11.J

Argentina

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11.J.1 The Original Input-Output Data

The data used in preparing the input-output table for the Argentine economy come from a 2000 Social Accounting Matrix (SAM) for Argentina documented in *Matriz de Contabilidad Social 2000* by Maximiliano Méndez Parra and Gerardo Petri[2].

The original data sources used to construct the SAM include national account statistics, government budget data, the official 1997 input-output table, COMTRADE data and working papers about costs of production in the agri-food industry. It is important to remark that the original SAM was developed with a main stress on the agri-food sector. The original SAM includes 72 productive sectors. The agri-food sector is well represented by 55 sectors. There are 3 factors of production (land, capital and labor) and one account each for business, households, government, savings-investments and the rest of the world. The unit account is 2000 million Argentine pesos or US dollars.[3] Flows in the SAM are expressed in terms of basic prices.

The following box resumes the building process of the 2000 Social Accounting Matrix, source of the input-output table in GTAP.

THE 2000 SOCIAL ACCOUNTING MATRIX FOR ARGENTINA

INTRODUCTION

Argentina's SAM is based, mainly, on the disaggregation of the sectors of the 1997 Argentina's Input-Output Matrix (MIPA 97) built by the INDEC. This 124x124 matrix constitutes the best input-output matrix built in Argentina. Since the MIPA 97 shows all the Argentine economy's transactions, the disaggregation process was focused on the opening of the agri-food sectors and the aggregation of some sectors, which were of no interest for the analysis that was being conducted.

The disaggregation and opening process consisted of two parts. First, the disaggregation or opening of the MIPA 97 was made using cost structures for the year 1997. Then, once the new matrix technical coefficients were obtained, the upgrade to the year 2000 was done.

THE 1997 INPUT-OUTPUT MATRIX

[1] National Directorate of Markets – Secretariat of Agriculture, Livestock-farming, Fisheries and Food
[2] 2002, Buenos Aires, Argentina: Secretariat of Agriculture, Livestock-farming, Fisheries and Food.
[3] Between 1991 and 2001, the exchange rate was fixed by a currency board at one peso-one US dollar.

The 1997 Input-Output Matrix building begun at the end of 1997 and the final paper was released in 2001. The whole publication has 15 matrices. Four of them are required for the input-output analysis: The Input-Output Matrix in itself (of 124x124), the direct requirement matrix, the indirect and direct requirement matrix, and the employment requirement matrix.

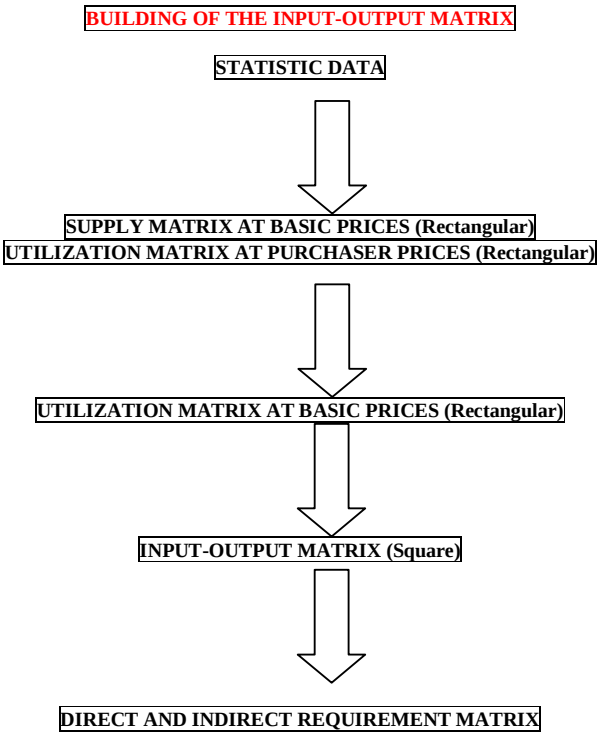
Without explaining the whole work procedure[4], the entire work consisted in the building of some previous matrices that were used to build, later, the input-output matrix.

First, a commodity supply matrix at basic prices was built; this matrix included the national GVP (Gross value of product) at basic prices, the foreign supply (CIF imports), product net taxes (non deductible VAT), direct taxes, gross sales and product import tariff, the commerce and transport margins, and the imported product nationalization outlays. By doing the right operations, the total supply at producer and purchaser prices was obtained.

Second, a utilization matrix at purchaser prices was built. This includes the intermediate uses of the total supply at purchaser prices (purchase of products as inputs) and the final use of the total supply at purchaser prices (FOB exports, private consumption, public consumption, domestic gross investment). The sum of both components (intermediate use and final use) corresponds to the total demand at purchaser prices. On the other hand, by doing the right operations, the gross value added at basic prices is obtained.

Once the supply and demand balances are reached, by doing some matricial algebra, the utilization at basic prices is transformed into an input-output matrix.

The following figure can help understand the procedure.



THE MICRO SAM BUILDING PROCCESS

At the first stage, which consisted in opening the MIPA 97 activities, 1997 product cost structures were used; these were provided by different SAGPyA specialized areas (Agriculture Direction, Livestock Farming Direction and Agricultural Economy Direction) and some private experts were consulted.

- Wheat
- Maize

[4] For more details see *Matriz de Insumo Producto Argentina 1997*, 2001, Buenos Aires, Argentina: INDEC. Available at www.indec.gov.ar.

- Rice
- Malting barley
- Sorghum
- Other cereals
- Soybeans
- Sunflower
- Peanut
- Other oilseeds
- Lemon
- Orange
- Tangerine
- Apple
- Pear
- Fresh grape (not for wine purposes)
- Other fruits and nuts
- Potato
- Onion
- Tomato
- Garlic
- Kidney beans
- Other leaf vegetables
- Other vegetables and pulses
- Cotton
- Sugar Cane
- Yerba Mate
- Wine grape
- Other industrial crops
- Hake
- Squid
- King prawn
- Other fish captures
- Poultry
- Eggs
- Natural honey
- Other farm products and minor livestock

The production of the above products was aggregated in the MIPA in the following activities:

- Crops of cereals, oilseeds and coarse grains
- Crops of vegetables, pulses, flowers and ornamental plants
- Crops of fruits and nuts
- Fishing
- Industrial crops
- Farm products

Within each sector of the MIPA 97, a submatrix was built, which disaggregated the sector according to the desired opening (i.e. the MIPA 97 fishing sector was opened into Hake, Squid, King Prawn, and other fish captures.)

By analyzing the cost structures per product, the intermediate demands for each product were identified, which means at which activity its demand of inputs was aimed. Then, a sector of the MIPA 97 was assigned according to the MIPA 97 classification. On the other hand, the final destination of the supply (exports, consumption and investment) and the intermediate destination were identified.

One of the essential aspects of working with production costs lays on the different production technologies. For example, the GM soybean has different technical coefficients due to the different use of inputs. The same happens with the use of direct sowing. On the other hand, the varied geographical characteristics of Argentina's areas generate not only different yields but also different use of inputs for the production of a particular product.

In that way, it was needed to collect different cost structures for the main production technologies and estimate their weight in the total production. Thus, the underlying technology in the SAM is a mix of technologies weighted by their shares in the total production.

When there was not enough information to do this process and neither did demands to sectors that cannot be identified in the product cost structures exist in the MIPA 97, it was assumed that the demand of that particular product of some input repeated its share in the gross value of product.

Once those submatrices are built and the horizontal and vertical sums are made, the corresponding coefficients that would be used for the MIPA 97 values to make the disaggregation were obtained, thus resulting in an extended input-output matrix.

Since there were some sectors in the MIPA 97 that lack interest for the agricultural and food analysis or had little production relationships with the agricultural sector (i.e. there was neither source nor destination of inputs), those sector were aggregated in different macrosectors.

As a result of the disaggregation and aggregation process, an input-output matrix of 72 sector (55 are agricultural and food sectors) was obtained.

Category	Description	Category	Description
CTRIGO	Wheat	**CSERVAGRO**	Agricultural services
CMAIZ	Maize	**CSILVI**	Forestry
CARROZ	Rice	**CMERLUZA**	Hake captures
CCEBADA	Malting barley	**CCALAMAR**	Squid captures
CSORGO	Sorghum	**CLANGOSTINO**	King prawn captures
COTCEREAL	Other cereals	**COTFISH**	Other captures
CSOJA	Soybean	**COIL**	Oil and mining
CGIRASOL	Sunflower	**CCARNE**	Meat (bovine, sheep, pork, chicken, etc)
CMANI	Penaut	**CELABFISH**	Fish and selfish elaborated
COTOLEAG	Other oilseeds	**CELABVEGFR**	Fruits and vegetables elaborated
CPAPA	Potato	**CACEITES**	Vegetables oils and animal fats
CCEBOLLA	Onion	**CLACTEOS**	Dairy products
CAJO	Garlic	**CMOLINERIA**	Cereals flours
CPOROTO	Kidney bean	**CMANTRIGO**	Manufactures of wheat (cookies, dried pasta, etc)
CTOMATE	Tomato	**CMANAZUCAR**	Sugar, candies, chocolate
CTVHOJA	Other leaf vegetables (lettuce, spinach, etc)	**COTALIMEN**	Other food products (Oilseed cakes, feed products)
COTVEGLUG	Other vegetables and pulses	**CALCOHOL**	Alcoholic beverages
CLIMON	Lemon	**CNOALCOHOL**	Non alcoholic beverages
CNARANJA	Orange	**CTABACO**	Cigarettes and tobacco elaborated
CMANDARINA	Tangerine	**CTEXTIL**	Textile fibres
CMANZANA	Apple	**CVESTIR**	Clothing and apparel
CPERA	Pear	**CCUERO**	Leather and products of leather
CUVAMESA	Fresh grape	**CMADERA**	Products made of wood
COTFRUTYNU	Other fruits and nuts	**CPAPEL**	Paper and printing products
CALGOD	Cotton	**CREFOIL**	Petrol and oils
CCANAZU	Sugar Cane	**CQUIMICA**	Chemistry
CYERBA	Yerba Mate	**CCAUCHO**	Rubber and plastic products
CUVAVIN	Wine grape	**CMETAL**	Metals smelthin
CTABAC	Tobacco	**CPRODMETAL**	Products made of metals
COTINDCROP	Other industrial crops	**CMAQUINA**	Machinery - Agricultural machinery
CSEMILLAS	Seed for sowing production	**CAUTOS**	Automobiles and other vehicles
CGANADO	Livestock, milk,	**COTMANUF**	Other manufactures
CGRANJA	Poultry, honey, eggs	**CELECTRI**	Electricity
CPOLLO	Poultry	**CCONSTR**	Building - Construction
CHUEVO	Eggs	**CGOBIERNO**	Government
CMIEL	Natural honey	**CSERVICIOS**	Services (networks, commerce, transportation, communications, education, health care, finance, banking)
COTGRANJA	Other farm products and minor livestocks		

Once this new input-output matrix was built, it was incorporated in the larger frame of the social accounting matrix. From this first matrix, the intermediate destinations were obtained. Moreover, it was necessary to estimate the final destination, the factor utilization and the payment of taxes.

PRODUCTION FACTORS

The production factors included in the SAM are labor, land and capital. Labor, as well as capital, is considered as a homogeneous factor without any kind of division (rural, unskilled, etc.)

The labor demand was estimated using the value in the MIPA 97, the INDEC Permanent Households Survey and the cost product structures. The average wages are those obtained in the MIPA 97.

HOUSEHOLDS

Using data from the INDEC Household Consumption Survey and other sources, the household consumption for the different products was estimated. This data was revised at the balancing stage in order to keep consistency with the basic economic equation.

Since the Household Consumption Survey analyzes patterns of consumption among different regions in Argentina, it was needed to compute the demand of each region with its share in the total population. It is important to remark that in this first version of the SAM there is no distinction among kinds of households (rural, urban, poor, etc.)

BUSINESS

In all the work, it was assumed that companies receive the capital payment. That is, there is no payment between factors. Households only received payment for labor and companies received payment for capital. Later, companies made payments to households.

As stated above, companies' payments (capital payments) are the residual part from the value added after payments to labor (gross production surplus). Again, companies are completely homogeneous.

GOVERNMENT

Government includes the national public sector, i.e. the Federal Government, provincial governments and city governments. Governmental investment data were provided by the DNIP, while governmental purchases were obtained from the DNGC.

In order to analyze the tax collection and transfers from the Social Security System, information from the AFIP was used. This data include taxes on labor, income and the value added tax. On the other hand, the tax collection by the provincial and city governments as well as transfers were based on data from the DNGC. The tariff collection data was taken from the AFIP.

SAVINGS-INVESTMENTS

Data from the DNCN and geometric capital estimations made by the DNCPM were used. From the basic economic identity, it was estimated the stock change. The capital depreciation was based on DNCN estimation of the stock of capital by sector. For this estimation, different depreciation coefficients were used according to the sector.

REST OF THE WORLD

In the SAM seven countries or groups of countries are opened: Brazil, Mexico, Canada, United States, European Union, Rest of Latin America and Rest of the World. All the trade data (exports and imports) are based on the information given by the Argentine Customs (AFIP).

FINAL BALANCING

Once the SAM was built, it was not properly balanced because of differences in the valuation of magnitudes from supply and demand. One approach to balance the matrix is that developed by Robinson and El-Said (2000), known as the cross entropy method. In simpler terms, this approach organizes all the information available from alternative sources in different years (the 'prior' data) in a matrix (the original SAM). These data are assumed to differ from an objective matrix - the balanced SAM. These discrepancies can be thought as distances, which in mathematical terms can be minimized. This optimization process is subject to a set of constraints in the form of unchanged reliable data points.

However, due to the disaggregation and as this SAM was developed from a well balanced input-output matrix, magnitudes that could be adjusted using the cross entropy method were not enough. To balance the matrix correctly, the figures of the stock change were adjusted so that the total sum of rows and columns, which corresponds to the supply and demand, were equal. This procedure is the one effectively used by the DNCN in doing its estimations. This makes the stock change figures be in some cases overestimated and in other cases underestimated.

With respect to the balance of the production gross value and the value added, it was possible to estimate the wage component appropriately, but the gross surplus used to be estimated as a residual due to the lack of reliable statistics. Adjustments to balance the SAM were made to these variables in order to reach the correct balance between rows and columns.

Components related to transfers between institutions (transfers to households or companies, transfers from the rest of the world, etc.) are those which have the best estimation and, thus, the adjustments made were minimal.

UPDATE TO THE YEAR 2000

The SAM was built on data from 1997 but was updated to 2000, the last year of 'normal' economic activity for Argentina. In order to do this update, the DNCN provided information on the gross production value and supply and demand by sector.

The updating process consisted in using the technical coefficient from the SAM 1997 and applying total values from 2000 to the row and columns. As a result, a SAM with final 2000 values was obtained, but it keeps the relative price structure (and technology) of 1997.

11.J.2 Mapping Procedure

As mentioned above, this SAM was a particular disaggregation of the 1997 Argentina MIP with a particular stress on the agri-food sector, i.e. the main effort was on disaggregating the MIP 97 original agri-food sector into the new sectors in the SAM. The rest of the productive sectors, which in the MIP 97 have a very important level of disaggregation, were aggregated in the SAM.

The high level of disaggregation of the agri-food sector in the SAM facilitates the mapping with the GTAP sector mapping. Some minor adjustments, particularly in the so called agricultural services sector, were needed. This sector involves the use of agricultural services (plowing, sowing, harvesting, planting, etc.) hired by the farmer, i.e. the farmer pays to have these services rendered by a contractor. As these are particular agricultural tasks that, in the GTAP, are in the agri-food sector, it was needed to impute this sector into the GTAP agri-food sector according to the production cost structures.

Further, with mining, industry and services, it was necessary to adjust the original SAM sectors in order to adapt them to the GTAP sectors. However, since in the SAM those sectors were simply aggregated, it was relatively easy to disaggregate them again to fit into the GTAP sectors. After mapping, the sectoral balance was checked without any significant imbalance.

11.J.3 Other Considerations

The 'Dwellings' GTAP sector is not included in the original SAM as an independent sector. It was included in the 'Services' sector. Therefore, it was necessary to remove it from it. This sector was created with the help of information provided in the Argentine National Accounts. Due to the lack of cost data and in order to minimize further imbalances of the original data, the cost structure imposed for the 'Dwellings' sector is an 80/20 percent split between capital and labor.

When the data table was created, some share discrepancies with a 'representative table' were highlighted by the GTAP team. Some of them were mapping errors but others were particular issues inherent to Argentina and technology. It is important to explain these 'unusual' shares.

Discrepancies related to changes in stocks and exports

The GTAP team highlighted an unusual large share of oil and meal exports in the database. This share is correct. For example, in 2003, 21% of Argentine exports were oils and meals. So this number is not an error and is the actual figure. The same happens in the case of equipment. This discrepancy is attributed to the structure of Argentina's trade.

In relation to stock changes, they were estimated by difference in the account identity. Therefore, stock changes could differ sharply between sectors and the quality of information was better or worse. In some cases, there are good estimations of stock changes (stocks in agricultural products, etc.), but in others there are no estimations or data, so they must be calculated as a difference, leading to important shares in the structure.

Discrepancies related to the use of factors

It was highlighted that there were some unusual large or small shares in the use of factors. This was particular critical in the agri-food sector with labor and land. It is expected that the land share in crops and cattle is large. Moreover, in Argentina feed lots are very few, so the share of land in the production of animals should be large in a country with an extensive production system.

Large shares for labor in the production of crops should not be expected. It was highlighted the case of oilseeds where there is a 0.05 share and the representative table is about 0.27. In Argentina, the large part of oilseeds corresponds to soy, sunflower and peanut, which are not intensive in labor.

Other discrepancies

The rest of the discrepancies are related to mapping, specific structure of production and strange figures.

It was highlighted an apparent large share of sgr in the use of c_b. In the table, this figure is about 0.50. In another table, it was 0.51. It was expected that the importance of c_b (plants used for sugar manufacturing) in the production of sugar was large.

There is an apparent large share of oilseeds in the production of oils and cakes. Again, Argentina is a major exporter and producer of soybean oil and cakes and about 90% of oilseed production is devoted to crushing. So, this share should not be considered strange.

In the case of oap (Animal products nec) and cmt (Bovine cattle, horses, etc.), the table has a zero share and the representative table says that they 'should be' about 0.27. In oap, there is poultry, eggs, honey and minor animals (snails, etc.). The share of this item should not be as important as the representative table says. In an extensive system of cattle production, these items should not be significant.

There is a case of otp (Transport nec) into atp (Air transport). This is a mapping issue. In the original SAM, these are aggregated into a broad category named 'Services', which was split using the 1997 MIP resulting in these shares. Unfortunately, due to

the high level of concentration in the air transport industry, it is very difficult to have accurate production cost structures.

It was highlighted a large share in the use of gro (cereal grains nec) and oap (Other animal products). This is a feeding issue. If in gro there is maize, barley, sorghum and in the oap there is poultry, it should be expected a large share since it is an important component in the production of chicken and eggs.

There is a problem with ofd and oap. Ofd is a residual category like a miscellaneous category. However, when the original SAM was constructed, some care was taken that this category was not very large, and in ofd there was a great quantity of products such as juices, jams, chocolates, noodles, bakery products. Of course, these products are not used in the production of oap. However, there are some pellets and preparations used in animal feeding. So this share could be deemed as correct. The same applies to ofd and ctl.

In the case of trd (trade) and ros (Recreational and other services), there is a mapping problem similar to the otp and atp. It was used the 1997 I-O table to split this from the SAM 'Services' sector. This is a very blurred sector since its share of informality and the lack of information are significant.

In the case of omt and ctl, it should be kept in mind that there are mainly poultry meat products and it should not be expected that this sector demands too much livestock (bovine cattle, horses, pigs, sheep, etc.).

In the case of forestry into forestry, in the original SAM there are two sectors that accounts for seeds and planting material (baby trees, for example) and agricultural services. These sectors were put into the respective categories weighting their relevance into each category (wheat seed production was included in wheat, for example). So this is why there is a large share of forestry in the production of forestry. It is mainly planting material and specific forestry services.

In the case of pdr and p_c, apparently there is a large share for fuel in the production of paddy rice. It should be kept in mind that, in the production of rice, as it is necessary to flow the field, pumps are used to pump water in and out of the field.

References

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Appendix

GTAP sector code	SAM sector code	SAM sector description	MIP 1997 Code	MIP 97 Description
pdr	ARROZ	Rice	1	Cereals and oliseeds crops
	SERVAGRO	Agricultural Services	8	Agricultural Services
	SEMILLAS	Seeds and planting material	5	Seeds production
wht	TRIGO	Wheat	1	Cereals and oliseeds crops
	SERVAGRO	Agricultural Services	8	Agricultural Services
	SEMILLAS	Seeds and planting material	5	Seeds production
gro	CEBADA	Malting barley	1	Cereals and oliseeds crops
	SORGO	Sorghum	1	Cereals and oliseeds crops
	MAIZ	Maize	1	Cereals and oliseeds crops
	OTCEREA	Other cereals	1	Cereals and oliseeds crops
	SERVAGRO	Agricultural Services	8	Agricultural Services
	SEMILLAS	Seeds and planting material	5	Seeds production
v_f	PAPA	Potato	2	Horticulture crops
	CEBOLLA	Onion	2	Horticulture crops
	AJO	Garlic	2	Horticulture crops
	POROTO	beans	2	Horticulture crops
	OTVHOJA	Other leaf vegetables	2	Horticulture crops
	OTVEGLUG	Other vegetables and pulses	2	Horticulture crops
	LIMON	Lemon	3	Fruits and nuts crops
	NARANJA	Orange	3	Fruits and nuts crops
	MANDARINA	Tangerine	3	Fruits and nuts crops
	MANZANA	Apple	3	Fruits and nuts crops
	PERA	Pear	3	Fruits and nuts crops
	UVAMESA	Fresh grape	3	Fruits and nuts crops
	OTFRUTYNU	Other fruits and nuts	3	Fruits and nuts crops
	SERVAGRO	Agricultural Services	8	Agricultural Services
	SEMILLAS	Seeds and planting material	5	Seeds production
osd	SOJA	Soybeans	1	Cereals and oliseeds crops
	MANI	Peanuts	1	Cereals and oliseeds crops
	GIRASOL	Sunflower	1	Cereals and oliseeds crops
	OTOLEAG	Other oilseeds	1	Cereals and oliseeds crops
	SERVAGRO	Agricultural Services	8	Agricultural Services
	SEMILLAS	Seeds and planting material	5	Seeds production
c_b	CAÑAAZ	Sugar cane	4	Industrial crops
	SERVAGRO	Agricultural Services	8	Agricultural Services
	SEMILLAS	Seeds and planting material	5	Seeds production
pfb	ALGODÓN	Cotton	4	Industrial crops
	SERVAGRO	Agricultural Services	8	Agricultural Services

GTAP sector code	SAM sector code	SAM sector description	MIP 1997 Code	MIP 97 Description
	SEMILLAS	Seeds and planting material	5	Seeds production
ocr	UVAVINIF	Wine grappe	4	Industrial crops
	YERBA	Yerba mate	5	Industrial crops
	TABACO	Tobacco	6	Industrial crops
	OTCULIND	Other industrial crops	7	Industrial crops
	SERVAGRO	Agricultural Services	8	Agricultural Services
	SEMILLAS	Seeds and planting material	5	Seeds production
ctl	GANADO	Cattle, milk, wool and hair	6	Livestock-farming, milk, wool and hair
oap	GANADO	Cattle, milk, wool and hair	6	Livestock-farming, milk, wool and hair
	POLLO	Poultry	7	Farm production
	HUEVOS	Eggs	7	Farm production
	MIEL	Honey	7	Farm production
rmk	GANADO	Cattle, milk, wool and hair	6	Livestock-farming, milk, wool and hair
wol	GANADO	Cattle, milk, wool and hair	6	Livestock-farming, milk, wool and hair
for	SILVIC	Forestry	10	Silviculture
	SERVAGRO	Agricultural Services	8	Agricultural Services
	SEMILLAS	Seeds and planting material	5	Seeds production
fsh	MERLUZA	Hake	11	Fishing
	CALAMAR	Squid	11	Fishing
	LANGOSTINO	King prawn	11	Fishing
	OTFISH	Other fish captures	11	Fishing
oil, gas	OIL	Oil, gas and others	12	Oil, gas, coal and uranium mining
omn, coal	OIL	Oil, gas and others	13	Metal mining
			14	other mineral mining
cmt	CARNE	Animals slaughtering and manufacturing of meats	15	Slaughtering of animal and meat processing
omt	CARNE	Animals slaughtering and manufacturing of meats	15	Slaughtering of animal and meat processing
vol	ACEITES	Vegetables and animal oils and cakes	16	Oils and oilseeds products
mil	LACTEOS	Dairy products	19	Dairy products
pcr	MOLINEARIA	Milling products	20	Milling of cereals
sgr	MANAZUCAR	Sugar manufactures	23	Sugar
ofd	MANTRIGO	Wheat manufactures	25	Dried pasta
	ELABVEGFR	Processed fruits, vegetables and pulses	17	Vegetable and fruit processed
	MOLINEARIA	Milling products	20	Milling of cereals
	MANAZUCAR	Sugar manufactures	24	Chocolate and candy products
	OTALIMEN	Other food products	26	Other food products
			21	Feeding products
			22	Bakery products
	ELABFISH	Fish and selfish elaborated	16	Fish and selfish elaborated

GTAP sector code	SAM sector code	SAM sector description	MIP 1997 Code	MIP 97 Description
b_t	ALCOHOL	Alcoholic beverages	27	Alcoholic beverages
			28	Wine production
			29	Beer
	NOALCOHOL	Non alcoholic beverages	30	Bottled water, sodas
			17	Vegetable and fruit processed
	CIGAR	Tobacco products	31	Tobacco manufactures
tex	TEXTIL	Textile products	32	Textile fibres and spinning
			33	Finishing of textile and spinning products
wap	VESTIR	Wearing apparel	35	Jersey products
			36	Wearing apparel
			34	Textile products production
lea	CUERO	Leather products	37	Tanning and finishing of leathers
			38	Leatherwork products
			39	Shoes production
lum	MADERA	Wood products	41	Wood and wood products
			40	Sawmills
ppp	PAPEL	Paper products and publishing	42	Paper and paper paste
			44	Paper products
			45	Books - brochures editions
			46	Newspapers and magazines editions
			47	Printing and edition of other products
p_c	REFOIL	Fuel production	48	Fuel production
crp, nmn	QUIMICA	Chemical produtcts	49	Basic Chemistry
			50	Fertilizers and plaguicides
			51	Plastic Raw materials and synthetic rubber
			52	Paints and burnish
			53	Medic products
			54	Soaps, detergents and related products
			55	Other chemical products
	CAUCHO	Rubber, plastic and non metal mineral products	56	Synthetic fibbers manufactures
			57	Tyres
			58	Rubber products
			60	Glass products
			61	Ceramic products
			62	Clay products
			59	Plastic products
			63	Cement, lime, plaster
			64	cement and concrete products

GTAP sector code	SAM sector code	SAM sector description	MIP 1997 Code	MIP 97 Description
i_s, nfm	METAL	Metal production	65	Basic industries of iron and steel
			67	Metal melting
			66	No ferrous metalworking
fmp	METAL PROD	Metal products	68	Metal structures, tanks, deposits
			69	Metal forge and laminated
			70	Knifes, hand tools, etc
			71	Other metal products
ele, ome	MAQUINA	Machinery and equipment	72	Engines, pumps, turbines
			73	Ovens, elevators and general equipment
			74	Tractors and agricultural machinery
			75	Other special machinery
			78	Engines, generators and electric transformations
			79	Electric distribution and generation equipment
mvh, otn	AUTOS	Vehicles and transport equipment	86	Automobile equipment
			87	Bodywork and trailers
			89	Ships, locomotives and airplanes
			90	Motorbikes, bikes and other type or transport
			88	Automobile parts
omf	OTMANUF	Other manufactures	76	Household machinery
			77	Office machinery and computers
			82	Electric lamps and illumination machinery
			80	Wires and metal strings
			81	Batteries
			83	TV, radio and telephone broadcasting equipment
			84	TV and radio sets
			85	Optical and medical equipment
			91	Furniture and mattress
			92	Other manufactures
ely	ELECTRI	Electricity	93	Electricity
gdt	SERVICIOS	Services	94	Gas
wtr	SERVICIOS	Services	95	Water
cns	CONSTR	Construction	96	Construction
trd	SERVICIOS	Services	97	Retail trade
			98	Wholesale trade
			98	Hotels
			100	Restaurants

GTAP sector code	SAM sector code	SAM sector description	MIP 1997 Code	MIP 97 Description
otp	SERVICIOS	Services	101	Passenger land transport
			102	Load land transport
			103	Pipeline transport
			106	Other complementary transport activities
wtp	SERVICIOS	Services	104	Water transport
atp	SERVICIOS	Services	105	Air transport
cmn	SERVICIOS	Services	107	Post - mail
ofi	SERVICIOS	Services	109	Financial institutions
isr	SERVICIOS	Services	110	Insurances
obs	SERVICIOS	Services	111	Professional and enterprises products
			112	Real state
			118	Vet services
			124	Household services
ros	SERVICIOS	Services	122	Television and radio broadcasting, cinemas
			123	Cultural and sport services
			121	Associations services
osg	GOBIERNO	Public administration, defence and compulsory social security programs	113	Public administration, defence and compulsory social security programs
	SERVICES	Services	116	Public health services
			117	Private health services
			114	Public education services
			115	Private education services
			119	Social services
			120	Drainage services
dwe	SERVICIOS	Services		