellings	1	DWE	Housing and dwellings

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

Acronym	Label	Acronym	Label
WPL	Wheat potatoes and legumes	PDR	Paddy rice
		WHT	Wheat
		GRO	Cereal grains nec
V_F	Vegetables, fruit, nuts	V_F	Vegetables, fruit, nuts
VOF	Vegetable oils and fats	VOL	Vegetable oils and fats
		OSD	Oil seeds
OTC	Crops not elsewhere classified	C_B	Sugar cane, sugar beet
		PFB	Plant-based fibers
		OCR	Crops nec
		SGR	Sugar
DPR	Diary products including eggs and milk	RMK	Raw milk
		MIL	Dairy products
FOD	Food processing and beverages	CMT	Bovine meat products
		OMT	Meat products nec
		PCR	Processed rice
		OFD	Food products nec
		B_T	Beverages and tobacco products
ANI	Animals: Beef pork mutton and poultry	CTL	Bovine cattle, sheep and goats, horses
		OAP	Animal products nec
		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
LMF	Light manufacturing and textiles	TEX	Textiles
		WAP	Wearing apparel
		LEA	Leather products
OTM	Other manufacturing	LUM	Wood products
		PPP	Paper products, publishing
		OMF	Manufactures nec
P_C	Petroleum products	P_C	Petroleum, coal products
CRP	Chemicals rubbers and plastics	CRP	Chemical, rubber, plastic products
NMM	Mineral products and precious stones	NMM	Mineral products nec
MTL	Metals and metal products	I_S	Ferrous metals
		NFM	Metals nec
		FMP	Metal products
MCH	Machinery equipment and motor vehicles and precision optical equipment	MVH	Motor vehicles and parts
		OTN	Transport equipment nec
		ELE	Electronic equipment
		OME	Machinery and equipment nec

Acronym	Label	Acronym	Label
ELY	Electricity supply and distribution	ELY	Electricity
GDT	Gas manufacture, distribution	GDT	Gas manufacture, distribution
WTR	Water supply	WTR	Water
CNS	Construction	CNS	Construction
TRC	Transport and communication	OTP	Transport nec
		WTP	Water transport
		ATP	Air transport
		CMM	Communication
TRD	Retail and wholesale trade and public catering	TRD	Trade
FIN	Banking lending and insurance	OFI	Financial services nec
		ISR	Insurance
OSG	Governance, Defense, and public procurements	OSG	Public Administration, Defense, Education, Health
OSR	Other Services not elsewhere classified	OBS	Business services nec
		ROS	Recreational and other services
DWE	Housing and dwellings	DWE	Dwellings