

## Methodological note

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### Introduction

On 19 May 2005, the National Statistics Institute presented the annual estimates, in base 2000, of the Spanish National Accounts (SNA-2000), which served as a substitute for the previous estimates, whose reference framework was base 1995. The main objective of the base change operation was to improve the comprehensiveness, reliability and comparability of the estimates of the economic accounts, through the use of new statistical information sources, the incorporation of new concepts and accounting agreements and the use of new procedures and calculation methods.

Likewise, in December of the same year, the first estimates of the Spanish Regional Accounts, base 2000 (SRA-2000), were presented.

The central methodological framework of the compilation of the economic accounts continued to be the European System of National and Regional Accounts, ESA-95, adopted in the form of a Council Regulation in the area of the European Union, though including certain modifications subsequent to its passing, and which are listed in legal reports of the Committee and/or Council of the European Parliament.

Base change operations are characterised by the introduction, in the compilation of the accounts, of changes of a conceptual nature, as well as changes due to the introduction of new sources of statistical information.

Among the conceptual changes that base 2000 of the SRA and the SNA entails, worth noting is the incorporation of a new price

adjustment model and the introduction of a new accounting treatment of the Financial Intermediation Services Indirectly Measured (FISIM). In turn, the statistical changes that are introduced with this new accounting base refer to the incorporation of new sources of statistical information, among which, worth noting as the most important, are those related to the population (Census 2001), employment (EAPS 2005), the estimation of the aggregates of the branches of activity of services (Annual Services Survey) and the branches of activity of the Public Administrations (Public Administration Accounts, base 2000).

### Conceptual changes

#### **Treatment of the Financial intermediation Services Indirectly Measured (FISIM)**

Regulations 448/98 and 1889/2002 of the Council established that, beginning in the year 2005, the FISIM must assign themselves to the sectors and branches of activity that use these services.

Broadly stated, FISIM could be defined as the indirect income obtained by financial institutions from the transactions involving deposits and loans performed with their clients.

In base 1995 of the Spanish National and Regional Accounts, the FISIM were produced by the financial institutions, and therefore, they formed part of their production value, but did not assign themselves to the sectors and branches of activity using them, but rather were consumed in an intermediate manner in their entirety by a fictitious sector/branch of activity.

This fictitious sector/branch of activity was characterised by having a null production and an intermediate consumption equal to the value of the production of FISIM. In this way, the added value of this branch was negative, and of an equal amount, but in the opposite sign, to that of the production value. Thus, the gross added value generated by the different institutional sectors of the economy was reduced by the

amount of said negative value, therefore being neutral, as regards the amount of Gross Domestic Product.

In base 2000 of the SNA and SRA, however, following the guidelines established by the aforementioned Regulations, the use of the FISIM is no longer completely registered as intermediate consumption of a fictitious branch/sector, but rather, it is assigned to the user sectors/branches. Thus, for households, non-profit institutions serving households, and public administrations, the use of these services constitutes final consumption expenditure. Likewise, for all of the institutional sectors, it constitutes an intermediate consumption of their productive activity. In addition, depending on the residence of the agents, these services may constitute exports and imports of services. As a result of all of the above, Gross Domestic Product of an economy is affected by the volume of FISIM used in the accounting exercise.

#### **Measurement of the variations in volume. Introduction of a new price adjustment method**

In compliance with Commission Decision 98/715<sup>1</sup>, SNA-2000 and SRA-2000 introduce an important change in reference to the measurement of the growth of the accounting aggregates in terms of volume.

Thus, the level of the aggregates at constant prices will not be referring to a fixed base year, as was done in base 1995, but rather, the reference will always be the previous year (mobile base). In this way, the interannual growth of each period will be linked with those of the previous exercises, forming a temporal series of linked volume measurements, which shall be presented in the form of index numbers, referring to the year 2000, (year 2000 = 100). Therefore, the structures used in the estimation of interannual growth will be

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<sup>1</sup> This Decision regulates only the case of the national accounts. There is no legal requirement for introducing this technique in the regional accounts, given that ESA-95 does not consider, in the case of the regional accounts, the estimation of the aggregates in terms of volume. Nonetheless, for reasons of consistency with the national accounts, SRA-2000 also applies this methodology.

updated continuously, with the estimation of said growth being more precise.

Since 2005, the Member States of the European Union have progressively been introducing this change into their national accounts. This methodology had already been implemented in the United States, Canada, Australia and Japan, which allows for comparing the European results with those of these other economies.

However, this new methodology presents several disadvantages, among which is the lack of additivity of the data valued through volume linking measurements. That is to say that, for example, the estimates of aggregated GDP in year t, obtained through volume linking measurements, will not coincide with the sum of the components of said aggregate, either from the perspective of supply or from the perspective of demand, in years t-2 and prior. Additivity is only ensured for years t-1 and t. Likewise, spatial additivity is not present for years t-2 and prior either, and therefore, the sum of the GDP of the regional territories will not be the same as GDP of Spain, as a result of the strict application of this methodology<sup>2</sup>.

#### **Statistical changes**

This type of change is due to the introduction of new sources of statistical information, appearing since the previous accounting base.

Among the changes introduced by SNA-2000 and SRA-2000, worth noting are:

- The incorporation of the population estimates based on the Census of 2001, and on the data from the Continuous Register.
- The use of the estimates of the employment variable provided by the new Economically Active Population

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<sup>2</sup> A more detailed explanation of the characteristics of this methodology and its effects can be found in the document Introduction to chain-linked volume measurements in the Spanish National Accounts, available on the INE website.

Survey (EAPS-2005), duly adjusted to the conceptual and methodological characteristics of the national and regional accounts.

- Incorporation of the data of the Public Administration Accounts, base 2000, compiled in the area of the working group comprised of the General Intervention of the State Administration, the Bank of Spain and the INE.
- New estimation methodology of the data on the foreign trade of goods and services, in coordination with the Balance of Payments compiled by the Bank of Spain.
- Use of the data provided by the Annual Services Survey in the estimation of the accounting flows of these branches of activity.
- Incorporation of the results of the new, short-term surveys on industrial activities, services activities and Labour Costs (IPI, IPRI, Short-term services sector indicators, etc).
- Revision of the accounting flows of the agrarian branches, for the purpose of making their data homogeneous with the data from the Economic Accounts of Agriculture, compiled by the Ministry of Agriculture, Fishing and Food.
- New estimation of the production value of imputed rent, that is, the rent generated by the households that are owners of their dwellings.

manuals that Eurostat and the Member States have compiled to develop different aspects of the functional and institutional analyses of said accounts. These are, specifically, the Regional Accounting Methods for the estimation of Gross Added Value and the Gross Formation of Fixed Capital by branch of activity, and the Household Accounts manual.

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#### INTEGRATION WITH THE NATIONAL ACCOUNTS . CALENDAR

The regional accounts constitute a regional detailing of the accounting structure on a national level, taking from it, with few exceptions, its main elements (definitions, operations, aggregates and accounts).

Therefore, SRA-2000 is fully consistent with SNA-2000: the sum of the values of an aggregate of the SRA in all of the regional territories (including the extra-regional territory) is equal to the value of the corresponding aggregate of the SNA.

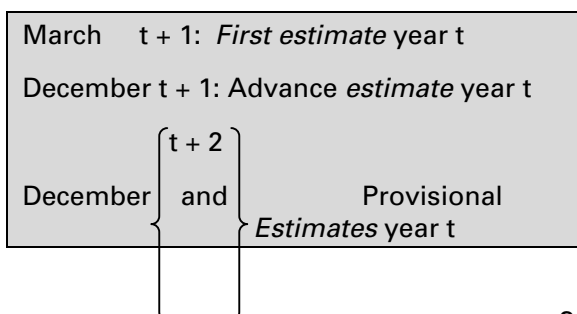
As occurs in the national accounts, the calendar established for the dissemination of the data from the SRA, is characteristics because the estimates from the different operations and aggregates are subject to a revision and breakdown process until they become final. This process is determined by the dependence that the regional accounts have, simultaneously, on the results of the national accounts and on the basic statistical information available.

The more short-term and aggregated the base information, the more provisional the estimation of the regional accounts. Hence, the calendar of SRA-2000 requires a period of four years until its estimates become final. The rhythm established for the results of year  $t$  is the following:

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#### General characteristics of SRA-2000

The methodological references of SRA-2000 are, on the one hand, the mentioned European System of National and Regional Accounts, ESA-95, whose thirteenth chapter is dedicated solely to the regional accounts, and on the other hand, the two



t + 3

December t + 4 Final *estimate* year t

The *first estimate* of year t is compiled from the national estimate in terms of quarterly accounts, that is, that which is obtained by aggregation of the estimates of the four quarters of the year. It offers strictly short-term and very aggregated information.

The publication of this first estimate of the year with a time lag no longer than three months, fulfils the requirements of the different user who demand increasingly more and better data with shorter availability periods.

The reduction of these periods in the publication of the first estimate has been very significant, as the publication has been forwarded, from the end of June to the end of the month of March.

Thus, it may be said that the first regional estimate is characterised, in addition to its limited accounting framework, by the use of sources and calculation procedures that grant a high degree of a provisional nature to its estimates, which necessarily need to be modified and broken down in the short/medium term. This revision process therefore entails two complementary tasks: the substitution of the short-term information, and the incorporation of the data from the annual accounts. Regarding the relay of the sources, this encompasses from the replacement of short-term statistics by other structural statistics (for example, the Industrial Production Index and the Industrial Surveys of Companies and Products), to the change in provisional estimates for other more final ones, both provided by the same statistics (as occurs with the Public Administration Accounts).

Therefore, the regional accounting series, consistent with the revision that the national accounts carry out in the month of August each year, is presented four months later, in the month of December, which implies a six-month advance as compared with the calendar from prior base 1995.

Thus, in the month of December each year t, we present the regional estimates corresponding to years t-1 (advance estimate), t-2 and t-3 (provisional) and t-4 (final). In this way, an advance of twelve months is achieved with respect to the statistics dissemination periods established in the Transmission Programme of Regulation ESA-95. The detail of the information that is supplied in this publication becomes greater, the more final the nature of the estimate.

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#### REGIONAL ACCOUNTING FRAMEWORK: UNITS, OPERATIONS AND ACCOUNTS

The accounting structure of the regional accounts (units, operations and accounts) may be distinguished by being open and incomplete, as compared with the closed and complete nature of the national accounting framework. This means that SRA-2000 does not integrate the two typical analyses of the economic accounts, functional analysis and institutional analysis, showing a clear preference for the functional perspective. The enormous conceptual difficulties arising from the treatment of the multi-regional institutional units (localised in different territories) explains why the regional accounts system is limited to the registration of the production activities by branch of activity, and to the income accounts of a single institutional sector, the household sector.

#### *Territory and units.*

Regarding the reference economic territory, ESA-95 clearly defines the regional economic territories and the extra-regional territory (extra-regional), from the concept of national territory. The so-called extra-regional territory is comprised of all those local activity units that cannot be assigned directly to a region (territorial enclaves, finds in international waters, etc.). In SRA-2000, this only has some relevance for the calculation of the flows of non-market activities (embassies, military bases and scientific bases, etc.).

The regional territories to which the data from SRA-2000 refer, correspond to levels II and III of the Nomenclature of Statistical Territorial Units (NUTS). This Nomenclature, established by Regulation 1059/2003 of the European Parliament and Council, subdivides the economic territory of the Member States of the European Union into territorial units for statistical purposes. In the case of Spain, level II of the NUTS classification corresponds to the Autonomous Communities and Cities with a Statute of Autonomy, and level III to the provinces and the islands<sup>1</sup>.

For the delimitation of the economy in a regional territory, it is necessary to establish principles and conventions that enable assigning, to the different regions, all of the resident units (uni-regional and multi-regional), both institutional and local economic activities (UAEL), given that the residence criterion is the principle included in ESA-95 for the territorial assignation of the units.

From the functional perspective, the application of this principle implies that the productive activity should be assigned to the territory in which the relevant productive unit, the UAEL, resides, and the productive capacity to the territory where the corresponding assets are used. In the case of the regional accounts of households, and according to the residence principle, the operations in which they participate shall be assigned to the region where their centre of economic interest resides, that is, the region in which they reside (irregardless of the region in which they work). Lastly, reference must be made to the subject of the auxiliary units, which constitute separate entities, conversely to what occurs from the national perspective (in the case that they are located in a territory other than that of the units that carry out the production). The criterion applied, according to the residence

criterion, is to attribute, to said units, the main activity that they serve and the region in which they are located.

#### *Operations and accounts*

As mentioned in the previous paragraphs, there are conceptual difficulties that explain, in part, the relinquishment of SRA-2000 to configuring itself as a complete and integrated system. In practice, it is limited to the estimation of the operations, aggregates and accounts that are indicated in the following tables:

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<sup>1</sup> In the case of the archipelago of Canarias, seven units: La Palma, El Hierro, La Gomera, Tenerife, Gran Canaria, Fuerteventura and Lanzarote. In the case of Illes Balears, three units: Mallorca, Menorca, and Ibiza and Formentera. Nonetheless, the dissemination of the data from the islands was not compulsory until the year 2008.

## Spanish Regional Accounts Base 2000

Regional GDP and aggregates by branch of activity		Spatial breakdown	Branches of activity (*)
regional GDP	current prices	NUTS II	
		NUTS III	
	variations in volume	NUTS II	
Gross Added Value at basic prices.	current prices	NUTS II	27/5
		NUTS III	5
	variations in volume	NUTS II	22/5
Employee remuneration		NUTS II	27
Gross Operating Surplus		NUTS II	27
Employment	Total	NUTS II	27/5
		NUTS III	5
	Employee	NUTS II	27/5
		NUTS III	5

\*Plus a pro-memory of non-market services See Annex 1

## Spanish Regional Accounts Base 2000

Demand Transactions	Spatial breakdown	Branches of activity (*)
Household Final Consumption Expenditure	NUTS II	
Household Effective Final Consumption	NUTS II	
Household Final Consumption Expenditure (internal)	NUTS II	
Gross Formation of Fixed Capital	NUTS II	16
<b>Sector Accounts</b>	<b>Spatial breakdown</b>	<b>Institutional Sector</b>
Primary income assignment account	NUTS II	Households
	NUTS III	
Secondary income distribution account	NUTS II	Households
	NUTS III	
Income in kind redistribution account	NUTS II	Households

\*Plus a pro-memory of non-market services. See Annex 1

## Annex 1.

### Groupings of branches of activity in SRA-2000, and their correspondence with CNAE-93

#### *Breakdown to 5 branches of activity*

This is used in the tables for added value at basic prices (current prices and variations in volume) and total and wage-earning employment in the estimates of a preview nature (A) and a first estimate (1<sup>a</sup>E) nature

SRA-2000 branches	Sections and subsections of CNAE-93
Agriculture, livestock and fishing	A, B
Energy	CA, CB, DF, EE
Industry	D, except DF
Construction	F
Services	G, H, I, J, K, L, M, N, O, P

#### *Breakdown to 22 branches of activity*

This is used in the tables for the variations in volume of gross added value at basic prices, in the estimates of a final nature, and in those of a provisional (P) nature

SRA-2000 branches	Sections and subsections of CNAE-93
Agriculture, livestock and fishing	A, B
CA+CB+DF Extraction of energy products; extraction of other minerals; manufacture of coke oven products, refinement and nuclear fuels	CA, CB, DF
EE Electrical energy, gas and water	E
DA Food, beverage and tobacco industry	DA
DB+DC Textile and clothing industry leather and footwear industry	DB+DC
DD Wood and cork industry	DD
DE Paper industry; publishing and graphic arts	DE
DG Chemical industry	DG
DH Rubber and plastic products industry	DH
DI Other non-metallic mineral products	DI
DJ Metallurgy and manufacture of metallic products	DJ
DK Mechanical machinery and equipment	DK
DL Electrical, electronic and optical equipment	DL
DM Manufacture of transport material	DM
DN Various manufacturing industries	DN
FF Construction	F

<b>SRA-2000 branches</b>	<b>Sections and subsections of CNAE-93</b>
GG Trade and repairs	G
HH Accommodation and catering	H
II Transport and communications	I
JJ Financial intermediation	J
KK Real estate and business services	K
LL.....PP Other service activities	L, M, N, O, P

***Breakdown to 27 branches of activity.***

This is used in the tables for added value at basic prices (current prices), employee remuneration, gross operating surplus/gross mixed income and total and wage earning employment, in the estimates of a final nature, and in those of a provisional (P) nature.

<b>SRA-2000 branches</b>	<b>Sections and subsections of CNAE-93</b>
AA Agriculture, livestock, hunting and forestry	A
BB Fishing	B
CA+CB+DF Extraction of energy products; extraction of other minerals; manufacture of coke oven products, refinement and nuclear fuels	CA, CB, DF
EE Electrical energy, gas and water	E
DA Food, beverage and tobacco industry	DA
DB+DC Textile and clothing industry leather and footwear industry	DB+DC
DD Wood and cork industry	DD
DE Paper industry; publishing and graphic arts	DE
DG Chemical industry	DG
DH Rubber and plastic products industry	DH
DI Other non-metallic mineral products	DI
DJ Metallurgy and manufacture of metallic products	DJ
DK Mechanical machinery and equipment	DK
DL Electrical, electronic and optical equipment	DL
DM Manufacture of transport material	DM
DN Various manufacturing industries	DN
FF Construction	F
GG Trade and repairs	G
HH Accommodation and catering	H
II Transport and communications	I
JJ Financial intermediation	J
KK Real estate and business services	K
LL Public Administration	L
MM Education	M



<b>SRA-2000 branches</b>	<b>Sections and subsections of CNAE-93</b>
NN Health and veterinary activities; social services	N
OO Other social services and activities; personal services	O
PP Households that employ domestic personnel	P

### ***Breakdown to 16 branches of activity***

This is used in the tables for gross formation of fixed capital by branch of ownership.

<b>SRA-2000 branches</b>	<b>Sections and subsections of CNAE-93</b>
AA Agriculture, livestock, hunting and forestry	A
BB Fishing	B
CA+CB+DF Extraction of energy products; extraction of other minerals; manufacture of coke oven products, refinement and nuclear fuels	CA, CB, DF
EE Electrical energy, gas and water	E
Industry	D, except DF
FF Construction	F
GG Trade and repairs	G
HH Accommodation and catering	H
II Transport and communications	I
JJ Financial intermediation	J
KK Real estate and business services	K
LL Public Administration	L
MM Education	M
NN Health and veterinary activities; social services	N
OO Other social services and activities; personal services	O
PP Households that employ domestic personnel	P