### Structural analysis at the national level by the configuration of

### Sectoral Blocks: the cases of Argentina, Chile and Mexico<sup>\*</sup>

Edgardo M. Lifschitz<sup>a</sup>

 <sup>a</sup> National Director, National Direction of Regional Economic Programming, Ministry of Economy and Public Finance, Argentina.
 Address: Hipólito Yrigoyen St., 250, City of Buenos Aires, Argentina.
 Electronic correspondence: <u>elifsc@mecon.gov.ar</u>

Ariel L. Wirkierman<sup>b</sup>

<sup>b</sup>Università Cattolica del Sacro Cuore di Milano. Address: Via Necchi, 5, 20123, MI, Milano, Italy. Electronic correspondence: <u>ariwirkierman@gmail.com</u>

XVII International Input-Output Conference,

São Paulo, Brazil,

13-17, July, 2009

<sup>\*</sup> Preliminary Draft. Comments and suggestions are welcomed. The views expressed in this document are those of the Authors and do not necessarily reflect the views of the Ministry of Economy and Public Finance of Argentina or Università Cattolica del Sacro Cuore di Milano.

### Abstract.

This paper introduces the Method of Sectoral Blocks in the analysis of the structural configuration of an economy. Firstly, a brief description of the method and its theoretical background is stated. Then, a structural characterization in terms of production, income and demand using Input-Output (IO) matrices of Argentina, Chile and Mexico is presented. In the third place, the results of the application of an algorithm for the identification of sectoral blocks to the IO matrices of Argentina, Chile and Mexico are discussed. Finally, a comment on the role of Sectoral Blocks as a reading key for economic policy concludes.

### **Contents.**

Introduction.	4
1. Sectoral Blocks and Input-Output Analysis.	4
1.1 Sectoral Blocks. A conceptual introduction.	4
1.2. Input-Output Matrix as a quantitative framework for the identification of sectoral blocks.	8
2. An algorithm for the identification of Sectoral Blocks in an Input-Output Matrix.	11
2.1. Description of Block Constituents.	11
2.2. Description of the algorithm.	12
3. Structural Characterization of the economies of Argentina, Chile and Mexico using Input-	
Output matrices.	18
4. Application of the Algorithm for the Configuration of Sectoral Blocks to the Input-Output	
matrices of Argentina, Chile and Mexico.	23
5. Final comment on Sectoral Blocks and its role for economic policy.	28
6. References.	29
7. Appendixes and Tables.	31

### Introduction.

This paper introduces the Method of Sectoral Blocks in the analysis of the structural configuration of an economy. Firstly, a brief description of the method and its theoretical background are stated in Sections 1 and 2. Then, a structural characterization in terms of production, income and demand using Input-Output (IO) matrices of Argentina, Chile and Mexico is presented in Section 3. In the third place, the results of the application of an algorithm for the identification of sectoral blocks to the IO matrices of Argentina, Chile and Mexico are discussed in Section 4. Finally, Section 5 concludes with a comment on the role of Sectoral Blocks as a reading key for economic policy.

### 1. Sectoral Blocks and Input-Output Analysis.

#### 1.1 Sectoral Blocks. A conceptual introduction.

The study of the nature, intensity and consequences of linkages among economic sectors has a long tradition in the analysis of industrial development (e.g. Hirschman, 1956).

Furthermore, investigations into the hierarchy among sectors started also quite early in the field of interindustry analysis. In a pioneering work, Chenery and Watanabe (1958) arrived at the conclusion that a decisive part of interindustry flows could be treated according to a "triangular" pattern. Even though the circular flow of income is present in the productive structure, it emerges even more clearly whith the triangulation of the interindustry flows matrix by a measure of importance of input-output coefficients. As clearly stated by Hewings and Jensen (1986, p. 322) in their analysis of the connectedness and structure of Input-Output Tables, triangulation expresses the mathematical property of linear dependence between flows, i.e. "the extent to which flows are uni-directional in the economy" (Hewings and Jensen, 1986, p. 323).

Applying this idea to the United States and Japan, Simpson and Tsukui (1965) concluded positively on the triangular pattern of input requirements matrices but also arrived at the conclusion that four groups of activities emerged: metallic, non-metallic, energy and services industries. These four "blocks" were relatively independent among them and of a similar inner structure.

From a strictly methodological perspective, Ghosh (1960) partitioned an Input-Output matrix in blocks of sectors randomly selected and showed that the higher the value of purchases and sales traded within the block, the more the technical coefficients inside each block assimilated those emerging from the Input-Output matrix.

In a sense, to corroborate the existence of autonomous groups whose constituting activities are strongly interdependent, aims at using Input-Output techniques to study the specific features of each group within the quantitative framework of the economy as a whole.

The concept of Sectoral Block, which is applied here, has been initially proposed by Leontief (1986, p.167) and further developed by Lifschitz (1988). Throughout the text methodological considerations for identifying, characterizing and analyzing sectoral blocks will closely follow Lifschitz (1988, 1992, 2004) and Lifschitz, *et. al.* (1988).

A sectoral block is understood as a space for economic analysis that links activities strongly related to each other, thus constituting relatively autonomous groups within interdependent economic structures. On the one hand, depending on the level of aggregation and territorial coverage of intersectoral transactions, quite often these groups contain activities relevant for the determination of national levels of production and income; although in other cases, these relations are very specific to the local or regional configuration of production.

On the other hand, the Sectoral Blocks Method can be seen as an intermediate stage between aggregate analyses (i.e. macroeconomic studies) and highly disaggregated ones (firm or sectoral analyses).

Sectoral blocks can be defined by the following statement: economic activities tend to have specific relations with other economic activities, maintaining non-specific connections with the rest of activities, thus creating a map of linked quasi-islands, or blocks.

In a sense, each block concentrates the most important market for each activity belonging to the group.

The highly autonomous character of a sectoral block reinforces the dynamic implications of linkages in a context of circular flow of production in an Input-Output model. Induced changes in production due to movements in final demand, quantified by multipliers, can be grouped so as to reflect to what extent indirect effects are reinforced inside the block.

From a dynamic perspective, as an economy develops, economic activities (production of goods and services and their commercialization) become more complex and specialized. The increasing division of labor causes some activities to disappear while others emerge. At first, these activities are related to (or even included in) previous activities, progressively becoming independent entities, joining existent blocks or forming new ones. Usually, therefore, the number of sectoral blocks and their composition changes slowly over a period of time<sup>1</sup>. Due to this fact, it is held that sectoral blocks constitute a useful tool for structural analysis within an Input-Output framework.

While it is true that many sectoral approaches (e.g. "firm analysis", "value chains", "industrial districts") deal with linkages and sectoral hierarchies in a wide sense, generally there is not an integration between these entities and a quantitative framework that represents macro-sectoral relationships.

The sectoral blocks perspective, on the contrary, seeks to analyze firms, sectors and chains within blocks containing their specific market and technological relations. However, at the same time, this approach focuses on the relationships among blocks that result in the macro-sectoral description of the whole economy.

Related modern methodologies for the clustering of sectors of an Input-Output matrix include the method of (restricted) maximization and the method based on a block diagonal matrix, described and analyzed in Hoen (2002) as well as fuzzy clustering approaches, developed in Díaz, *et. al.* (2006). These methods differ in many aspects with respect to the Sectoral Blocks Method presented here - initial conditions, mathematical algorithm, data usage - what explains the possibility of obtaining differing results.

<sup>&</sup>lt;sup>1</sup> Although in times of strong technological innovations these changes may accelerate.

1.2. Input-Output Matrix as a quantitative framework for the identification of sectoral blocks.

An Input-Output (IO) matrix consists in a macro-sectoral view of an economy, describing with local specificity the particular configuration of general interdependence among industries.

Suppose a system composed of *n* industries (sectors). Let  $\mathbf{X}$  be an (*nxn*) transactions matrix among sectors, whose element  $x_{ij}$  represents the value industry *i* sells to industry *j*.

Furthermore, let  $\mathbf{x} = (x_1, \dots, x_n)'$  be a (nxI) column vector representing the sectoral value of domestic production,  $\mathbf{v} = (v_1, \dots, v_n)'$  a (nxI) column vector representing the sectoral value of income (or value added),  $\mathbf{m} = (m_1, \dots, m_n)'$  a (nxI) column vector representing the sectoral value of intermediate imports,

 $\mathbf{m}^{\mathbf{d}} = (m_1^d, \dots, m_k^d)'$  a (*k*x1) column vector representing the sectoral value of final demand imports.

Additionally, let  $\mathbf{y}$  be an (*nxk*) matrix representing the sectoral distribution of each of the *k* locally produced components of final demand (household consumption, gross fixed capital formation, exports, public expenditure, changes in inventories, etc.).

Therefore, the complete scheme can be organized in matrix form as follows:

When analyzing this national accounting framework, the identities  $\mathbf{X} + \mathbf{y} \equiv \mathbf{x}$ (receipt of sales) and  $\mathbf{X'+m'+v'\equiv x'}$  (total value of purchases) characterize the circular flow of production. By making a row sum for sector *i* we get:

 $x_{i1} + \ldots + x_{in} + y_i \equiv x_i, \ \forall i = 1, \ldots, n$ , and by making a column sum for sector *i* we obtain:  $x_{1i} + \ldots + x_{ni} + m_i + v_i \equiv x_i, \ \forall i = 1, \ldots, n$ . In both cases the total value of sales by source of demand (intermediate or final) equals the total value of expenditures (in locally produced or imported commodities and primary factors).

However, it is highly probable that  $\sum_{j=1}^{n} x_{ji} \neq \sum_{i=1}^{n} x_{ji}$ , i.e. in each sector intermediate deliveries need not match intermediate purchases, so that the income generated by sector *i* plus intermediate imports need not match the final demand directed to sector *i*. This particular aspect makes IO suitable to "analyze the link between final demand and industrial output levels" (UNSTATS (1993), par. 15.3)

In contrast, as the value of intermediate purchases equals the value of intermediate sales of locally produced inputs for the economy as a whole, then value added (income generated in the production process) will equal locally produced final demand less the value of intermediate imports.

As specifically regards Sectoral Blocks, IO techniques will be given a double use. First as a tool for searching and obtaining information in order to construct blocks; and second, once blocks have already been constituted, for analyzing intra- and interblock relations.

Practically, within an IO framework, the identification of sectoral blocks consists in the iterative reordering, permutation and grouping of goods, services and commerce activities of a standard industry classification that are strongly linked by their main specific input-output relations. In this way, the technological specificities characterizing main market relationships for most production processes of an economy are highlighted. As regards data-related issues, one of the crucial gains from working with a matrix organized in sectoral blocks has to do with the economy of information required to update interindustry coefficients. Given the fact that blocks conform stable entities as long as no radical technical change takes place, macro-sectoral effects of structural change can be seen as slow transition processes in continuous operation.

Therefore, key technologically-specific relations can be seen as smoothly changing over time, and serve as a complementary guide to assess the coherence in the results provided by several data-intensive methods (e.g. biproportional updating).

Finally, the Sectoral Blocks approach could also be seen as a way of systematic construction of what is known as "satellite accounts". The intention of this arrangement is to combine activity categories from National Accounts that could be regarded as representing particular groups of related industries.

### 2. An algorithm for the identification of Sectoral Blocks in an Input-Output Matrix.

### 2.1. Description of Block Constituents.

Goods, services and commercial activities, which are strongly related, form blocks. There are different ways of blocking activities: by purchases or by sales. If an activity is blocked by its principal purchases it is because such purchases are its main input. If it is blocked by sales, it means that this activity is a specific input of the buying sector.

Specifically, in a purchases block Activity A shall be the main specific input of Activity B, while in a sales block Activity B shall be the main specific market for Activity C. However, not necessarily Activity A equals Activity C. When an activity is blocked by principal sales and purchases, it has the two properties.

Furthermore, within a sectoral block, some activities are the "main organizers". This term alludes to the "attraction" they exert on the others. It means that in absence of main organizers the block structure could easily change and even disappear.

Accordingly, those main organizers are considered as "key activities or sectors". Were they hypothetically removed from the set, the whole block might break-up. (e.g. Forestry in "Forestry, Paper, Wood" block). Thus, the role of key sectors in this framework resembles the hypothetical extraction literature (Dietzenbacher, *et. al.*, 1993).

Activities that reflect relations among entire blocks are called "intersections". An activity can attract or be attracted by one group of industries as regards its purchases, and by other group of industries as regards its sales. Thus, an activity which has main specific relationships with more than one block will constitute an intersection. (e.g. Fertilizers in "Agricultural" and "Chemicals" blocks).

Additionally, the internal composition of activities conforming a sectoral block consists of non-economic relations, exemplified by the fact that some activities also have their main specific scientific-, technological- or labor union-type relationships inside the block.

Finally, blocks establish connections with the Public Sector by means of fiscal functions and regulatory policies.

In conclusion, the formation of sectoral blocks enables us to find out new relations of an economic and non-economic type inside them, among them and with non-blocked activities, taking into account all the private activities and the relations with the Public Sector.

#### 2.2. Description of the algorithm.

The algorithm for the formation of sectoral blocks groups activities of an IO matrix, according to their main specific purchases and sales, through an iterative process selecting the intersectoral transactions of highest value for a given industry.

At first instance, goods and services industries are blocked separately. The block formation process can start with any commodity type (it is indifferent in terms of the final result of the algorithm).

If the process starts from goods producing activities the initial conditions (regarding a pre-classification of activities) are as follows: activities are divided into direct and indirect inputs.

Direct (specific) inputs are divided into two groups: primary products that are transformed during the production process, and parts and components that are

incorporated to a productive process, though do not undergo a physical transformation. Primary products are divided into: a) primary activities that constitute the first link of a chain and that can only make specific purchases to themselves, were they to exist (e.g. cotton or copper), and b) those activities that conform other links in the chain, on which (as it happens with parts and components activities) there is no additional restriction in the block formation process (e.g. flour for primary products and autoparts for parts and components).

Indirect inputs distinguish themselves by their sales, and can be divided into specific and non-specific activities. Specific indirect inputs have a certain industry as destination, but are not a direct (specific) input of the demanding activity (e.g. fertilizers and herbicides, or specific packages, like wine bottles).

On the contrary, non-specific indirect inputs have various diffused destinations (e.g. energy fuels or generic cork packages). Indirect specific inputs are blocked by sales once direct inputs have been blocked, while indirect non-specific inputs are not blocked by sales.

Service activities shall not be incorporated into blocks of goods by the algorithm in a first stage but may be incorporated afterwards if they make their specific sales to one of the blocks of goods producing industries (e.g. veterinary services).

The block formation process for services is performed in the same way as for goods-producing industries. As a consequence, the specific or non-specific character here applies to services. Correspondingly, goods-producing activities shall also be incorporated into a block of services in a second stage shall this sale be specific (e.g. baggage and travel accessories in the tourism services block)<sup>2</sup>.

Having specified these initial conditions, the following algorithm intends to precisely identify sectoral blocks as groups of activities in an IO matrix, given the aggregation level of the data. For detailed exposition and related discussions see Lifschitz (1988, 1992, 2004) and Lifschitz, *et. al.* (1988).

In order to perform the task a symmetric industry-industry IO matrix valued at basic or producer prices and sufficiently disaggregated is required. The industry-industry requirement arises because the aim is to capture the purchases-sales relationships in the specific markets for producing establishments. Additionally, the required valuation method allows for intermediation and transport costs not to distort the value of production of specific goods and services<sup>3</sup>, as well as allowing for the possibility of blocking commerce and transport separately from the goods and services they are retailing.

Regarding the number of industries of the matrix, the optimum level of disaggregation is defined as the level at which a higher number of sectors does not affect the structure of each block.

As has already been said, the algorithm allows to identify blocks of goods and blocks of services. The algorithm for the identification of blocks of goods proceeds as follows:

<sup>&</sup>lt;sup>2</sup> It is worthwhile to notice, though, that the application of the algorithm to service activities is more difficult because of their higher aggregation level in empirical Input-Output matrices.

<sup>&</sup>lt;sup>3</sup> Given the fact that intermediation and commerce margins are structurally different among countries, the block formation process should not be distorted by this fact.

### Beginning of Algorithm.

1. Let  $\mathbf{X}_{l,m}$  be a rectangular intermediate transaction matrix with *m* columns of goods producing activities (direct and indirect inputs) and *l* rows of direct inputs. Indirect inputs (e.g. fertilizers, fuels, diffused packages, etc.) are not considered as rows at this stage in order to avoid linkages that break up the physical process of production.

2. Purchases: Let  $\mathbf{A}_{l,m} = \mathbf{X}_{l,m}(\hat{\mathbf{x}}_m^{-1})$  be a rectangular intermediate transaction matrix of technical coefficients, where  $\hat{\mathbf{x}}_m^{-1}$  is the inverse of a diagonal matrix whose components are the gross production values of the *m* goods-producing activities. For each j = l to *m* (column):

In 
$$a_{ij} \in \mathbf{A}_{l,m}$$
,  $a_{kj} = \max(a_{ij})$ ,  $\forall i = 1, \dots, l$ .

If  $a_{kj} > (m_j / x_j)$  and *j* is not a primary product direct input, then activities (k, j) are grouped, where *k* is the main specific purchase of activity *j*. Otherwise, a pair (j, j) is formed, i.e. activity *j* is grouped with itself.

Join all (k, j) pairs with common elements to form  $\mathbf{X}_{l_1,m_1}^1$ , a new transaction matrix of aggregate activities. Start 2. again with  $\mathbf{X}_{l,m} = \mathbf{X}_{l_1,m_1}^1$  until  $\mathbf{X}_{l_t,m_t}^t = \mathbf{X}_{l_{t+1},m_{t+1}}^{t+1}$ , i.e.

all activities are grouped with themselves or are not grouped.

**3.** Sales: Let  $\mathbf{D}_{l,m} = (\hat{\mathbf{x}}_l^{-1}) \mathbf{X}_{l,m}$  be a rectangular intermediate transaction matrix of distribution coefficients.

For each i = l to l (row):

In 
$$d_{ij} \in \mathbf{D}_{l,m}, d_{ik} = \max(d_{ij}), \forall j = 1,...,m$$
.

If k is a direct or indirect input, then activities (i, k) are grouped, where i delivers its main specific intermediate sale to k. Otherwise, a pair (i, i) is formed, i.e. activity i is grouped with itself.

Join all (i, k) pairs with common elements to form  $\mathbf{X}_{l_1,m_1}^1$ , a new transaction matrix of aggregate activities. Start **3.** again with  $\mathbf{X}_{l,m} = \mathbf{X}_{l_1,m_1}^1$  until  $\mathbf{X}_{l_t,m_t}^t = \mathbf{X}_{l_{t+1},m_{t+1}}^{t+1}$ , i.e. all activities are grouped with themselves or are not grouped.

4. Purchase-Sales blocks: new groups of purchase and sales are constituted by removing all blocks of sales whose activities are included in a block of purchases and vice versa. With these new blocks,  $\mathbf{X}(n)_{l,m}$ , a new transaction matrix of aggregate activities is formed. Run 2., 3. and 4. with  $\mathbf{X}_{l,m} = \mathbf{X}(n)_{l,m}$  again until  $\mathbf{X}(n)_{l,m} = \mathbf{X}(n+1)_{l,m}$ . *End of Algorithm*.

As one of the main results, the final transaction matrix we obtain has a dominant principal diagonal, i.e. each block makes its main specific purchase from and sale to itself.

Activities grouped with themselves by the end of the algorithm constitute "implicit blocks", i.e. a more disaggregated matrix would be needed to identify groups of activities specifically related to them. Furthermore, activities belonging to more than one sectoral block are intersections.

Similar procedures can be specified for the configuration of blocks of services, and finally, a new iteration of the algorithm allows for goods-producing activities yet not grouped to be incorporated into blocks of services and vice versa. Using the logic developed so far, the Sectoral Blocks Method could be applied to different levels of territorial coverage. In fact, identification of blocks in intranational spaces could serve the formulation of regional accounting frameworks.

If a disaggregated matrix is available, it is possible to apply the algorithm of block formation. In this case sales and purchases to and from other regions or countries would be considered as exports or imports. Then, an IO matrix at the national level could be disaggregated in regional matrices constituting a system of interregional relations based on sectoral blocks.

After having reviewed the main logic of the algorithm, its application is presented in Section 4. However, in order to capture the differences in structural analysis that arise by the configuration of sectoral blocks, a characterization of demand, production and income with a traditional aggregation of sectors for the IO matrices of Argentina, Chile and Mexico is first presented in Section 3.

# **3.** Structural Characterization of the economies of Argentina, Chile and Mexico using Input-Output matrices.

The study of the composition of (gross domestic) production  $(\mathbf{x})$ , income/value added  $(\mathbf{v})$  and (final) demand  $(\mathbf{y})$ , within a sectoral interdependence framework, allows us to identify local specificities in the organization of industrial production at the national level.

Consider, first, three IO matrices for Argentina, Chile and Mexico presented in Table 1, Table 2 and Table 3 of Appendix 1, respectively.

Regarding Argentina, Table 1 presents a symmetric IO matrix of 124 sectors in current prices for 1997, disaggregated in 16 ISIC Rev. 3 letters. In second place, Table 2 presents a symmetric IO matrix of 73 sectors in current prices for 2003, disaggregated in 12 ISIC Rev. 3 letters. Finally, for Mexico, Table 3 presents a symmetric IO matrix of 79 sectors in current prices for 2003, disaggregated in 20 NAICS 2002 codes.

It should be clear that the highlighted characteristics in each economy as offered by these IO matrices have a static and (relative) prices dependent nature and, therefore, should be read with proper care and in correspondence with the particular industrial and macroeconomic regime of each period of analysis for each country.

Having stated this *caveat* clearly, the main characteristics of each matrix are studied by means of tables summarizing key coefficients and ratios.

For Argentina the following characterization is made in Table 4.

### [Insert Table 4 here]

Table 4 consists of ten columns. The first two identify the aggregate sector by standard (ISIC) letter code and description. Then, the five following columns are ratios of sectoral intermediate transactions, gross value of production (**gvp**), income (value

added) and final demand (of domestically produced commodities) with respect to their economy-wide totals. Finally, the three remaining columns are sectoral ratios of wages to gross value of production (**w**/**gvp**) as a measure of wage cost, the value of imported inputs to gross value of production (**m**/**gvp**) as a measure of import requirements per unit of output, and the functional distribution of income as measured by the ratio of wages to value added in each sector (**w**/**va**).

In the first place, for the case of Argentina, it can be noticed the role of Manufacturing (letter D) as the main source of intermediate purchases and sales. Additionally, Manufacturing (D), Commerce (G) and Business activities (K) are the main sources of income and (final) demand.

Furthermore, it can be seen the influence of the particular configuration of relative prices in 1997 on the high ratio of wage cost to value of production as well as in the ratio of wage as income to value added for human capital intensive services (J, M, N) and Public Administration (L, M, N).

Finally, as a common feature in many Latin American productive structures, Manufacturing (D) and Transport (I) are the most intermediate imports-dependant activities of the economy.

In the second place, the following characterization for Chile is made in Table 5.

### [Insert Table 5 here]

For the Chilean economy, there is a smaller participation of Manufacturing in the sectoral composition of intermediate uses and sales (D), but a higher ratio of production to intermediate uses. Additionally, the role of financial intermediation (J) and business activities (K) in intermediate sales is notorious, highlighting the generalized use of these inputs at an economy-wide level.

In comparative terms, the participation of Mining and quarrying (letter C) in intermediate uses, production and (final) demand (exports) is one of the main results that can be linked to the development of a natural-resource cluster based on copper in this country.

As an indicator of relative development in the services sector with respect to the deepening of manufacturing, it is interesting to note that Finance and business services (J,K) contribute to value added more than Manufacturing (D). Furthermore, Manufacturing (D) requires more than 20% of imported intermediate inputs per unit of (domestically produced) output. Finally, it deserves mentioning the high ratio of wage cost to value of production and of wage as income to value added for the Construction sector (F).

In the third place, the characterization for Mexico is made in Table 6.<sup>4</sup>

### [Insert Table 6 here]

To begin with, it must be stressed the importance of Manufacturing (code 31) and Construction (code 23) as sources of intermediate demand (56% of total intermediate uses).

Furthermore, Mining (code 21) and Professional Services (code 54) taken together are a more important source of intermediate sales than Wholesale trade (code

<sup>&</sup>lt;sup>4</sup> Because of the aggregate character of value added data in the IO matrix for Mexico, the last two columns could not be included in the table.

42), but Wholesale trade is only 3 percentage points less important than Manufacturing (code 31) in terms of value added.

As regards production and final demand, Manufacturing (code 31), Construction (code 23) and Wholesale trade (code 42) taken together represent 52% of production and 55% of locally produced demand. Finally, regarding import-dependence for inputs, it is not unusual to note that Manufacturing (code 31) requires 26% of imported intermediate inputs per unit of output.

It can be perceived from the previous analysis that, at the level of aggregate sectors in the IO Tables of all three economies, Manufacturing is a major and complex entity. However, how this aggregate is composed and what are the linkages among highly interdependent activities of different ISIC letters or NAICS codes cannot be seen if disaggregated entries in a standard statistical classification scheme are grouped by the criteria of primary, manufacturing and service activities.

It is held that this convention for grouping activities has a strong influence in the empirical (and even theoretical) analysis of structural configuration and change of an economy at the macro-sectoral level. In fact, this type of aggregation hides the autonomous character of certain groups of activities in terms of technological specificity and value of interindustry transactions that cannot be identified without breaking apart standard industry classifications.

As a consequence, Sectoral Block analysis poses a challenge for standard national accounting systems. More specifically, the question posed is how to empirically quantify the relative importance (in terms of production, income and demand) of a complete set of activities composing a value chain at an economy-wide scale, identify the principal market each activity has and picture the interactions each highly autonomous group of activities has with other groups, final demand and factor markets.

A suggested answer to accomplish these tasks is to use an IO matrix organized in Sectoral Blocks as a quantitative framework of analysis. Therefore, Section 4 below illustrates the use of the algorithm previously described to the IO matrices presented above and highlights characteristics of the block formation process and of the structural configuration of income, production and demand obtained in each case.

### 4. Application of the Algorithm for the Configuration of Sectoral Blocks to the Input-Output matrices of Argentina, Chile and Mexico.

This section illustrates the empirical application of the algorithm described in Section 2 for the cases of Argentina, Chile and Mexico. The corresponding IO matrices organized in sectoral blocks for each country are presented in Table 7, Table 8 and Table 9 of Appendix 3, respectively<sup>5</sup>.

First, in Table 7 we present a symmetric IO matrix for Argentina, organized in sectoral blocks valued at current prices for 1997, aggregated in 17 groups. The disaggregated configuration of the identified blocks for the 124 original activities is described in Table 10 of Appendix 2.

In the second place, Table 8 details a symmetric IO matrix for Chile organized in sectoral blocks valued at current prices for 2003, aggregated in 12 groups. The disaggregated configuration of the identified blocks for the 73 original activities is described in Table 11 of Appendix 2.

Finally, in Table 9 we present a symmetric IO matrix for Mexico organized in sectoral blocks valued at current prices for 2003, aggregated in 8 groups. The disaggregated configuration of the identified blocks for the 73 original activities is described in Table 12 of Appendix 2.

The disaggregation level of the original IO matrix is of crucial importance for the successful identification of sectoral blocks, as the industrial density of a country becomes more complex.

<sup>&</sup>lt;sup>5</sup> Fully disaggregated Input-Output matrices organized in Sectoral Blocks for each country shall be willingly provided by the Authors upon request.

For the case of Argentina, from a total of 124 activities (industries), the algorithm identified 14 Sectoral Blocks of more than one activity each (totaling 99 activities), 8 Implicit Blocks<sup>6</sup> and a remainder of 17 non-identified activities that were not assigned to a specific Sectoral Block.

As regards the case of Chile, from a total of 73 activities (industries), the algorithm identified 8 Sectoral Blocks of more than one activity each (totaling 49 activities), 3 Implicit Blocks, and a remainder of 21 non-identified activities that were not assigned to a specific Sectoral Block.

Finally, for the case of Mexico, from a total of 79 activities (industries), the algorithm identified 6 Sectoral Blocks of more than one activity each (totaling 38 activities), 1 Implicit Block, and a remainder of 40 non-identified activities that were not assigned to a specific Sectoral Block.

It is clear from the previous results that the success in the block formation process depends on the aggregation level of the IO matrix relative to the degree of sectoral specialization of an economy. Specifically, while the matrix for Mexico has more sectors than the one for Chile (79 against 73), the number of activities grouped in blocks was higher for Chile than for Mexico.

However, no prior judgment can be made (as to the comparative success of the algorithm in each matrix) before analyzing the value of interindustry transactions among identified blocks. To this end, the relative importance of the identified sectoral

<sup>&</sup>lt;sup>6</sup> As has been described in Section 2, an implicit block corresponds to an activity whose main purchases and sales are carried out within itself, possibly implying the need for a more disaggregated matrix in order to identify new blocks.

blocks, given the level of aggregation of the original IO matrix, is quantified by Table 13.

### [Insert Table 13 here]

Table 13 distinguishes among three categories of interindustry transactions. Intra-block transactions correspond to trades performed among activities of the same block; Identified Blocks Total Transactions are those exchanges performed between two activities of any of the identified blocks. Finally, Total Intermediate Transactions are the interindustry trades performed among all industries of the economy (amounting to the total level of intermediate sales/purchases).

The ratio of Intra-Block to Identified Blocks Transactions is highest for Mexico, though Intra-block transactions and Identified Blocks Transactions in Argentina account for a greater part of the Total Intermediate trade.

The structural configuration of each economy in terms of production, income and demand can now be analyzed with the disaggregation given by those sectoral blocks identified by the algorithm.

As a first case, for Argentina, the following characterization is made in Table 14.

### [Insert Table 14 here]

In the first place, it can be seen that activities of identified blocks generate almost 49% of total value added of the economy. More specifically, there is a major role of the Metal, Mechanical and Construction Block (block 11) in terms of production, income and demand.

Moreover, it deserves mentioning the importance of the Health Block (block 14) in income generation and in the composition of final demand. In relation to this, the high ratios of wage cost to value of production and of wage as income to value added for human capital intensive blocks (e.g. Finance and Health) highlight a particular relative price structure prevailing during the macroeconomic regime of Argentina in the 1990s.

Furthermore, regarding import dependence, Metal, Mechanical and Construction (block 11), Chemicals (block 9) and Forestry, Paper, Wood (block 6) have the highest import requirements per unit of output.

As a second case, for Chile the following characterization is made in Table 15.

### [Insert Table 15 here]

As an overall picture, activities of identified blocks generate 44% of total value added and 52% of total gross value of production. As a first specific result, it is notorious the role of farming and fishing (mainly explained by the salmon cluster) in intermediate uses and sales as well as in final demand (through exports).

As a second distinguishing feature of the Chilean case, copper and its manufactures (block 6) accounts for almost 8% of production and value added, and 11% of final demand (exports).

In the third place, it is interesting to note the major role of Metal, Mechanical and Construction Block (block 4) in production, income and demand, but also its high ratios of wage cost to value of production and of wage as income to value added.

Finally, the energy constraints of the Chilean economy are clearly reflected in the fact that Petroleum, Fuels and Gas (block 8) and the Petrochemical Block (block 7) require 64% and 30% of imported intermediate inputs per unit of output, respectively. This provides a possible explanation for the high participation of Electricity in the composition of intermediate sales. Finally, as a third case, for Mexico the following characterization is made in Table 16.

### [Insert Table 16 here]

Unfortunately, because of the high level of aggregation of the original IO matrix, the results of the algorithm highlight the major importance of only three aggregate blocks: Foods, Drink and Tobacco (block 1); Chemical, Petrochemical and Energy (block 4); and Metal, Mechanical and Construction (block 5). These three blocks account for 60% of Intermediate purchases, 45% of Intermediate Sales, 44.3% of gross domestic production, 34% of total value added and 44% of total final demand.

Interestingly, the textiles block (block 3) has a moderate contribution to production but relatively high imports requirements (36% of imported inputs per unit of output). However, the strongest case occurs in the Implicit Block of TIC (Information and Communication Technologies) equipment, which requires 70.4% of imported intermediate inputs per unit of output, explicitly highlighting the type of industrialization strategy pursed by this industry in Mexico.

In all three cases analyzed, the reorganization of the IO matrices into Sectoral Blocks highlighted different groups of industries in each country, rendering particular features of production and income generation that augmented the contrasts among different "sectors" in each economy, hence, improving the justification for multisectoral analysis.

### 5. Final comment on Sectoral Blocks and its role for economic policy.

Innovation as one key driver of industrial growth and development leads to increases in product variety that poses a challenge on industry classification systems. Standard statistical categories (primary sectors, manufacturing, services) are trespassed with the configuration of sectoral blocks.

In this context, sets of highly interdependent activities having their main markets in a block may constitute clusters that involve agglomeration of natural resource-based activities, industrial processes and specific services.

Correspondingly, the role of sectoral blocks is to highlight the link between technological specificity and market value of transactions, as reflected in general interdependence frameworks like IO matrices.

Hence, sectoral blocks analysis results in a modified statistical description of national accounting data, considering local specificity of technological processes and market relations. As such, it only provides a quantitative framework to analyze economic flows.

Reorganized Input-Output matrices could be used as data for Input-Output models, so as to asses the potential impact of different industrial policy measures in the sectoral configuration of production, income generation and import requirements.

At a more applied level, sectoral blocks might help to organize the division of labor in the design of industrial policy programs directed to specific parts of the economy.

### 6. References.

Chenery H. B.; Watanabe T. (1958): "International Comparisons of the Structure of Production", *Econometrica*, Vol. 26, No. 4 (Oct.), pp. 487- 521.

Dietzenbacher, E.; van der Linden, J.A.; Steenge, A.E. (1993): "The Regional Extraction Method: EC Input-Output Comparisons", *Economic Systems Research*, Vol. 5, No. 2, pp.185-206.

Díaz, B.; Moniche, L.; Morillas, A. (2006): "A Fuzzy clustering approach to the key sectors of the Spanish economy", *Economic Systems Research*, Vol. 18, No. 3, pp. 299-318.

Ghosh, A. (1960): "Input-Output Analysis with Substantially Independent Groups of Industries", *Econometrica*, Vol. 28, No. 1 (Jan.), pp. 88-96

Hewings, G. J. D.; Jensen, R. C. (1986): "Regional, Interregional and Multiregional Input-Output Analysis", In Nijkamp, P. (editor), *Handbook of Regional an Urban Economics*, Vol. I, Elseiver Science Publishers.

Hirschman, A. O. (1958): *The Strategy of Economic Development*, New Haven, Connecticut, Yale University Press.

Hoen, A. (2002): "Identifying Linkages with a Cluster-based Methodology",

Economic Systems Research, Vol. 14, No. 2, pp. 131-146.

Leontief, W. (1986): *Input-output economics*, Oxford University Press, New York.

Lifschitz, E.; Szyld, D.; Sauber, B. (1988): "Partitioning, Aggregating and Updating Input-Output tables, methodological aspects of sectoral matrices", Paper presented at the *Eighth International Conference on Input-Output Techniques*, UNIDO, Sapporo, Japan. Lifschitz, E. (1988): "Bloques Sectoriales: Partición de los Cuadros de Insumo-Producto Correspondientes a las Actividades Productoras de Bienes. Propuesta Metodológica", In De la Garza, M. (editor), *Eslabonamientos Productivos en Argentina, Brasil y Mexico* (II Seminario Internacional), Universidad Autónoma Metropolitana UAM), Unidad Azcapotzalco, Mexico.

Lifschitz, E. (1992): "Eslabonamientos Productivos: Enfoque metodológico y Presentación de las matrices sectoriales", In *Estudio para el diseño de Políticas Públicas*, UNDP-Government of Argentina-World Bank, Buenos Aires; pp. 1-108.

Lifschitz, E. (2004): "Sectoral Blocks in Argentina: A methodological approach applied to secto-regional Input-Output Analysis". In Working Papers Series, *Lozano-Long Institute of Latin American Studies*. The University of Texas at Austin, March.

Simpson, D.; Jinkichi Tsukui, J. (1965): "The Fundamental Structure of Input-Output Tables, An International Comparison", *The Review of Economics and Statistics*, Vol. 47, No. 4 (Nov.), pp. 434-446.

UNSTATS (1993). System of National Accounts 1993 (SNA 1993), Series F, No.2, Rev. 4, United Nations Statistics Division, New York.

7. Appendixes and Tables.

Appendix. 1. Input-Output tables organized in Aggregate Sectors.

			1	2	3	4	5	6	7	8	9
Code	ISIC Rev. 3	IS IC Description	A	В	С	D	E	F	G	Н	I
1	А	Agriculture, hunting and forestry	4.585.895	2.623	18	13.661.176	0	2.795	0	230.634	7
2	В	Fishing	45	25.609	0	220.400	0	0	0	203	0
3	С	Mining and quarrying	983	12	478.144	3.618.948	1.296.589	852.677	0	0	4.441
4	D	Manufacturing	3.068.451	199.076	378.580	32.268.537	277.567	9.016.048	1.776.304	3.701.971	3.005.326
5	E	Electricity, gas and water supply	126.247	1.401	124.018	1.982.000	2.025.245	169.160	456.578	286.134	264.858
6	F	Construction	252.564	0	135.975	49.537	2.264	0	1.369	348.599	54.045
7	G	Wholesale and retail trade	561.343	29.361	88.170	6.641.952	61.466	2.038.345	235.371	318.874	317.249
8	Н	Hotels and restaurants	35.208	19.837	0	189.693	170	0	80.542	2.224	125.817
9	I	Transport, storage and communications	339.292	74.743	290.242	6.197.991	697.957	589.499	1.422.801	147.329	2.419.209
10	J	Financial intermediation	257.059	18.983	126.090	1.106.606	133.798	398.240	1.887.813	169.724	775.033
11	K	Real estate, renting and business activities	60.308	41.091	359.205	5.127.372	346.186	1.016.206	4.537.716	1.062.918	2.475.859
12	L	Public administration and defence; compulsory social sec	174.228	5.967	16.182	319.848	81.157	59.060	120.457	0	306.223
13	М	Education	2.989	86	44.013	196.321	33.989	0	7.125	10.939	31.690
14	Ν	Health and social work	14.546	687	2.837	17.231	3.514	0	1.699	5.486	5.678
15	0	Other community, social and personal service activities	131.501	58	503.160	1.221.538	193.669	28.856	415.859	51.233	1.169.992
16	Р	Private households with employed persons	0	0	0	0	0	0	0	0	0
iu		Intermediate Consumption / Uses at Basic Prices	9.610.660	419.534	2.546.633	72.819.150	5.153.570	14.170.887	10.943.633	6.336.269	10.955.427
m		Imports	505.959	21.582	191.644	13.885.515	331.930	812.110	371.639	26.459	1.311.372
t		Net Taxes on Products	502.730	52.462	108.093	2.511.558	121.390	489.440	399.532	118.770	1.605.378
va		Value Added	13.698.443	484.888	6.200.893	42.361.431	4.786.097	14.816.626	30.174.725	5.920.931	19.936.406
W		Compensation of Employees	3.501.024	259.897	1.037.630	17.780.183	1.972.342	3.322.779	8.356.842	1.372.482	7.698.068
gos		Gross Operating Surplus and Indirect Taxes	10.197.419	224.991	5.163.262	24.581.247	2.813.755	11.493.847	21.817.884	4.548.449	12.238.338
gpv		Gross Production Value at Basic Prices	24.317.791	978.466	9.047.263	131.577.654	10.392.988	30.289.062	41.889.529	12.402.429	33.808.584

**Appendix 1. Table 1.** Symmetric industry by industry Input-Output Matrix, Argentina (1997). *thousands of Argentinean Pesos, at current 1997 prices.* 

Source: DNPER, MEyP (Arg) based on DNCN, INDEC.

	0	,	'											
10	11	12	13	14	15	16								
J	K	L	М	N	0	Р	Int. Sales	hous_c	gov_c	gfkf	ch. inv.	exports	cif/fob adjust.	gpv
0	18	17.176	17.128	16.187	68.167	0	18.601.824	1.568.887	0	917.598	272.076	2.957.406	0	24.317.791
0	0	0	38	0	0	0	246.296	23.775	0	0	671	707.724	0	978.466
0	0	1.718	4.340	1.494	50	0	6.259.396	64.023	0	477.000	-64.611	2.311.456	0	9.047.263
322.454	1.589.428	810.076	315.519	1.788.516	2.129.694	0	60.647.549	42.082.089	0	7.683.320	2.256.356	18.908.339	0	131.577.654
75.236	250.983	348.359	106.002	145.073	349.645	0	6.710.941	3.670.828	0	0	-51	11.270	0	10.392.988
0	1.574.050	200.754	66.481	53.820	141.830	0	2.881.289	0	0	27.399.914	0	7.860	0	30.289.062
45.548	229.440	77.103	33.646	125.042	147.349	0	10.950.258	26.897.322	0	3.250.083	0	791.865	0	41.889.529
70.234	245.754	390.547	61.240	133.690	95.659	0	1.450.614	10.951.815	0	0	0	0	0	12.402.429
761.756	984.864	602.265	143.894	352.084	1.323.889	0	16.347.815	14.708.359	0	628.435	-1.256	1.902.931	222.300	33.808.584
1.630.512	1.078.765	1.243.577	86.023	189.208	352.923	0	9.454.355	5.673.331	0	0	0	78.837	151.200	15.357.723
2.025.406	1.619.086	1.335.800	327.234	941.186	2.033.509	0	23.309.083	28.325.773	370.481	1.891.063	0	24.017	0	53.920.415
53.509	27.383	31.720	0	38.789	130.411	0	1.364.934	368.989	21.594.283	0	0	10.900	0	23.339.106
9.876	122.060	83.073	45.697	993	73.836	0	662.685	4.179.140	8.468.215	0	0	0	0	13.310.040
192	1.901	37.281	49.406	1.826.782	37.049	0	2.004.289	10.493.545	4.457.680	0	0	0	0	16.955.514
220.273	1.136.971	482.298	58.185	375.190	976.032	0	6.964.814	12.532.744	2.155.299	392.612	0	80.010	0	22.125.481
0	0	0	0	0	0	0	0	4.530.447	0	0	0	0	0	4.530.447
5.214.996	8.860.705	5.661.748	1.314.834	5.988.054	7.860.042	0	167.856.141	166.071.067	37.045.959	42.640.025	2.463.185	27.792.615	373.500	444.242.492
55.953	302.890	198.574	7.558	68.678	291.084	0	18.382.947	7.225.680	0	7.792.050	-35.887	0	0	33.364.789
441.786	726.387	981.088	218.770	699.566	951.132	0	9.928.083							
9.644.988	44.030.433	16.497.697	11.768.878	10.199.216	13.023.223	4.530.447	248.075.322							
5.318.654	4.057.461	16.285.994	10.133.569	5.785.590	5.695.671	4.530.447	97.108.632							
4.326.334	39.972.972	211.702	1.635.310	4.413.626	7.327.553	0	150.966.690							
15.357.723	53.920.415	23.339.106	13.310.040	16.955.514	22.125.481	4.530.447	444.242.492							

Appendix 1. Table 1. Symmetric industry by industry Input-Output Matrix, Argentina (1997). (continued...)thousands of Argentinean Pesos, at current 1997 prices.10111213141516

Appendix 1. Table 2. Symmetric industry by industry Input-Output Matrix, Chile (2003). thousands of Chilean Pesos, at current 2003 prices.

unououn	103 01 011110	an 1 6565, at canon 2000 phoes.																				
Code	BIC Rev. 3	3 ISIC Description	1	2	3	4	5	6	7	8	9	10	11	12	Int. Sales	s fimi	hous_c	gov_c	gfkf	ch. inv.	exports	gpv
1	А	Agriculture, hunting and forestry	476.223	1.683	98	1.922.487	0	22.600	33.562	3.524	112	603	2.984	16.506	2.480.380	0	479.399	0	109.770	39.624	795.804	3.904.976
2	В	Fishing	172	28.359	8	305.292	1	0	11.365	843	1	0	70	1.249	347.360	0	75.144	0	0	65.082	901.871	1.389.457
3	С	Mining and quarrying	24.595	2.740	875.631	461.614	2.322	162.744	17.403	12.330	21.443	191	1.688	10.377	1.593.077	2.736	55.714	185	5.409	325.999	6.448.224	8.431.344
4	D	Manufacturing	661.017	479.962	729.558	3.564.118	55.392	1.787.598	1.040.438	967.998	512.871	46.129	184.816	384.034	10.413.928	0	6.287.754	34.784	514.900	30.446	5.564.970	22.846.782
5	E	Electricity, gas and water supply	33.980	6.084	425.975	349.318	1.125.516	29.680	128.377	56.195	76.770	42.478	89.910	95.964	2.460.246	0	768.996	22.302	67.932	-207	5.909	3.325.178
6	F	Construction	6.199	372	6.094	31.982	11.966	321	95.516	22.231	110.263	566.672	71.974	90.705	1.014.295	0	0	0	6.252.784	0	0	7.267.079
7	G, H	Wholesale and retail trade, Hotels and restaurants	278.787	48.039	283.932	1.176.019	27.083	371.044	578.280	687.656	405.950	8.940	88.345	279.139	4.233.215	0	5.176.704	76.134	751.748	11.050	1.076.153	11.325.005
8		Transport, storage and communications	96.890	34.101	375.702	965.561	105.734	149.063	1.574.418	1.378.758	380.918	7.363	81.190	187.580	5.337.279	1.360	3.405.592	1.010	30.054	93	2.246.943	11.022.331
9	J,K	Financial intermediation and business activities	203.762	96.207	850.644	1.435.871	224.725	622.251	1.863.863	932.448	1.713.820	20.229	264.257	577.958	8.806.035	1.726.397	1.343.582	27.691	7.011	98	421.561	12.332.375
10		Imputation of housing services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.673.741	0	0	0	0	3.673.741
11	L	Public administration	3.704	982	7.244	21.868	1.628	4.821	49.683	23.298	17.816	104	6.578	8.232	145.956	9.543	111.410	3.163.934	68	13	33.525	3.464.448
12	M, N, O, P	Social and personal service activities	14.713	7.505	31.972	88.475	7.204	18.143	94.065	76.870	300.954	369	147.580	411.608	1.199.458	32	4.326.921	2.795.900	1.471	27	54.218	8.378.026
iu		Intermediate Consumption / Uses at Basic Prices	1.800.042	706.033	3.586.858	10.322.605	1.561.569	3.168.265	5.486.969	4.162.151	3.540.918	693.077	939.391	2.063.353	38.031.229	1.740.067	25.704.957	6.121.940	7.741.148	472.225	17.549.176	97.360.742
m		Imports	226.231	47.701	488.096	4.921.284	301.449	487.878	865.703	1.780.766	960.135	2.212	176.041	260.547	10.518.041							
t		Net Taxes on Products	36.272	8.287	34.820	28.846	948	79.554	21.449	367.980	180.348	730	134.300	142.488	1.036.021							
va		Value Added	1.842.431	627.436	4.321.571	7.574.048	1.461.211	3.531.382	4.950.883	4.711.435	7.650.975	2.977.723	2.214.717	5.911.639	47.775.451							
w		Compensation of Employees	708.992	207.222	812.552	2.534.695	197.988	2.297.597	3.132.886	1.653.204	3.462.533	53.077	1.824.694	4.215.328	21.100.769							
gos		Gross Operating Surplus and Indirect Taxes	1.133.439	420.215	3.509.019	5.039.352	1.263.223	1.233.785	1.817.997	3.058.230	4.188.441	2.924.646	390.023	1.696.311	26.674.682							
gpv	_	Gross Production Value at Basic Prices	3.904.976	1.389.457	8.431.344	22.846.782	3.325.178	7.267.079	11.325.005	11.022.331	12.332.375	3.673.741	3.464.448	8.378.026	97.360.742							

Source: DNPER, MEyP (Arg) based on Central Bank of Chile

### Table 3. Symmetric industry by industry Input-Output Matrix, Mexico (2003). thousands of Mexican Pesos, at current 2003 basic prices.

NAICS	Description	11	21	22	23	31	42	44	48	51	52	53	54
11	Agriculture, Forestry, Fishing and Hunting	37.038.413	0	0	1.691.961	179.686.461	0	0	0	0	0	0	0
21	Mining	75.598	5.917.262	1.851.929	12.076.629	275.010.135	0	7.029	0	532	0	222.023	4.271
22	Utilities	4.931.145	3.089.478	33.437.453	3.094.215	49.112.356	14.935.672	4.275.842	209.809	2.101.890	961.559	6.694.012	2.235.677
23	Construction	923.712	353.383	579.321	62.592.496	6.448.286	510.917	1.050.488	12.656	73.406	510.362	3.303.577	64.449
31	Manufacturing	46.958.163	26.030.899	41.258.500	194.290.794	559.674.155	55.316.713	81.229.798	3.162.250	12.875.917	3.392.468	15.584.523	19.524.494
42	Wholesale Trade	22.587.553	12.130.118	20.023.361	65.355.295	286.675.302	28.747.650	33.475.782	1.189.923	6.765.024	1.815.393	5.796.449	10.283.343
44	Retail Trade	8.656.254	6.155.767	9.498.466	23.639.085	103.806.216	9.589.520	20.670.908	500.936	7.333.631	1.751.793	2.789.805	5.391.401
48	Transportation and Warehousing	13.898	20.545	24.709	144.136	342.000	3.321.737	1.459.940	48.089	22.215	2.299.929	183.861	210.276
51	Information	1.385.547	1.242.217	942.115	5.862.350	23.449.654	20.294.570	6.347.599	530.872	16.881.710	7.546.715	7.817.394	10.520.480
52	Finance and Insurance	5.241.326	14.635.281	3.805.767	5.682.482	19.789.113	42.032.858	16.059.935	163.688	5.338.868	35.163.185	2.980.428	1.355.245
53	Real Estate and Rental and Leasing	971.679	9.749.663	1.109.374	13.176.425	43.315.225	46.190.181	12.040.698	1.294.193	11.969.250	10.191.016	9.682.073	13.682.392
54	Professional, Scientific, and Technical Services	5.051.063	4.104.100	1.832.349	18.648.445	54.371.004	75.464.543	15.535.901	639.937	8.799.646	17.204.421	4.157.112	15.058.102
55	Management of Companies and Enterprises	0	5.191.917	0	101.263	15.636.558	581.681	266.752	0	18.627.991	45.475	15.202	0
56	Administrative and Support and Waste Management	5.900	1.875.404	2.691.184	8.461.440	53.308.191	10.510.634	15.831.267	765.885	7.606.651	24.242.286	15.418.153	9.730.947
61	Educational Services	0	0	107.579	5.720	3.866	0	275.583	2.023	16.681	815.062	1.815	212.008
62	Health Care and Social Assistance	0	0	0	0	0	0	0	0	0	0	0	0
71	Arts, Entertainment, and Recreation	0	0	0	424	12.118	0	6.156	15	299.022	16	3.085	2.241
72	Accommodation and Food Services	39.658	1.107.602	659.950	2.837.940	12.620.499	77.429	4.405.096	86.658	398.578	1.390.741	304.245	2.005.404
81	Other Services (except Public Administration)	1.401.338	2.795.361	2.367.770	5.130.771	19.960.683	6.478.071	13.763.475	418.613	2.094.827	3.035.222	1.419.646	2.112.206
92	Public Administration	239	31	1.277.835	30.524	137	0	3.222.025	19.134	0	1.199.264	6.542	0
iu	Intermediate Consumption / Uses	135.281.486	94.399.028	121.467.662	422.822.395	1.703.221.959	314.052.176	229.924.274	9.044.681	101.205.839	111.564.907	76.379.945	92.392.936
m	Imports	26.617.811	16.027.891	22.674.890	68.481.288	1.054.393.878	59.932.891	51.731.759	1.582.588	20.661.047	13.035.333	5.998.912	19.312.366
t	Net Taxes on Products and Adjust.	1.512.320	1.001.063	2.309.191	3.335.418	10.517.962	520.780	13.509.869	163.464	877.344	-51.584	180.963	570.349
va	Value Added	260.145.687	430.060.779	92.089.369	473.680.479	1.291.292.836	1.086.891.495	521.558.270	8.990.120	191.223.401	183.462.134	804.759.549	278.635.121
gvp	Gross Production Value at Basic Prices	423.557.304	541.488.761	238.541.112	968.319.580	4.059.426.635	1.461.397.342	816.724.172	19.780.853	313.967.631	308.010.790	887.319.369	390.910.772

Source: DNPER, MEyP (Arg) based on INEGI, Mexico.

### Table 3. Symmetric industry by industry Input-Output Matrix, Mexico (2003) (continued...) thousands of Mexican Pesos, at current 2003 basic prices.

55	56	61	62	71	72	81	92	Int. Sales	hous_c	gov_c	gfkf	ch. inv.	exports	gvp
0	0	0	17	817	6.029	238	0	218.423.936	152.682.442	0	7.595.945	10.388.765	34.466.216	423.557.304
0	4.002	10	192	605	113.953	351	0	295.284.521	0	0	59.088.851	3.404.325	183.711.064	541.488.761
69.172	959.354	2.555.727	3.441.982	643.320	9.781.982	3.196.193	7.547.589	153.274.427	84.427.471	0	0	0	839.214	238.541.112
293.482	231.582	1.108.787	422.310	28.859	853.486	93.548	1.607.285	81.062.392	1.198.544	29.384	886.029.260	0	0	968.319.580
1.017.539	10.378.220	4.255.758	22.068.423	2.795.724	17.517.792	19.013.955	16.437.575	1.152.783.660	1.208.462.405	1.815.688	139.742.910	221.457.266	1.335.164.706	4.059.426.635
291.043	4.517.652	2.196.342	8.749.160	975.872	6.116.306	8.300.783	5.804.204	531.796.555	670.820.538	0	87.736.300	0	171.043.949	1.461.397.342
761.736	2.258.451	1.276.366	3.079.371	418.633	2.706.197	3.288.322	4.879.213	218.452.071	519.328.249	0	20.670.254	0	58.273.598	816.724.172
31.986	39.055	252.586	117.085	48.521	49.724	34.960	2.531.384	11.196.636	8.584.217	0	0	0	0	19.780.853
1.526.962	4.173.957	8.081.111	2.565.583	1.042.380	4.944.201	5.867.040	7.826.681	138.849.138	167.572.906	43.604	0	0	7.501.983	313.967.631
3.006.679	783.656	507.269	367.244	295.546	4.581.970	1.301.513	8.526.066	171.618.119	93.735.190	30.082.722	0	0	12.574.759	308.010.790
1.103.736	3.641.681	5.418.057	4.671.640	1.343.101	9.890.603	6.166.833	5.407.725	211.015.545	676.289.836	0	0	0	13.988	887.319.369
5.253.759	7.521.324	6.499.634	2.478.268	1.030.330	3.831.929	3.770.560	11.867.793	263.120.220	114.350.189	12.088.532	0	0	1.351.831	390.910.772
888.523	1.024	0	0	0	0	1.656	0	41.358.042	0	0	0	0	0	41.358.042
516.792	5.640.691	4.995.270	8.573.306	1.829.179	9.098.006	2.937.208	12.472.618	196.511.012	21.230.808	0	0	0	3.517.228	221.259.048
0	0	607.911	235.862	8.631	393	21	3.724.631	6.017.786	141.282.423	269.065.467	0	0	0	416.365.676
0	0	0	0	0	0	0	0	0	130.997.448	162.308.618	0	0	0	293.306.066
30	2.293	57.117	1.279	12.370	23.083	409	1.103.931	1.523.589	35.265.442	4.222.283	0	0	0	41.011.314
955.714	935.229	890.734	893.348	82.128	134.386	247.540	5.127.096	35.199.975	244.746.211	0	0	0	0	279.946.186
219.507	471.456	867.186	1.790.983	601.253	2.683.878	369.196	5.768.658	73.750.100	201.200.056	0	0	0	4.746.883	279.697.039
0	0	0	0	0	0	3.086	0	5.758.817	4.263.498	412.665.245	0	0	0	422.687.560
15.936.660	41.559.627	39.569.865	59.456.053	11.157.269	72.333.918	54.593.412	100.632.449	3.806.996.541	4.476.437.873	892.321.543	1.200.863.520	235.250.356	1.813.205.419	12.425.075.252
3.284.303	8.978.418	3.512.622	11.197.471	947.650	3.596.744	16.503.077	4.308.838	1.412.779.777	255.513.593	402.299	225.413.878	63.482.087	0	1.957.591.634
56.065	241.187	69.654	349.763	29.602	329.269	435.751	814.655	36.773.085	351.640.307	0	4.616.725	0	0	393.030.117
22.081.014	170.479.816	373.213.535	222.302.779	28.876.793	203.686.255	208.164.799	316.931.618	7.168.525.849						
41.358.042	221.259.048	416.365.676	293.306.066	41.011.314	279.946.186	279.697.039	422.687.560	12.425.075.252						

Appendix. 2. Classification of Activities in Sectoral Blocks.

#### Appendix 2.Table 10. Disaggregated configuration of Sectoral Blocks for Argentina (1997)

Block	Order	Sectoral Block	IO Act.	ISIC Rev. 3 / ClaNAE	IS IC Description
1	1	Energy	12	1010, 1110, 1120	Mining and agglomeration of hard coal, Extraction of crude petroleum and natural gas, Service activities incidental to oil and gas extraction excluding
1	2	Energy	48	2320	surveying. Manufacture of refined petroleum products
1	3	Energy	94	4020	Manufacture of gas; distribution of gaseous fuels through mains
1	4	Energy	103	6030	Transport via pipelines
1	5	Energy	93	4010	Production, collection and distribution of electricity
2	1	Cereals and Leguminous	1	0111	Growing of cereals and other crops
2	2	Cereals and Leguminous	8	0140	Agricultural and animal husbandry service activities, except veterinary activities
2	3	Cereals and Leguminous	18	1514	Manufacture of vegetable and animal oils and fats
2	4	Cereals and Leguminous	20	1531, 1532	Manufacture of grain mill products, Manufacture of starches and starch products
2	5	Cereals and Leguminous	22	1541	Manufacture of bakery products
2	6	Cereals and Leguminous	25	1544	Manufacture of macaroni, noodles, couscous and similar farinaceous
	_			1550	products
	7	Cereals and Leguminous	29	1553	Manufacture of malt liquors and malt
2	8	Cereals and Leguminous	50	2412, 2421	and other agre chemical products
2	1	Sugar and Drinka	22	15/2	Manufacture of sugar
3	2	Sugar and Drinks	23	1542	Manufacture of other food products
3	3	Sugar and Drinks	30	1554	Manufacture of one nood production of mineral waters
4	1	Other Industrial Crops	24	1543	Manufacture of cocoa, chocolate and sugar confectionery
4	2	Other Industrial Crops	27	1551	Distilling, rectifying and blending of spirits; ethyl alcohol production from
	2	Other Industrial Crops	28	1552	fermented materials
4	3	Other Industrial Crops	20	1600	Manufacture of tobacco products
	1	Fruits pulses and horticultural	2	0112	Growing of vegetables, borticultural specialties and pursery products
5	2	Fruits, pulses and horticultural	3	0112	Growing of fruit nuts, beverage and spice crops
5	3	Fruits, pulses and horticultural	17	1513	Processing and preserving of fruit and vegetables
6	1	Forestry, Paper, Wood	42	2101	Manufacture of pulp, paper and paperboard
6	2	Forestry, Paper, Wood	10	020	Forestry, logging and related service activities
6	3	Forestry, Paper, Wood	40	2010	Sawmilling and planing of wood
6	4	Forestry, Paper, Wood	41	2021, 2022, 2023, 2029	Manufacture of products of wood, cork, straw and plaiting materials
6	5	Forestry, Paper, Wood	43	2102	Manufacture of corrugated paper and paperboard and of containers of paper
					and paperboard
6	6	Forestry, Paper, Wood	44	2109	Manufacture of other articles of paper and paperboard
6	7	Forestry, Paper, Wood	45	2211, 2213, 2219	Publishing of books, brochures, musical books and other publications,
					recorded media, other publishing
6	8	Forestry, Paper, Wood	46	2212	Publishing of newspapers, journals and periodicals
6	9	Forestry, Paper, Wood	91	3610	Manufacture of furniture
6	10	Forestry, Paper, Wood	92	3691, 3692, 3693, 3694, 3699	Other manufacturing
7	1	Farming and Dairy	6	0121	Farming of cattle, sheep, goats, horses, asses, mules and hinnies; dairy
					farming
	2	Farming and Dairy	15	1511	Production, processing and preserving of meat and meat products
	3	Farming and Dairy	/	0122	Other animal farming; production of animal products h.e.c.
1	4	Farming and Dairy	9	015	Hunting, trapping and game propagation including related service activities
7	5	Farming and Dairy	19	1520	Manufacture of dainy products
7	6	Farming and Dairy	21	1523	Manufacture of prepared animal feeds
7	7	Farming and Dairy	37	1911	Tanning and dressing of leather
7	8	Farming and Dairy	38	1912	Manufacture of luggage, handbags and the like, saddlery and harness
7	9	Farming and Dairy	39	1920	Manufacture of footwear
8	1	Fishing Activities	11	050	Fishing
8	2	Fishing Activities	16	1512	Processing and preserving of fish and fish products
9	1	Chemicals	49	2411	Manufacture of basic chemicals, except fertilizers and nitrogen compounds
	2	Chemicals	50	2520	Manufacture of plastics products
9	3	Chemicals	51	2413	Manufacture of plastics in primary forms and of synthetic rubber
9	4	Chemicals	55	2429	Manufacture of other chemical products
9	5	Chemicals	58	2519	Manufacture of other rubber products
10	1	Textiles	4	0114	Growing of other agricultural products
10	2	Textiles	32	1711	Preparation and spinning of textile fibres; weaving of textiles
10	3	Textiles	33	1712	Finishing of textiles
10	4	Textiles	34	1721, 1722, 1723, 1729	Manufacture of other textiles
10	5	Textiles	35	1730	Manufacture of knitted and crocheted fabrics and articles
10	6	Textiles	36	1810, 1820	Manufacture of wearing apparel, except fur apparel, Dressing and dyeing of
					fur; manufacture of articles of fur
10	7	Textiles	56	2430	Manufacture of man-made fibres
11	1	Metal, Mechanical and Construction	14	141, 142	Quarrying of stone, sand and clay and Other Mining and quarrying
	2	Metal, Mechanical and Construction	62	2693	Manufacture of structural non-refractory clay and ceramic products
11	3	Metal, Mechanical and Construction	65	2094	Manufacture of basic iron and steel
11	5	Metal Mechanical and Construction	66	2710	Manufacture of basic from and steel
11	6	Metal, Mechanical and Construction	96	4510 4520 4530 4540	Construction
11	7	Metal, Mechanical and Construction	52	2422	Manufacture of paints, varnishes and similar coatings, printing ink and
					mastics
11	8	Metal, Mechanical and Construction	60	2610	Manufacture of glass and glass products
11	9	Metal, Mechanical and Construction	61	2691, 2692, 2696, 2699	Manufacture of non-structural non-refractory ceramic ware, refractory ceramic
					products, Cutting, shaping and finishing of stone
11	10	Metal, Mechanical and Construction	64	2695	Manufacture of articles of concrete, cement and plaster
11	11	Metal, Mechanical and Construction	67	2731, 2732	Casting of iron and steel, Casting of non-ferrous metals
11	12	Metal, Mechanical and Construction	68	2811, 2812, 2813	Manufacture of structural metal products, Manufacture of tanks, reservoirs
					and containers of metal, Manufacture of steam generators, except central
11	13	Metal, Mechanical and Construction	69	2891, 2892	Forging, pressing, stamping and roll-forming of metal; powder metallurgy, Treatment and coating of metals; general mechanical engineering on a fee or contract basis

Block	Orden	Sectoral Block	IO Act.	ISIC Rev. 3 / ClaNAE	ISIC Description
11	14	Metal, Mechanical and Construction	70	2893	Manufacture of cutlery, hand tools and general hardware
11	15	Metal, Mechanical and Construction	71	2899	Manufacture of other fabricated metal products
	10		71	2039	Manufacture of other labited metal products
11	16	Metal, Mechanical and Construction	72	2911, 2912	Manufacture of engines and turbines, except aircraft, venicle and cycle
					engines, Manufacture of pumps, compressors, taps and valves
11	17	Metal Mechanical and Construction	73	2913, 2914, 2915, 2919	Manufacture of bearings, gears, gearing and driving elements, ovens,
		,		, - ,,	furnaces and furnace burners, lifting and bandling equipment, other general
					numaces and furnace burners, intring and narioling equipment, other general
					purpose machinery
11	18	Metal, Mechanical and Construction	74	2921	Manufacture of agricultural and forestry machinery
11	19	Metal, Mechanical and Construction	75	2922, 2923, 2924, 2925, 2926,	Manufacture of special purpose machinery
				2927, 2929	
11	20	Motal Machanical and Construction	76	2030	Manufacture of domestic appliances
	20		76	2930	
11	21	Metal, Mechanical and Construction	78	3110	Manufacture of electric motors, generators and transformers
11	22	Metal, Mechanical and Construction	79	3120	Manufacture of electricity distribution and control apparatus
11	23	Metal, Mechanical and Construction	80	3130	Manufacture of insulated wire and cable
11	24	Metal, Mechanical and Construction	81	3140, 3190	Manufacture of accumulators, primary cells and primary batteries
11	25	Metal Mechanical and Construction	82	3150	Manufacture of electric lamps and lighting equipment
	23	Metal, Mechanical and Construction	02	9100	Manuadure of electric lamps and lighting equipment
11	26	Metal, Mechanical and Construction	84	3230	Manufacture of television and radio receivers, sound of video recording of
					reproducing apparatus, and associated goods
11	27	Metal, Mechanical and Construction	85	3311, 3312, 3313, 3320, 3330	Manufacture of medical, precision and optical instruments, watches and
					clocks
11	20	Matal Machanical and Construction	96	2410	Monufacture of motor vahiolog
	28	Metal, Mechanical and Construction	80	3410	Manufacture of motor venicles
11	29	Metal, Mechanical and Construction	87	3420	Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers
					and semi-trailers
11	30	Metal Mechanical and Construction	88	3430	Manufacture of parts and accessories for motor vehicles and their engines
			00		······································
	~ ~ ~			0511 0510 0500 0500	
11	31	Metal, Mechanical and Construction	89	3511, 3512, 3520, 3530	Building and repairing of ships, Manufacture of railway and tramway
					locomotives and rolling stock, aircraft and spacecraft
11	32	Metal Mechanical and Construction	90	3591, 3592, 3599	Manufacture of motorcycles, bicycles and other transport equipment
12	1	Transport	101	6010 6021 6022	Transport via railways and other land transport
12	-		101	0010, 0021, 0022	
12	2	Iransport	102	6010, 6023	Freight transport by road
12	3	Transport	106	63	Supporting and auxiliary transport activities; activities of travel agencies
12	4	Transport	57	2511	Manufacture of rubber tyres and tubes; rethreading and rebuilding of rubber
					tyres
10	F	Transport	104	6110 6120	See and coastal water transport. Inland water transport
12	5		104	0110, 0120	
13	1	Finance and Insurance	109	6511, 6519, 6592, 6599, 6712	Financial intermediation, except insurance and pension funding
13	2	Finance and Insurance	110	66	Insurance and pension funding, except compulsory social security
14	1	Health	117	8511 8512 8519	Hospital activities Medical and dental practice activities
44	-		50	2422	Monufacture of phormacouticals, medicinal chamicals and betanical products
14	2	Fiediti	55	2423	Manulacture of pharmaceuticais, medicinal chemicais and botanical products
14	3	Health	116	8511	Hospital activities
14	4	Health	118	8520	Veterinary activities
15	1	Implicit Blocks	13	1310 1320	Mining of iron ores. Mining of non-ferrous metal ores, except uranium and
10	•		10	1010, 1020	therium erec
			105	0010.0000	
15	1	Implicit Blocks	105	6210, 6220	Air transport
15	2	Implicit Blocks	47	2221, 2222, 2230	Printing and service activities related to printing
15	2	Implicit Blocks	108	6420	Telecommunications
15	3	Implicit Blocks	54	2424	Manufacture of soap and detergents, cleaning and polishing preparations.
10	0		01	= .= .	nerfumes and toilet preparations
				0000	
15	4	Implicit Blocks	11	3000	Manufacture of office, accounting and computing machinery
15	5	Implicit Blocks	83	3210, 3220	Manufacture of electronic valves and tubes and other electronic components,
					television and radio transmitters and apparatus for line telephony and line
					telegraphy
15	6	Implinit Planka	100	0211 0212 0212 0214 0210	Motion nicture, radio, television and other entertainment activities
15	0	Implicit blocks	122	9211, 9212, 9213, 9214, 9219	would picture, radio, television and other entertainment activities
16	1	Non-identified Activities	95	4100	Collection, purification and distribution of water
16	2	Non-identified Activities	97	51	Wholesale trade and commission trade, except of motor vehicles and
					motorcycles
16	2	Non identified Activities	0.0	52	Patail trade, execut of motor vahiolog and motorovalog: repair of personal and
10	3	Non-Identified Activities	90	52	Retail trade, except of motor venicles and motorcycles, repair of personal and
					household goods
16	4	Non-identified Activities	99	5510	Hotels; camping sites and other provision of short-stay accommodation
16	5	Non-identified Activities	100	5520	Restaurants bars and canteens
40	<u> </u>	Neg identified Activities	100	31 30 30 31	Resting of months and called in the state of a second
10	ю	Non-Identilied ACTIVITIES	111	11, 12, 13, 14	Renarg or machinery and equipment without operator and or personal and
					household goods, Computer and related activities, Research and
					development, Other business activities
16	7	Non-identified Activities	112	7010	Real estate activities with own or leased property
16	p	Non-identified Activities	11/	80	Education
10	0	Non identified Activities	404	0111 0101 0100 0100	Activities of husiness, employers and refereined every
16	Э	NOTHAENTINEA ACTIVITIES	121	9111, 9191, 9192, 9199	Activities of business, employers and professional organizations
16	10	Non-identified Activities	123	502, 526, 9220, 9230, 9240, 93	Recreational, cultural and sporting activities and Other service activities
16	11	Non-identified Activities	5	0115	Seed Production
16	10	Non-identified Activities	107	6/11	National post activities
10	12		107	0411	National post dolivities
16	13	Non-Identified Activities	115	80	Education
16	14	Non-identified Activities	119	8531, 8532	Social work
16	15	Non-identified Activities	120	9000	Sewage and refuse disposal, sanitation and similar activities
16	16	Non-identified Activities	124	9500	Private households with employed persons
17	10	Public Sector	110	75	Public administration and defence: compulsory social socurity
17	1		113	75	r abile autimistration and deletice, computiony social security

Source: DNPER, MEyP (Arg) based on DNCN, INDEC.

### Appendix 2.Table 11. Disaggregated configuration of Sectoral Blocks for Chile (2003)

Block	Sectoral Block	IO Act	Order	Description
1	Farming and Fishing Industry	3	1	Farming of animals
1	Farming and Fishing Industry	5	2	Fishing
1	Farming and Fishing Industry	11	3	Production, processing and preservation of meat
1	Farming and Fishing Industry	12	4	Processing and preserving of fish and fish products
1	Farming and Fishing Industry	15	5	Manufacture of dairy products
1	Farming and Fishing Industry	17	6	Manufacture of prepared animal feeds
1	Farming and Fishing Industry	26	7	Manufacture of textiles
1	Farming and Fishing Industry	27	8	Manufacture of wearing apparel; dressing and dyeing of fur
1	Farming and Fishing Industry	28	9	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery
1	Farming and Fishing Industry	29	10	Manufacture of footwear
2	Agricultural Industry	1	11	Agriculture
2	Agricultural Industry	6	12	Mining of coal
2	Agricultural Industry	14	13	Manufacture of vegetable and animal oils and fats
2	Agricultural Industry	16	14	Manufacture of grain mill products, Manufacture of starches and starch products
2	Agricultural Industry	18	15	Manufacture of bakery products
2	Agricultural Industry	19	16	Manufacture of sugar
2	Agricultural Industry	23	17	Manufacture of malt liquors and malt
2	Agricultural Industry	25	18	Manufacture of tobacco products
3	Fruit Growing Industry	2	19	Fruit Growing
3	Fruit Growing Industry	13	20	Processing and preserving of fruit and vegetables
3	Fruit Growing Industry	20	21	Manufacture of other food products
3	Fruit Growing Industry	21	22	Distilling, rectifying and blending of spirits; ethyl alcohol
				production from fermented materials
3	Fruit Growing Industry	22	23	Manufacture of wines
3	Fruit Growing Industry	24	24	Manufacture of soft drinks; production of mineral waters
4	Metal, Mechanical and Construction	8	25	Mining of iron ores
4	Metal, Mechanical and Construction	10	26	Other Mining Activities
4	Metal, Mechanical and Construction	35	27	Manufacture of other chemical products
4	Metal, Mechanical and Construction	38	28	Manufacture of glass and glass products
4	Metal, Mechanical and Construction	39	29	Manufacture of non-metallic mineral products
4	Metal, Mechanical and Construction	40	30	Manufacture of basic iron and steel
4	Metal, Mechanical and Construction	42	31	Manufacture of metal products
4	Metal, Mechanical and Construction	43	32	Manufacture of non-electric machinery and equipment
4	Metal, Mechanical and Construction	44	33	Manufacture of electric machinery and equipment
4	Metal, Mechanical and Construction	45	34	Manufacturing of Transport Equipment
4	Metal, Mechanical and Construction	51	35	Construction
5	Forestry, Paper, Wood	4	36	Forestry
5	Forestry, Paper, Wood	30	37	Manufacturing of wood and wood products
5	Forestry, Paper, Wood	31	38	Manufacture of paper and paper products
5	Forestry, Paper, Wood	32	39	Publishing, printing and reproduction of recorded media
5	Forestry, Paper, Wood	46	40	Manufacture of furniture
6	Copper and its manufactures	9	41	Mining of Copper
6	Copper and its manufactures	41	42	Manufacture of basic precious and non-ferrous metals
6	Copper and its manufactures	47	43	Other manufacturing
7	Petrochemical	34	44	Manufacture of basic chemicals
7	Petrochemical	36	45	Manufacture of rubber products
7	Petrochemical	37	46	Manufacture of plastics products
8	Petroleum, Fuels and Gas	7	47	Extraction of crude petroleum and natural gas
8	Petroleum, Fuels and Gas	33	48	Manufacture of coke, refined petroleum products and nuclear
8	Petroleum, Fuels and Gas	49	49	fuel Manufacture of gas; distribution of gaseous fuels through mains
9	Implicit Block, Electricity	48	50	Production, collection and distribution of electricity
10	Implicit Block, Commerce	61	51	Telecommunications
11	Implicit Block, Private Health	71	52	Private Health Services
12	Non-identified Activities	50	53	Steam and hot water supply
12	Non-identified Activities	52	54	Wholesale and retail trade
12	Non-identified Activities	53	55	Hotels
12	Non-identified Activities	54	56	Restaurants
12	Non-identified Activities	55	57	Transport via railways

Block	Sectoral Block	IO Act	Order	Description
12	Non-identified Activities	56	58	Other land transport
12	Non-identified Activities	57	59	Freight transport by road
12	Non-identified Activities	58	60	Water transport
12	Non-identified Activities	59	61	Air Transport
12	Non-identified Activities	60	62	Supporting and auxiliary transport activities; activities of travel
				agencies
12	Non-identified Activities	62	63	Financial intermediation
12	Non-identified Activities	63	64	Insurance and pension funding
12	Non-identified Activities	64	65	Real estate activities
12	Non-identified Activities	65	66	Business activities services
12	Non-identified Activities	66	67	Imputation of housing services
12	Non-identified Activities	67	68	Public Administration
12	Non-identified Activities	68	69	Public Education
12	Non-identified Activities	69	70	Private Education
12	Non-identified Activities	70	71	Public Health Services
12	Non-identified Activities	72	72	Recreational, cultural and sporting activities
12	Non-identified Activities	73	73	Other service activities

Source: DNPER, MEyP (Arg) based on Central Bank of Chile

### Appendix 2.Table 12. Disaggregated configuration of Sectoral Blocks for Mexico (2003)

IO Act	Block	Block Description	NAICS 2002	Act. Des cription
1	1	Food, Drinks and Tobacco	111	Crop Production
2	1	Food, Drinks and Tobacco	112	Animal Production
4	1	Food, Drinks and Tobacco	114	Fishing, Hunting and Trapping
5	1	Food, Drinks and Tobacco	115	Support Activities for Agriculture and Forestry
14	1	Food, Drinks and Tobacco	311	Food Manufacturing
15	1	Food, Drinks and Tobacco	312	Beverage and Tobacco Product Manufacturing
19	1	Food, Drinks and Tobacco	316	Leather and Allied Product Manufacturing
2	1	Food, Drinks and Tobacco	112	Food Services and Drinking Places
20	2	Forestry, Paper, Wood	321	Wood Product Manufacturing
20	2	Forestry, Paper, Wood	322	Paper Manufacturing
22	2	Forestry, Paper, Wood	323	Printing and Related Support Activities
33	2	Forestry, Paper, Wood	337	Furniture and Related Product Manufacturing
16	3	Textiles	313	Textile Mills
17	3	Textiles	314	Textile Product Mills
18	3	Textiles	315	Apparel Manufacturing
6	4	Chemical, Petrochemical and Energy	211	Oil and Gas Extraction
9	4	Chemical, Petrochemical and Energy	221	Utilities
23	4	Chemical, Petrochemical and Energy	324	Petroleum and Coal Products Manufacturing
	4	Chemical, Petrochemical and Energy	325	Chemical Manufacturing
25	4	Chemical, Petrochemical and Energy	326	Plastics and Rubber Products Manufacturing
41	4	Motol Mochanical and Construction	480	Mining (except Oil and Coo)
- 1	5	Metal Mechanical and Construction	212	Support Activities for Mining
11	5	Metal, Mechanical and Construction	236	Construction of Buildings
12	5	Metal, Mechanical and Construction	237	Heavy and Civil Engineering Construction
13	5	Metal, Mechanical and Construction	238	Specialty Trade Contractors
26	5	Metal, Mechanical and Construction	327	Nonmetallic Mineral Product Manufacturing
27	5	Metal, Mechanical and Construction	331	Primary Metal Manufacturing
28	5	Metal, Mechanical and Construction	332	Fabricated Metal Product Manufacturing
29	5	Metal, Mechanical and Construction	333	Machinery Manufacturing
31	5	Metal, Mechanical and Construction	335	Electrical Equipment, Appliance, and Component Manufacturing
32	5	Metal, Mechanical and Construction	336	Transportation Equipment Manufacturing
34	5	Metal, Mechanical and Construction	339	Miscellaneous Manufacturing
54	6	Finance and Insurance	521	Monetary Authorities - Central Bank
55	6	Finance and Insurance	522	Credit Intermediation and Related Activities
57	6	Finance and Insurance	524	Insurance Carriers and Related Activities
30	7	Implicit Block TIC equipment	334	Computer and Electronic Product Manufacturing
10	8	Non-identified activities	222	Water. Sewage and Natural Gas Distribution
36	8	Non-identified activities	481	Air Transportation
37	8	Non-identified activities	482	Rail Transportation
38	8	Non-identified activities	483	Water Transportation
39	8	Non-identified activities	484	Truck Transportation
40	8	Non-identified activities	485	Transit and Ground Passenger Transportation
42	8	Non-identified activities	487	Scenic and Sightseeing Transportation
43	8	Non-identified activities	488	Support Activities for Transportation
44	8	Non-identified activities	491	Postal Service
45	8	Non-identified activities	492	Warahousing and Storage
47	8	Non-identified activities	511	Publishing Industries (except Internet)
48	8	Non-identified activities	512	Motion Picture and Sound Recording Industries
49	8	Non-identified activities	515	Broadcasting (except Internet)
50	8	Non-identified activities	516	Internet Publishing and Broadcasting
51	8	Non-identified activities	517	Telecommunications
52	8	Non-identified activities	518	Internet Service Providers, Web Search Portals, and Data Processing Services
53	8	Non-identified activities	519	Other Information Services
58	8	Non-identified activities	531	Real Estate
59	8	Non-identified activities	532	Rental and Leasing Services
60	8	Non-identified activities	533	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)
62	0	Non-identified activities	551	Management of Companies and Enterprises
63	8	Non-identified activities	561	Administrative and Support Services
64	8	Non-identified activities	562	Waste Management and Remediation Services
65	8	Non-identified activities	611	Educational Services
66	8	Non-identified activities	621	Ambulatory Health Care Services
67	8	Non-identified activities	622	Hospitals
68	8	Non-identified activities	623	Nursing and Residential Care Facilities
69	8	Non-identified activities	624	Social Assistance
70	8	Non-identified activities	711	Performing Arts, Spectator Sports, and Related Industries
71	8	Non-identified activities	712	Museums, Historical Sites, and Similar Institutions
72	8	Non-identified activities	713	Amusement, Gambling, and Recreation Industries
73	8	Non-identified activities	721	Accommodation
75	8	Non-Identified activities	811	Repair and Maintenance
77	0 8	Non-identified activities	012 812	Ference and Launury Services
78	8	Non-identified activities	814	Private Households
79	8	Non-identified activities	931	Public Administration
35	8	Non-identified activities	43-46	Retail Trade

35 8 Non-identified activities Source: DNPER, MEyP (Arg) based on INEGI, Mexico. Appendix. 3. Input-Output tables organized in Sectoral Blocks.

Appendix 3. Table 7. Symmetric industry by industry Input-Output Matrix, organized in Sectoral Blocks, Argentina (1997). thousands of Argentinean Pesos, at current 1997 prices.

Code	Sectoral Block Description	1	2	3	4	5	6	7	8	9	10	11
1	Energy	7.819.683	668.027	85.343	43.115	117.637	225.632	347.560	74.415	374.313	184.137	1.291.236
2	Cereals and Leguminous	0	7.270.733	74.752	40.147	202.164	10.322	1.569.351	11.625	19.266	216.607	9.264
3	Sugar and Drinks	0	198.930	604.808	75.020	15.199	56.514	114.270	2.015	3.467	0	2
4	Other Industrial Crops	0	31.966	298	435.549	19.467	0	15.197	11	507	0	0
5	Fruits, pulses and horticultural	0	61.848	66.984	31.523	615.062	0	13.262	209	5.092	0	299
6	Forestry, Paper, Wood	41.397	241.097	205.222	230.306	82.086	2.141.979	297.122	24.956	109.117	89.457	1.915.968
7	Farming and Dairy	18	215.910	26.152	39.454	609	16.736	10.914.525	7.969	4.045	199.362	7.280
8	Fishing Activities	0	1.128	293	0	0	0	2.347	258.211	197	0	288
9	Chemicals	98.773	436.427	487.913	171.764	110.137	630.564	605.193	9.074	2.211.520	262.032	1.608.712
10	Textiles	9.005	53.318	312.252	740.977	50.883	259.715	133.902	8.582	30.195	3.414.086	379.728
11	Metal, Mechanical and Construction	465.639	437.545	144.815	188.934	196.639	484.476	427.091	131.953	216.369	179.461	16.071.386
12	Transport	391.767	1.013.318	323.966	188.474	110.180	537.060	1.081.101	100.531	409.833	275.854	1.740.958
13	Finance and Insuarance	236.127	186.626	58.504	30.014	44.628	149.581	196.063	24.543	106.820	131.490	732.896
14	Health	6.140	49.519	8.169	751	33.242	1.798	212.903	1.220	1.166	33.114	4.106
15	Implicit Blocks	168.439	191.100	116.285	65.609	26.321	246.816	198.187	20.842	124.562	141.405	487.135
16	Non-identified Activities	1.822.637	2.400.154	829.719	515.477	275.416	1.357.361	1.786.638	138.622	931.509	859.903	6.824.961
17	Public Sector	64.374	95.554	21.161	14.364	12.054	30.170	140.412	5.967	22.303	14.991	144.494
iu	Intermediate Consumption / Uses at Basic Prices	11.124.000	13.553.200	3.366.635	2.811.478	1.911.724	6.148.723	18.055.126	820.743	4.570.283	6.001.899	31.218.714
m	Imports	1.011.736	1.123.062	257.642	172.306	118.786	1.036.337	492.842	25.719	1.750.711	876.095	7.045.912
t	Net Taxes on Products and Adjust.	221.623	572.304	82.635	12.072	68.701	263.208	294.066	59.947	306.621	176.384	1.436.342
va	Value Added	11.040.497	8.880.062	2.253.941	1.399.948	2.185.969	5.104.720	8.848.629	613.593	3.765.320	4.656.328	28.008.152
W	Compensation of Employees	2.785.063	2.196.409	966.136	568.592	789.943	2.031.619	3.332.613	326.551	1.386.589	1.803.868	9.022.762
gos	Gross Operating Surplus and Indirect Taxes	8.255.434	6.683.652	1.287.805	831.357	1.396.026	3.073.101	5.516.016	287.042	2.378.731	2.852.460	18.985.390
gpv	Gross Production Value at Basic Prices	23.397.857	24.128.628	5.960.853	4.395.804	4.285.181	12.552.989	27.690.663	1.520.003	10.392.935	11.710.706	67.709.119

Source: DNPER, MEyP (Arg) based on DNCN, INDEC.

Appendix 3. Table 7. Symmetric industry by industry Input-Output Matrix, organized in Sectoral Blocks, Argentina (1997). (continued...) thousands of Argentinean Pesos, at current 1997 prices.

12	13	14	15	16	17	Int. Sales	exports	hous_c	gov_c	gfkf	ch. inv.	cif/fob adjust.	gpv
1.413.513	67.348	221.172	315.314	1.645.665	359.618	15.253.727	3.085.407	4.645.434	0	386.040	27.249	0	23.397.857
0	0	18.191	37	908.357	52.000	10.402.816	7.266.072	6.205.022	0	46.851	207.865	0	24.128.628
0	0	13.092	8.443	781.607	28.121	1.901.488	263.995	3.728.225	0	0	67.145	0	5.960.853
0	0	401	0	433.068	8.445	944.909	532.345	2.795.430	0	0	123.121	0	4.395.804
6	0	14.251	1	436.946	4.581	1.250.066	828.693	1.901.060	0	175.726	129.636	0	4.285.181
57.995	188.089	243.070	364.588	1.897.424	87.559	8.217.433	627.733	2.383.800	0	1.055.982	268.041	0	12.552.989
24	0	59.739	26.417	1.172.949	110.347	12.801.536	2.723.166	11.445.196	0	500.387	220.378	0	27.690.663
0	0	346	0	11.633	11	274.454	1.037.548	212.391	0	0	-4.390	0	1.520.003
74.870	2.135	371.454	553.087	671.833	68.216	8.373.704	1.146.995	377.676	0	19.154	475.406	0	10.392.935
86.427	151	76.070	15.329	408.247	31.162	6.010.027	1.048.802	4.280.288	0	158.131	213.459	0	11.710.706
845.481	24.064	240.576	393.135	3.736.864	508.773	24.693.203	5.543.643	2.949.407	0	33.716.706	806.161	0	67.709.119
1.278.544	226.314	273.880	366.565	2.239.726	279.817	10.837.889	1.672.938	8.778.717	0	623.096	-6.398	218.954	22.125.195
564.234	1.630.512	221.243	292.548	3.604.951	1.243.577	9.454.355	78.837	5.673.331	0	0	0	151.200	15.357.723
4.764	194	2.739.391	2.154	165.595	50.912	3.315.139	302.002	12.699.540	4.457.680	0	-212.195	0	20.562.167
678.396	539.460	376.650	1.793.039	3.191.858	353.089	8.719.192	649.213	9.756.204	125	517.465	136.382	3.346	19.781.927
2.683.033	2.483.219	2.243.208	2.694.845	13.750.765	2.443.801	44.041.270	974.327	87.870.357	10.993.871	5.440.487	11.326	0	149.331.638
100.212	53.509	77.190	192.260	344.197	31.720	1.364.934	10.900	368.989	21.594.283	0	0	0	23.339.106
7.787.501	5.214.996	7.189.925	7.017.761	35.401.683	5.661.748	167.856.141	27.792.615	166.071.067	37.045.959	42.640.025	2.463.185	373.500	444.242.492
314.717	55.953	906.843	2.060.648	935.064	198.574	18.382.947	0	7.225.680	0	7.792.050	-35.887	0	33.364.789
1.236.011	441.786	736.238	695.311	2.343.745	981.088	9.928.083	3.156.468	23.896.606	0	3.414.232	-938	0	40.394.450
12.786.967	9.644.988	11.729.161	10.008.207	110.651.145	16.497.697	248.075.322							
5.724.919	5.318.654	6.676.237	3.535.826	34.356.857	16.285.994	97.108.632							
7.062.048	4.326.334	5.052.924	6.472.381	76.294.288	211.702	150.966.690							
22.125.195	15.357.723	20.562.167	19.781.927	149.331.638	23.339.106	444.242.492							

Appendix 3. Table 8. Symmetric industry by industry Input-Output Matrix, organized in Sectoral Blocks, Chile (2003). thousands of Chilean Pesos, at current 2003 prices.

Code	Sectoral Block Description	1	2	3	4	5	6	7	8	9	10	11	12	Int. Sales	s ifmi	hous_c	gov_c	gfkf	ch. inv.	exports	gvp
1	Farming and Fishing Industry	2.281.446	32.548	18.247	55.912	22.561	11.476	5.194	350	2.082	1.589	4.013	292.284	2.727.700	0	2.271.802	30.366	18.811	71.107	1.872.989	6.992.774
2	Agricultural Industry	315.051	519.972	115.413	20.654	11.759	3.966	4.311	437	986	2.217	2.163	203.407	1.200.337	0	1.326.041	483	18.687	593	178.303	2.724.443
3	Fruit Growing Industry	24.846	19.199	384.795	16.761	4.008	4.223	4.919	962	152	594	920	162.345	623.723	0	1.168.392	668	64.206	6.754	1.622.427	3.486.169
4	Metal, Mechanical and Construction	154.400	63.137	120.184	2.394.191	112.013	379.238	44.658	6.631	15.929	19.436	34.859	1.644.668	4.989.344	0	983.600	1.113	6.611.548	-18.126	1.429.953	13.997.432
5	Forestry, Paper, Wood	67.231	29.957	69.990	300.326	1.266.232	16.001	11.474	3.460	22.596	31.564	5.420	577.110	2.401.360	0	418.839	1.519	116.338	40.817	1.753.076	4.731.949
6	Copper and its manufactures	13.778	7.666	9.997	174.317	11.378	919.930	15.824	3.228	1.463	754	2.685	65.303	1.226.321	2.736	45.072	670	14.457	342.864	5.907.725	7.539.845
7	Petrochemical	120.427	70.218	101.704	323.369	81.441	112.431	94.802	5.225	1.596	3.165	13.505	238.393	1.166.277	0	159.015	85	28.819	5.747	500.461	1.860.404
8	Petroleum, Fuels and Gas	85.136	89.531	58.405	149.959	51.994	117.614	30.540	67.239	6.821	3.557	24.792	926.697	1.612.283	0	552.374	75	11.799	11.172	446.522	2.634.224
9	Implicit Block, Electricity	60.108	21.212	21.397	113.177	102.220	383.447	25.502	8.680	1.103.657	18.116	11.481	389.651	2.258.647	0	439.539	312	64.355	16	5.277	2.768.146
10	Implicit Block, Commerce	22.467	11.271	14.978	53.531	16.322	23.016	7.931	2.665	6.254	618.534	25.590	592.675	1.395.235	1.360	1.040.521	462	27.153	52	116.915	2.581.697
11	Implicit Block, Private Health	9.375	275	332	783	180	189	97	22	30	124	267.294	64.940	343.641	0	1.386.882	169	427	6	668	1.731.793
12	Non-identified Activities	890.900	573.908	618.772	2.387.216	843.062	1.329.553	284.035	171.909	237.467	580.051	237.150	9.932.337	18.086.361	1.735.971	15.912.880	6.086.019	764.549	11.224	3.714.860	46.311.864
iu	Intermediate Consumption / Uses at Basic	4.045.165	1.438.892	1.534.213	5.990.197	2.523.169	3.301.085	529.288	270.807	1.399.034	1.279.701	629.871	15.089.809	38.031.229	1.740.067	25.704.957	6.121.940	7.741.148	472.225	17.549.176	97.360.742
m	Imports	687.959	388.293	337.382	1.594.495	410.260	522.535	548.862	1.683.666	296.564	129.590	77.967	3.840.468	10.518.041							
t	Net Taxes on Products and Adjust.	17.211	22.799	14.093	93.006	9.504	29.026	684	1.472	664	1.852	6.487	839.223	1.036.021							
va	Value Added	2.242.439	874.459	1.600.481	6.319.734	1.789.016	3.687.199	781.571	678.281	1.071.885	1.170.554	1.017.468	26.542.364	47.775.451							
w	Compensation of Employees	835.370	359.984	500.798	3.299.041	589.652	702.660	197.559	86.397	128.930	274.535	248.806	13.877.035	21.100.769							
gos	Gross Operating Surplus and Indirect Taxes	1.407.069	514.475	1.099.682	3.020.693	1.199.364	2.984.539	584.011	591.884	942.954	896.019	768.662	12.665.329	26.674.682							
gpv	Gross Production Value at Basic Prices	6.992.774	2.724.443	3.486.169	13.997.432	4.731.949	7.539.845	1.860.404	2.634.224	2.768.146	2.581.697	1.731.793	46.311.864	97.360.742							

Source: DNPER, MEyP (Arg) based on Central Bank of Chile

Appendix 3. Table 9. Symmetric industry by industry Input-Output Matrix, organized in Sectoral Blocks, Mexico (2003). thousands of Mexican Pesos, at current 2003 basic prices.

Code	Sectoral Block Description	1	2	3	4	5	6	7	8	Int. Sales
1	Food, Drinks and Tobacco	353.156.249	921.974	4.114.584	4.434.473	8.219.730	280.027	1.011.269	18.214.404	390.352.710
2	Forestry, Paper, Wood	11.436.041	33.358.928	1.083.960	4.870.812	17.562.036	1.778.133	4.212.657	47.564.899	121.867.466
3	Textiles	3.139.177	2.086.710	17.812.634	1.108.548	3.823.590	17.720	341.113	12.891.739	41.221.231
4	Chemical, Petrochemical and Energy	64.805.149	12.197.312	5.939.950	407.258.150	91.659.034	937.078	5.716.694	191.781.364	780.294.731
5	Metal, Mechanical and Construction	16.816.214	3.774.883	1.420.702	13.182.512	445.749.525	1.929.245	5.374.725	62.071.726	550.319.532
6	Finance and Insurance	12.931.713	1.634.594	849.038	22.201.425	13.153.477	35.163.185	332.007	85.352.680	171.618.119
7	Implicit Block, TIC equipment	131.047	112.834	108.649	355.823	2.734.110	77.167	7.613.403	10.638.950	21.771.983
8	Non-identified activities	240.905.945	39.165.972	27.730.999	175.504.935	385.874.362	71.382.352	32.170.358	756.815.846	1.729.550.769
iu	Intermediate Consumption / Uses	703.321.535	93.253.207	59.060.516	628.916.678	968.775.864	111.564.907	56.772.226	1.185.331.608	3.806.996.541
m	Imports	111.977.321	41.070.215	70.953.527	125.527.764	526.211.676	13.035.333	313.898.897	210.105.044	1.412.779.777
t	Net Taxes on Products and Adjust.	3.290.244	743.809	908.170	5.374.422	8.398.624	-51.584	215.247	17.894.153	36.773.085
va	Value Added	758.466.041	93.980.607	66.807.773	640.166.794	1.026.454.883	183.462.134	74.986.795	4.324.200.822	7.168.525.849
gvp	Gross Production Value at Basic Price	1.577.055.141	229.047.838	197.729.986	1.399.985.658	2.529.841.047	308.010.790	445.873.165	5.737.531.627	12.425.075.252

Source: DNPER, MEyP (Arg) based on INEGI, Mexico.

Appendix 3. Table 9. Symmetric industry by industry Input-Output Matrix, organized in Sectoral Blocks, Mexico (2003). (continued...) thousands of Mexican Pesos, at current 2003 basic prices.

gvp	exports	ch. inv.	gfkf	gov_c	hous_c
1.577.055.141	80.315.857	79.898.399	7.595.945	0	1.018.892.230
229.047.838	34.478.052	12.970.134	6.079.761	1.815.688	51.836.737
197.729.986	101.325.820	8.474.125	0	0	46.708.810
1.399.985.658	279.721.447	75.488.313	337.924	0	264.143.243
2.529.841.047	673.817.933	52.055.351	1.073.747.812	29.384	179.871.035
308.010.790	12.574.759	0	0	30.082.722	93.735.190
445.873.165	385.316.719	6.364.034	5.033.448	0	27.386.981
5.737.531.627	245.654.832	0	108.068.630	860.393.749	2.793.863.647
12.425.075.252	1.813.205.419	235.250.356	1.200.863.520	892.321.543	4.476.437.873
1.957.591.634	0	63.482.087	225.413.878	402.299	255.513.593
393.030.117	0	0	4.616.725	0	351.640.307

Table 4.	Structural	Configuration	of Production,	Income	and Dema	nd by	Aggregate	Sectors,
Argentina	a (1997).							

Argentina	(1997)	Interm	ediate						
ISIC	Description	Uses	Sales	Production	Value Added	Demand	w/gvp	m/gvp	w/va
Characteri	zation of Classification Letters		%	of Total Eco	onomy				
A	Agriculture, hunting and forestry	5.73%	11.08%	5.47%	5.52%	2.07%	14.4%	2.1%	25.6%
В	Fishing	0.25%	0.15%	0.22%	0.20%	0.26%	26.6%	2.2%	53.6%
С	Mining and quarrying	1.52%	3.73%	2.04%	2.50%	1.01%	11.5%	2.1%	16.7%
D	Manufacturing	43.38%	36.13%	29.62%	17.08%	25.66%	13.5%	10.6%	42.0%
E	Electricity, gas and water supply	3.07%	4.00%	2.34%	1.93%	1.33%	19.0%	3.2%	41.2%
F	Construction	8.44%	1.72%	6.82%	5.97%	9.92%	11.0%	2.7%	22.4%
G	Wholesale and retail trade	6.52%	6.52%	9.43%	12.16%	(11.19%)	19.9%	0.9%	27.7%
Н	Hotels and restaurants	3.77%	0.86%	2.79%	2.39%	3.96%	11.1%	0.2%	23.2%
I	Transport, storage and communications	6.53%	9.74%	7.61%	8.04%	6.32%	22.8%	3.9%	38.6%
J	Financial intermediation	3.11%	5.63%	3.46%	3.89%	2.14%	34.6%	0.4%	55.1%
К	Real estate, renting and business activities	5.28%	13.89%	12.14%	17.75%	11.08%	7.5%	0.6%	9.2%
L	Public administration/defence/social security	3.37%	0.81%	5.25%	6.65%	7.95%	69.8%	0.9%	98.7%
М	Education	0.78%	0.39%	3.00%	4.74%	4.58%	76.1%	0.1%	86.1%
N	Health and social work	3.57%	1.19%	3.82%	4.11%	5.41%	34.1%	0.4%	56.7%
0	Other community, social and personal service ad	4.68%	4.15%	4.98%	5.25%	5.49%	25.7%	1.3%	43.7%
Р	Private households with employed persons	0.00%	0.00%	1.02%	1.83%	1.64%	100.0%	0.0%	100.0%
	Total Economy	100.00%	100.00%	100.00%	100.00%	100.00%	21.9%	4.1%	39.1%

**Source**: National Direction of Regional Economic Programming, Ministry of Economy and Public Finance (Arg), based on National Direction of National Accounts, INDEC.

## **Table 5.** Structural Configuration of Production, Income and Demand by Aggregate Sectors, Chile (2003).

Chile (2003	8)	Interme	diate						
ISIC	Description	Uses	Sales	Production	Value Added	Demand	w/gvp	m/gvp	w/va
Characteriz	ation of Classification Letters		%	of Total Eco	onomy				
А	Agriculture, hunting and forestry	4.73%	6.52%	4.01%	3.86%	2.40%	18.2%	5.8%	38.5%
В	Fishing	1.86%	0.91%	1.43%	1.31%	1.76%	14.9%	3.4%	33.0%
С	Mining and quarrying	9.43%	4.19%	8.66%	9.05%	11.53%	9.6%	5.8%	18.8%
D	Manufacturing	27.14%	27.38%	23.47%	15.85%	20.96%	11.1%	21.5%	33.5%
E	Electricity, gas and water supply	4.11%	6.47%	3.42%	3.06%	1.46%	6.0%	9.1%	13.5%
F	Construction	8.33%	2.67%	7.46%	7.39%	10.54% (	31.6%	6.7%	65.1%
G, H	Wholesale/retail trade, Hotels/restaurants	14.43%	11.13%	11.63%	10.36%	11.95%	27.7%	7.6%	63.3%
I	Transport, storage and communications	10.94%	14.03%	11.32%	9.86%	9.58%	15.0%	16.2%	35.1%
J,K	Financial intermediation and business activities	9.31%	23.15%	12.67%	(16.01%)	5.94%	28.1%	7.8%	45.3%
	Imputation of housing services	1.82%	0.00%	3.77%	6.23%	6.19%	1.4%	0.1%	1.8%
L	Public administration	2.47%	0.38%	3.56%	4.64%	5.59%	52.7%	5.1%	82.4%
M, N, O, P	Social and personal service activities	5.43%	3.15%	8.61%	12.37%	12.10%	50.3%	3.1%	71.3%
	Total Economy	100.00%	100.00%	100.00%	100.00%	100.00%	21.7%	10.8%	44.2%

**Source**: National Direction of Regional Economic Programming, Ministry of Economy and Public Finance (Arg), based on Central Bank of Chile.

	Table 6.	Structural	Configuration	of Production,	Income an	nd Demand by	Aggregate Sectors,
Mexico (2003).	Mexico (	(2003).					

Mexico	(2003)	Interm	ediate				
NAICE	Description	Lloop	Salaa	Draduction		Domond	Importolaya
INAICS	Description	Uses	Sales	Production	value Added	Demand	imports/gvp
Charact	erization of Classification Codes		%	of Total Eco	nomy		
11	Agriculture, Forestry, Fishing and Hunting	3.55%	5.74%	3.41%	3.63%	2.38%	6.3%
21	Mining	2.48% (	7.76%	4.36%	6.00%	2.86%	3.0%
22	Utilities	<u>3.19%</u>	4.03%	<u>1.92</u> %	1.28%	0.99%	9.5%
23	Construction	(11.11%)	2.13%	7.79%	6.61%	10.30%	7.1%
31	Manufacturing	44.74%	30.28%	32.67%	18.01%	33.73%	26.0%
42	Wholesale Trade	8.25%	13.97%	11.76%	(15.16%)	10.79%	4.1%
44	Retail Trade	6.04%	5.74%	6.57%	7.28%	6.94%	6.3%
48	Transportation and Warehousing	0.24%	0.29%	0.16%	0.13%	0.10%	8.0%
51	Information	2.66%	3.65%	2.53%	2.67%	2.03%	6.6%
52	Finance and Insurance	2.93%	4.51%	2.48%	2.56%	1.58%	4.2%
53	Real Estate and Rental and Leasing	2.01%	5.54%	7.14%	11.23%	7.85%	0.7%
54	Professional, Scientific, and Technical Services	2.43%	6.91%	3.15%	3.89%	1.48%	4.9%
55	Management of Companies and Enterprises	0.42%	1.09%	0.33%	0.31%	0.00%	7.9%
56	Admin, Supp., Waste Manag, Rem. Services	1.09%	5.16%	1.78%	2.38%	0.29%	4.1%
61	Educational Services	1.04%	0.16%	3.35%	5.21%	4.76%	0.8%
62	Health Care and Social Assistance	1.56%	0.00%	2.36%	3.10%	3.40%	3.8%
71	Arts, Entertainment, and Recreation	0.29%	0.04%	0.33%	0.40%	0.46%	2.3%
72	Accommodation and Food Services	1.90%	0.92%	2.25%	2.84%	2.84%	1.3%
81	Other Services (except Public Administration)	1.43%	1.94%	2.25%	2.90%	2.39%	5.9%
92	Public Administration	2.64%	0.15%	3.40%	4.42%	4.84%	1.0%
	Total Economy	100.00%	100.00%	100.00%	100.00%	100.00%	11.4%

Source: National Direction of Regional Economic Programming, Ministry of Economy and Public Finance (Arg), based on INEGI, Mexico.

Aigentina, Cinte and Mexico.			
Sectoral Blocks Participation in Transactions	Argentina	Chile	Mexico
Matrix for Year	1997	2003	2003
Blocks	1 to 14	1 to 11	1 to 7
Size of Matrix (Number of Activities)	124	73	79
Value of Transactions	000 AR\$	000 CL\$	000 MX\$
Intra-Block Transactions	59,199,027	9,918,092	1,300,112,074
Identified Blocks Total Transactions	90,445,127	14,787,396	1,648,930,010
Total Intermediate Transactions	167,856,141	38,031,229	3,806,996,541
% of Intra-block over Ident. Blocks Transact.	65.5%	67.1%	78.8%
% of Ident. Blocks over Total Transact.	53.9%	38.9%	43.3%
% of Intra-block over Total Transact.	35.3%	26.1%	34.2%

**Table 13.** Comparative Analysis of identified Sectoral Blocks in Input-Output matrices for Argentina, Chile and Mexico.

**Source**: National Direction of Regional Economic Programming, Ministry of Economy and Public Finance (Arg), based on INEGI, Mexico, Central Bank of Chile and National Direction of National Accounts, INDEC.

Table 14.	Structural Configuration of Production,	n, Income and Demand by Sectoral Block	s,
Argentina	(1997)		

0	8								
Arger	Argentina (1997)		ediate						
Block	Description	Uses	Sales	Production	Value Added	Demand	w/gvp	m/gvp	w/va
Chara	acterization of Sectoral Blocks		%	of Total Eco	nomy				
1	Energy	6.63%	9.09%	5.27%	4.45%	2.95%	11.9%	4.3%	25.2%
2	Cereals and Leguminous	8.07%	6.20%	5.43%	3.58%	4.97%	9.1%	4.7%	24.7%
3	Sugar and Drinks	2.01%	1.13%	1.34%	0.91%	1.47%	16.2%	4.3%	42.9%
4	Other Industrial Crops	1.67%	0.56%	0.99%	0.56%	1.25%	12.9%	3.9%	40.6%
5	Fruits, pulses and horticultural	1.14%	0.74%	0.96%	0.88%	1.10%	18.4%	2.8%	36.1%
6	Forestry, Paper, Wood	3.66%	4.90%	2.83%	2.06%	1.57%	16.2%	8.3%	39.8%
7	Farming and Dairy	10.76%	7.63%	6.23%	3.57%	5.39%	12.0%	1.8%	37.7%
8	Fishing Activities	0.49%	0.16%	0.34%	0.25%	0.45%	21.5%	) 1.7% (	53.2%
9	Chemicals	2.72%	4.99%	2.34%	1.52%	0.73%	13.3%	16.8%	36.8%
10	Textiles	3.58%	3.58%	2.64%	1.88%	2.06%	15.4%	7.5%	38.7%
11	Metal, Mechanical and Construction	18.60%	14.71%	15.24%	(11.29%)	15.56%	13.3%	10.4%	32.2%
12	Transport	4.64%	6.46%	4.98%	5.15%	4.08%	25.9%	1.4%	44.8%
13	Finance and Insuarance	3.11%	5.63%	3.46%	3.89%	2.14%	34.6%	0.4%	55.1%
14	Health	4.28%	1.97%	4.63%	4.73%	6.24%	32.5%	<b>4.4%</b>	56.9%
15	Implicit Blocks	4.18%	5.19%	4.45%	4.03%	4.00%	17.9%	10.4%	35.3%
16	Non-identified Activities	21.09%	26.24%	33.61%	44.60%	38.10%	23.0%	0.6%	31.0%
17	Public Sector	3.37%	0.81%	5.25%	6.65%	7.95%	69.8%	0.9%	98.7%
	Total Economy	100.00%	100.00%	100.00%	100.00%	100.00%	21.9%	4.1%	39.1%

**Source**: National Direction of Regional Economic Programming, Ministry of Economy and Public Finance (Arg), based on National Direction of National Accounts, INDEC.

· · · ·	- / -								
Chile (2003)		Interm	ediate						
Block	Description	Uses	Sales	Production	Value Added	Demand	w/gvp	m/gvp	w/va
Chara	acterization of Sectoral Blocks	% of Total Economy							
1	Farming and Fishing Industry	10.64%	7.17%	7.18%	4.69%	7.19%	11.9%	9.8% 🤇	37.3%
2	Agricultural Industry	3.78%	3.16%	2.80%	1.83%	2.57%	13.2%	14.3% 🤇	41.2%
3	Fruit Growing Industry	4.03%	1.64%	3.58%	3.35%	4.82%	14.4%	9.7%	31.3%
4	Metal, Mechanical and Construction	15.75%	13.12%	14.38%	13.23%	15.18%	23.6%	>11.4% 🤇	52.2%
5	Forestry, Paper, Wood	6.63%	6.31%	4.86%	3.74%	3.93%	12.5%	8.7%	33.0%
6	Copper and its manufactures	8.68%	3.22%	7.74%	7.72%	10.64%	9.3%	6.9%	19.1%
7	Petrochemical	1.39%	3.07%	1.91%	1.64%	1.17%	10.6%	29.5%	25.3%
8	Petroleum, Fuels and Gas	0.71%	4.24%	2.71%	1.42%	1.72%	3.3%	63.9%	12.7%
9	Implicit Block, Electricity	3.68%	5.94%	2.84%	2.24%	0.86%	4.7%	10.7%	12.0%
10	Implicit Block, Commerce	3.36%	3.67%	2.65%	2.45%	2.00%	10.6%	5.0%	23.5%
11	Implicit Block, Private Health	1.66%	0.90%	1.78%	2.13%	2.34%	14.4%	4.5%	24.5%
12	Non-identified Activities	39.68%	47.56%	47.57%	55.56%	47.57%	30.0%	8.3% 🤇	52.3%
	Total Economy	100.00%	100.00%	100.00%	100.00%	100.00%	21.7%	10.8%	44.2%

**Table 15.** Structural Configuration of Production, Income and Demand by Sectoral Blocks, Chile (2003).

**Source**: National Direction of Regional Economic Programming, Ministry of Economy and Public Finance (Arg), based on Central Bank of Chile.

Table 16.	Structural	Configuration	of Production,	Income and	Demand by	y Sectoral	Blocks,
Mexico (2	003).						

Mexico (2003)		Intermediate						
Block	Description	Uses	Sales	Production	Value Added	Demand	Imports/gvp	
Characterization of Sectoral Blocks		% of Total Economy						
1	Food, Drinks and Tobacco	18.47%	10.25%	12.69%	10.58%	13.77%	7.1%	
2	Forestry, Paper, Wood	2.45%	3.20%	1.84%	1.31%	1.24%	17.9%	
3	Textiles	1.55%	1.08%	1.59%	0.93%	1.82%	35.9%	
4	Chemical, Petrochemical and Energy	16.52%	20.50%	11.27%	8.93%	7.19%	9.0%	
5	Metal, Mechanical and Construction	25.45%	14.46%	20.36%	14.32%	22.97%	20.8%	
6	Finance and Insurance	2.93%	4.51%	2.48%	2.56%	1.58%	4.2%	
7	Implicit Block, TIC equipment	1.49%	0.57%	3.59%	1.05%	4.92%	70.4%	
8	Non-identified activities	31.14%	45.43%	46.18%	60.32%	46.51%	3.7%	
	Total Economy	100.00%	100.00%	100.00%	100.00%	100.00%	11.4%	

**Source**: National Direction of Regional Economic Programming, Ministry of Economy and Public Finance (Arg), based on INEGI, Mexico.