Methodological note of the input-output tables of the Spanish economy base 2010

1 Presentation

Input Output Tables (IOT) of the Spanish economy complete the Input Output Frame of the current base 2010 of Spanish National Accounts. The preparation of these tables is established by Regulation (EU) No 549/2013 of the European Parliament and of the Council of 21 May 2013. According to such regulation, the transmission of these tables is five-year programmed, from the year 2010 onwards. It is therefore the first time that these tables are presented in the new base 2010. The above tables were prepared for 2000 and 2005 based on 2000 in fulfillment of Regulation (EC) No. 1392/2007 of the European Parliament and the Council.

The main table of the set of tables that form the IOT is a table derived from the tables of origin and destination (TOD) which, by various methods, integrates into a single table their relevant data. On the other hand, compared to the essentially statistical character of the TOD, the best interest of the IOT is its analytical applicability, because from them some of the main coefficients and input-output models of economic analysis can be obtained.

2 General characteristics: calculation method and types of flows

2.1 CALCULATION METHOD

The procedure used to obtain the IOT 2010 from the TOD 2010 is based on the guidelines and recommendations contained in the SEC-2010 and in the following manuals: *Eurostat Manual of Supply, Use and Input-Output Tables* and *Handbook of input-output table compilation and analysis of the United Nations*.

The IOT presented for the Spanish economy are the product type by product, which are the tables that have preference in the manual as an analytical tool. In such manual various methods and recommendations to follow for this process are described.

The basic assumptions normally applied are:

- Product technology: This assumption implies that all products in a product group have the same input structure, whatever is the branch of activity that produces them. It assumes that each product required for obtaining a certain combination of production factors, labor and capital that are independent of the particular branch of activity that produces it.

- Industry technology or branch of activity technology: this assumption implies that all products of the industries are produced using the same input structure. It assumes that each industry has a certain production process characterized by their inputs and a specific cost structure, which is common for all outputs.

Each of these assumptions has its advantages and disadvantages, and in practice we cannot apply a single course for the whole economy.

With this in mind, the strategy that has been followed for the IOT is the hybrid method. This method combines in a flexible manner these assumptions and allows to obtain the mathematical transformation of the data contained in the TOD in the IOT so that it reflects in the best way the productive relationships in the economy.

For each secondary production of each branch it is decisive if it occurs with branch technology or product technology. This decision should take into account what kind of secondary production it is. As indicated previously in the mentioned manual, we distinguish between three types of products:

– *Subsidiary products*: products that are not technologically related to the main product.

– *By products*: products that are produced simultaneously with a main product, and can be considered as a secondary production of the main product.

– *Joint products*: products that are produced simultaneously with another product, but they cannot be considered as secondary products.

Despite the possibilities and flexibility provided by the hybrid method, it does not solve all problems (appearance of negative and inconsistent results). Therefore, it has conducted a detailed analysis and correction of the results obtained so that the end result is economically consistent.

The working level in the number of branches and products has been more detailed than the finally (64 products) published one. It has also been performed a specific analysis taking into account the peculiar characteristics of some branches of activities.

2.2 TYPES OF FLOWS

As usual criteria applied by the INE in all IOT made since 1980, the symmetrical tables on base 2010 are disaggregated by the origin of flows, differentiating internal origin and imported origin, as this information is essential for the use of the table in models of economic analysis and it keeps correspondence with the distribution of flows previously estimated for the target table.

3 Contents

The set of Input-Output Tables is presented in a file that is divided into 8 components, which can be grouped into three categories:

– Tables 1 to 3. Table 1 lists the variables corresponding to the symmetric table of the Spanish economy for the year 2010, at basic prices, while Tables 2 and 3 distinguish the origin of flows: interior flows and import flows.

– Tables 4 to 7. They have the main analytical coefficients obtained from the IOT. On the one hand, tables 4 and 5 contain technical coefficients of production. On the other hand, Tables 6 and 7 contain the coefficients of the inverse matrix of Leontief, on which the largest and most used models of economic analysis based on the methodology Input Output can be built.

– Finally, Table 8 presents information regarding the used classification.