

## EXPERIENCE IN IMPLEMENTING THE SYSTEM OF NATIONAL ACCOUNTS (SNA) IN ROMANIA

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Among the priorities of the Romanian strategy in the statistics field, the introduction of the National Accounts System is known as an important instrument for the experience of Romanian specialists in calculating some aggregated indicators of the National Accounts System since 1975 created the conditions to elaborate the national accounts.

The 1990 *Romanian Yearbook* contains for the first time figures concerning Gross Domestic Product between 1980 and 1989, detailed by branches, incomes and expenses and also by aggregated input-output figures. By taking advantage of the technical assistance and support of French specialists in the National Accounts field, Romania made the first steps in elaborating the National Accounts System.

Thus, methodological studies about the institutional sectors in the Romanian economy, the description of the operations in accounts adapted to our particularities, and specific aspects in the elaboration of input-output tables are now underway. The recorded progress, as well as the programs for the coming years and the technical assistance granted by EEC and by other countries assure us that by assiduous efforts we shall be able to build a statistics system which will satisfy the domestic requirements, concepts and methods used at the international level.

**MOTTO:** "Transition to the market economy may be imagined as a vehicle which requires a powerful engine for functioning. For statistics this means the national accounts."

### I. INTRODUCTION

The objectives of the transition to the market economy in Romania, which are similar to those of other former communist countries, are confronted with statistics that contain multiple and extremely complex problems for adapting the methodologies and the technique to the new specific demands, aimed at gradually aligning them with international standards.

The complexity and difficulties of this process have a double character because, simultaneously with achieving the major objectives of conceptual adjustments, the statistical system is meant to provide the informational basis for the evolution of the economic and social life in the transition period, under conditions in which the new structures must also accept the persisting elements of the old pattern. In this respect, it is possible to discuss the duality of the "transition of statistics and statistics of transition."

It is well known that Romanian statistics with functions subordinated to the general political, social and economic context suffered greatly in the former regime, due to the over-centralized economic system that limited contact with the evolving international processes.

A main objective in statistics in the beginning period of transition, which practically involved the entire apparatus of the official body having competence in this field, was the rehabilitation of its credibility. This was done mainly by revising the published statistical data, by removing the errors and over-estimations. This activity determined the necessity to focus our efforts on the correction of the branch and macro-economic indicators.

Secondly, the rehabilitation of the credibility was enhanced by the promotion of statistical availability and clarity. The main way to do this was the gradual building up of a system of publications addressed to those interested in the state and evolution of the economy and the social phenomena, to the users of data and information from our country and from abroad. Since the beginning of 1990 a monthly statistical bulletin with data for short-term indicators has been published and at the end of the same year the first *Statistical Yearbook of Romania*, in a new presentation and with a content incomparably richer than the previous issues was edited.

Gross domestic product for the years 1985–89 was obtained using a methodology comparable with that recommended and used on the international scale. This was achieved by (a) revising the branch statistical data and the synthetic indicators, starting from the identification of areas where the over-estimations have occurred; (b) establishing the methods to perform the corrections, including the collection of correct information from the reporting units of statistical data; and (c) using statistical-mathematical methods, an action for determining the main synthetic aggregate.

Calculations by three methods—production, expenditures and incomes—used the available data supplied by the material production system (MPS), as well as the data provided by the governmental units and by the balance sheets. This made possible the publication in the *Statistical Yearbook 1990* of data on the gross domestic product, by expenditures and incomes elements, at current prices, for the period 1980–89, as well as the indices on the 1989 basis per total branches and by main elements of expenditures.

The challenge of implementing the SNA in the statistical practice of Romania must be considered by taking into account the particular features before and after the social revolution of December 1989. Surely no other field of statistics reveals more conspicuous, disjunctive elements than those separating the system of national accounts from that of material production. This statement is founded on the fact that both systems generate macro-economic indicators and reflect to the highest degree the characteristics of the theoretical basis and the economic system structure, thus determining the task and the place of the economic statistics as a whole.

Although, generally, under the aegis of the Statistical Commission of U.N. and of the Conference of the European Statisticians, sustained efforts were made in order to provide the liaison between the SNA and MPS, these efforts can be seen at present only as compromise solutions which allow the use of the conversion keys for determining the main aggregates of the SNA, as it is for Gross Domestic Product. On this basis it was possible in the past to determine these kind of conventional indicators, which were also used by Romanian statistics since the beginning of 1980. At present, when the target of implementing the SNA in the

statistical system of countries in transition became actual, these works can constitute a basis for work required to replace the MPS.

In the process of implementing the system of National Accounts, at least for the transition period, three options could have been taken into consideration:

- (a) To continue the use of the system of material production with the gradual implementation of some SNA elements;
- (b) To use simultaneously both systems;
- (c) To give up the System of Material Production and to introduce the System of National Accounts.

The first option would have had the advantage of providing a view of economic evolution, in comparable terms with the past; the second option would have provided the possibility of achieving comparative analysis and of ensuring the compatibility of the two systems; and the third option would produce an acceleration of the adaptive process of the whole statistical system. As a short-coming, the first option almost excludes the substantial changes in the statistical system; the second option is undoubtedly expensive and requires a long period of time before the abandonment of the MPS; and the third one forces the process, due to absence in the transition phase of some organizational structures and economic elements specific to the market economy.

In Romania, the third option was chosen. Resources have been focused on the acceleration of the implementation of the SNA. It must be pointed out that this option was not strictly limited to the statistical considerations. It is mainly a way for providing an informational system able to supply macro-economic decision-makers with much more ample and relevant elements for analyzing and designing the evolution process in the transition period.

## II. PREPARING THE CONDITIONS FOR WORKING OUT THE NATIONAL ACCOUNTS FOR 1989-90

In the first part of 1990, a program of co-operation and technical assistance with the National Institute for Statistics and Economic Studies (INSEE) of France was established. The major objective was the creation of a system of national accounts.

On the basis of this program, the first mission of Mr. Joe Allain, head of the Department for National Accounts, took place in June 1990. This mission for implementing the SNA methodology and technique aimed at three aspects:

- A didactic one; by the theoretical presentation of the national accounts' content (the general architecture of the European System of Integrated Economic Accounts (ESA), the experience and the methods used in the French statistics;
- An analytical one—an examination of the situation and the needs of Romania in this field, based on a review of the data sources and on information exchange with the statisticians from specific fields;
- A prospective one—in order to establish a multi-annual program of cooperation.

The activity in the following years, consisted of visits of Romanian specialists to INSEE and missions of French specialists to NCS. Thus, a work program

began which permitted completion of national accounts for 1989 and 1990 and a start for those for 1991 and 1992.

### III. THE BUILDING OF THE NATIONAL ACCOUNTS FOR YEARS 1989-90: A FIRST STAGE IN ACHIEVING THE PROSPECTIVE GOALS IN THIS FIELD

The store of knowledge for the training of personnel, the study of documentation and methodologies for compiling the national accounts and, last but not least, the high professional technical assistance offered by our French colleagues, helped us to start and build up the national accounts for the years 1989 and 1990. This allowed us to acquire a coherent representation of the economic complex and create the necessary premises for thorough macroeconomic analysis aligned to world practice. It also allowed us to acquire the necessary experience for achieving the prospective goals included in the NCS' programs.

The assimilation of the methods and technique used to compile the specific macroeconomic aggregates in the new system and to compute them by Romanian statistics involved the solving of some important and difficult problems. These concerned the accommodation of the methodologies to the needs required by the new concepts, as well as those connected with the identification of some data sources which allowed for the evaluation of flows in national economy.

Until solutions could be found for the problems that arose from the creation of national accounts, it was necessary to compile data from existing sources in order to obtain the indicators used in the new conception. The solutions for the problems depended not only on the measures taken in the statistical area, but also on the changes in the economy's structures and on the legislation establishing the relationship between economic agents, such as the instruments used in the financial, banking and accounting systems and governmental enterprises.

In spite of all difficulties because of data sources, and of the lack of necessary instruments for carrying out some operations involved by SNA, the studies permit the survey of economic flows and the characterization of the economy based on the macroeconomic aggregates for 1989 and 1990.

The compilation of the national accounts and of the synthesis tables provided clarification of some problems such as: definition of the institutional sectors, the grouping of economic agents and the identification of the economic flows in order to be transposed into specific transactions for NCS.

The institutional sectors were defined from their classification mentioned in the ESA, 2nd edition (para. 217), taking into consideration the main function of the units grouped in these sectors:

- Non financial corporate and quasi-corporate enterprises (S 10),
- Credit institutions (S 40),
- Insurance enterprises (S 50),
- General government (S 60),
- Private non-profit institutions serving households (S 70),
- Households (S 80),
- Rest of the world (S 90).

The non-financial corporations and quasi-corporations (CQC) sector, which is prevalent throughout the production of goods and services, was built up from

enterprises within the branches of material production in the MPS. Some activities were deleted from the sector and reclassified, namely those represented by the small individual artisans (included in the households sector) and some activities financed from the national public budget such as harbors, airports, geological prospecting for useful mineral substances and activities with an agrazoo-veterinary profile (which were included in the general government sector).

Also classified in the CQC sector were the radio and TV national enterprises, the units with public activities, the autonomous company of lotteries, the enterprises for personal hygiene (barbers, hairdressers, chiropodies, public bathing houses, and others) which were not included in the material production sphere, and not included in the households sector.

Within the households sector were included the output of goods and services of sole proprietorships not recognized as independent legal entities in the fields of industry, agriculture, construction, trade, and tourism, and the output of housing services provided by owner occupiers.

In the "Credit institutions" (S 40) sector banks and savings banks were included, and the "Insurance enterprises" (S 50) sector comprises the activity of all enterprises of this kind throughout the country.

"Private non-profit institutions serving households" (S 70) included the activity of political parties, unions, youth and women's organizations, of the Red Cross, of the religious communities and other non-profit institutions serving households.

As regards the "General government" (S 60) sector, the main problems concerned the setting of the boundary line between market production and non-market production, the incidental sales and partial payments, as well as the defining of different sorts of duties and taxes in SNA.

For 1989 and 1990, taking into account the available data sources—mostly the budgetary classification—it was not possible to achieve the breakdown of S 60 into "Central government," "Local government" and "Social security funds." This will be possible after 1991 when the new budgetary classification was introduced.

When the SNA was implemented in the Romanian statistics, it used the classification of transactions with details mentioned by the ESA; these transactions were registered in the following accounts:

- Production account (C 1),
- Generation of income account (C 2),
- Distribution of income account (C 3),
- Use of income account (C 4),
- Capital account (C 5).

At this stage we have not addressed the problems of compiling the financial account (C 6) by institutional sectors and with those of the Financial Transaction Table (FTT). All of these problems will have to be solved through a co-operation between NCS, the National Bank and the Ministry of Economy and Finance.

Recently, at the NCS' initiative, a permanent group of specialists belonging to these three institutions has been set up. Its task is to coordinate and assure the unity of the financial-banking and statistical informational system, the exchange of data and information, as well as the co-operation between them, especially in the field of the national accounts.

Another large group of problems refers to the ESA classification of transactions, mainly identifying specific flows of the Romanian economy and achieving correspondence with transactions in the national accounts. Within distributive transactions, taking into consideration both data sources and the legislation in force in the years 1989 and 1990, the following elements specific to our economic and financial system were assimilated to the ESA classification:

- Gross wages, excluding the tax on wages and including the contribution for the supplementary pension (3 percent) and the payments to the wage-earners from the fund of participation to profit set up in enterprises (R 101);
- Contribution to social security funds and contribution to the unemployment fund (4 percent) paid by the employers (R 102);
- Tax on sales, representing the “taxes on products” until the implementation of the value added tax (VAT) (R 221);
- Tax on wages and salaries (paid by the enterprises), contribution to the Chamber of Commerce, tax on buildings, tax on the means of transport paid by the producers (R 222);
- Customs duties (R 29);
- Subsidies to cover the losses and the differences in price and tariffs supported by the budget (R 30);
- Taxes on land (R 43);
- Payments from profits (tax on profit) (R 61);
- Amounts representing the contribution for the supplementary pension (3 percent), for the unemployment fund (4 percent), for social security funds, as well as the contribution paid by persons without children were considered in (R 62) (actual social contributions).

Most of the problems are generally related to grouping the different types of taxes in the transactions within the ESA classification.

The synthesis of the institutional sector accounts and the compilation of the General Table of Transactions also allowed the solution of some entirely new problems. Work was performed by stages in order to obtain the final accounts, building-up the transactions account as well as the carrying out of the necessary arbitrations to assure both the coherence within the GTT and with the IOT. The accounting synthesis takes into consideration the fact that the data reliability for the institutional sectors is different, in the sense that for some sectors such as general government, credit institutions and insurance enterprises, we have a complete bookkeeping. However, in order to determine activities inside of households, data was used from several statistical and taxation sources.

#### IV. DRAWING UP THE INPUT-OUTPUT TABLE (AN INTEGRATED PART OF NATIONAL ACCOUNTS)

At the beginning of 1990 in comparison with other ex-socialist countries, Romania had relatively little experience in the field of drawing up the Input-Output Table (IOT) and of using it for analysis and economic forecasting or in the field of scientific research. The only available Input-Output Table was for

1970 (when a special table was done), 1980 and 1982 (on the basis of some experimental calculations at macro-economic level).

The compilation of the national accounts for 1989 and 1990 involved the elaboration of IOT, in order to characterize the structure of the national economy, the interdependence of connections between branches and sub-branches, and the material and value equilibrium between resources and uses of the economy. Drawing up of such a table required an important volume of statistical, financial-accounting and governmental data. In order to compile the necessary data, an annual statistical survey was organized. Data on output, intermediate consumption and value added on branches (IOTs for 1989 and 1990 concerned 101 branches) was obtained. These branches corresponded to a new classification of national economic activities compiled in NCS and compatible with international classifications.

IOTs for 1989, as well as for 1990, were drawn up at the purchasers' prices for uses, pointing out separately in the resources table, the tax on sales, the customs duties and the trade margins, and the output being estimated in basic prices. This option was made in order to show the development of economic phenomena without influence of fiscal policy and in order to forecast the changes that will occur as a result of the substitution in 1993 of "Value added tax" for "Taxes on the circulation of commodities."

The IOT data have been correlated with those existing in 1990 GTT.

The Input-Output Table for 1990 was worked out in its final configuration at the prices of the previous year, in order to point out the evolution in price and volume of the main components of the national economic resources and of their uses. The IOT computation for 1990 in the 1989 prices was based on the price indices for output and final consumption established at the level of NCS. For the intermediate consumption, information was collected from economic units, under statistical research, which reported the values of intermediate consumption by origin branches in 1989 prices. This 1990 table represents the first IOT at constant prices, having a special importance particularly under present conditions of the transition to the market economy, because it points out not only the structural changes of Romanian economy but also the analysis of the main macro-economic aggregates evolution.

#### V. PECULIARITIES IN THE WORKING OUT OF NATIONAL ACCOUNTS FOR 1991

The drawing up of national accounts for 1991, when the specific calculations of the material production system have been removed, required an evaluation of the existing statistical and book-keeping data sources and of the possibilities they offer for carrying out the works concerning national accounts.

The general conclusion drawn from this analysis was that the statistical informational system, which undergoes an entire process of reorganization and adjustment to the new requirements and economic structures, only partially answer the requirements necessary to working out the General Table of Transactions and the Input-Output Table. At the same time, the information comprised in the balance sheets and the state budget enabled the calculation of certain indicators

in the national accounts, but necessitated additional calculations in order to cover the whole sphere of necessary data.

Otherwise, in the organization of the activity in this field, as well as in the assimilation of the techniques for drawing up accounts and in the staff specialization there are still great difficulties caused by the fact that variable elements have an important weight (the structure of the economy, legislation, data sources).

Rapid proliferation of the number of economic agents, especially those in the private sector having little activity, make impossible the data collection necessary to the accounts by means of statistical forms. In order to solve these difficult problems Romanian national accountants, in collaboration with the specialists in the Ministry of Finances conceived a form for collecting book-keeping data from economic agents, which are organized so that they could be used in the calculations specific to national accounts for the corporate and quasi-corporate enterprises sector. This form, on the results of the 1991 activity, has become one of the annexes of the balance sheet and it contains all economic agents. On the basis of its information, the elements of the production account and of the generation of income account by institutional sectors are to be calculated. At the same time it presents certain book-keeping information, which, together with other financial sources, will serve as a basis to the computation of the whole sequence of accounts.

Using this form as the main source for the implementation of 1991 accounts constituted a first stage in the process of improving the data sources and adjusting them to the SNA requirements. Moreover, since 1991, the centralized data from the income statements of family and profit associations set up on the basis of the Decree-Law 54/1990 would also be used.

In order to draw up the IOT, a special statistical survey of considerable dimension (more than 12 thousand economic agents) was carried out. All economic agents with public capital and 20 percent with private capital have been investigated. This survey was necessary because in 1991 the Romanian economy underwent radical structural transformations, the productive behavior of economic agents changed and the proportions between the branches and the sectors of activity had been completely different from those in the previous year.

The data, collected by means of statistical survey forms for the IOT are based on those used for the calculation of the account sequence comprised in the annex to the balance sheet, which enable the calculation of production, of intermediate consumption and of value added to the SNA principles. By means of the statistical survey form, one obtained these values distributed by activity branches of economic agent as well as data on the origin branches of intermediary consumption elements serving to calculate IOT technical coefficients.

The branches which are the basis of the IOT for 1991, correspond to those in 1990, therefore being comparable to the classifications used at the international level.

At present, we are working on the first version of GTT and IOT for 1991 using the information obtained by means of the annex to the balance sheet and of statistical survey. The calculation of the main SNA macro-economic aggregates at comparable prices requires the working out of IOT for 1991 at the 1990 prices. It was decided that, till the Romanian economy would have a certain stability and the existing conditions would allow us to obtain more detailed information



for defining a year as a base, for each year the comparability calculations should be done using the prices of the preceding year. The 1991 IOT implementation at the 1990 prices is based exclusively on the information concerning the price indices calculated at NCS level.

During this transition period, when economic and social organization is developing, statistical and book keeping sources are unstable and do not define completely the ongoing processes. The 1990-95 period will permit us to accomplish the general purpose of compiling the national accounts into an integrated and competitive system.

The first stage (1990-93) of this process consisted in a thorough study of SNA methodology and in its adjustment to the realities of the Romanian economy. GTT and IOT have been worked out for 1989, 1990 and there is the beginning of the first version of GTT and IOT for 1991. As mentioned in this paper the sources of statistical and financial book keeping data used for working out the national accounts for the four years have been completely different.

During this period, Romanian national accountants both achieved the creation of national accounts and the creation of a statistical informational system able to satisfy the requirements of the national accounts. They also worked in collaboration with the Ministry of Economy and Finances for the modification of the financial book keeping system so these systems could be used efficiently in the process of working out the national accounts.

The next stage of the national accounts implementation (1994-95) will pass through an essential modification of data sources and of their content. This modification is due to the fact that, starting with July, 1993, VAT will be applied in the economy and the new book keeping plan will be introduced, its structure being inspired from the French system.

In 1995, it is to be expected that the Romanian economy will show a certain stability and that the process of reorganizing the informational statistical and book keeping system will fully address the period of adjustment to the new conditions of market economy. This year will be taken as a benchmark in the future evolution of Romanian national accounts. The predictable calendar of the national accounts implementation in the Romanian structure is presented in the annex.

The recorded progress, as well as the programs for the next years and the technical assistance granted by EEC and by other countries in the world, assure us that by assiduous efforts we shall be able to build a statistical system which will satisfy domestic requirements and those concerning the adjustment of language, concepts and methods to those used at the international level.