Thirteenth International Conference on Input-Output Techniques
Macerata, Italy, 21-25 August 2000

THE POSSIBILITY AND PITFALLS FOR

INPUT- OUTPUT ANALYSIS IN THE TRANSITIONAL

ECONOMY OF ROMANIA

dr. Clementina IVAN - UNGUREANU *
and
Mihai - Iulian GHEORGHE *

-2000

* National Commission of Statistics,
Bucharest, P.O.Box 49-17, Sector II, ROMANIA

1. GENERAL STATISTICS, IN TRANSITION

1. The prospects for developing our statistical system in the long-run look good at present certainly. This statement is based on favourable premises, factors and circumstances, of a general and specific nature.

♦ Romanian society has completely and irreversibly turned to democracy and the market economy.

♦ The transition process is following its course, in line with strategic options, priorities set, and program adopted.

♦ The strategy of developing and adjusting the statistical system to the latest requirements adopted in 1991 and updated in 1993 generally proved to be adequate for the objective of integrating and harmonising the Romanian statistics with European and global statistical practice.

♦ Government Ordinance no. 9/1992 regarding the organisation and functioning of public statistics in Romania was implemented by Law no. 11/1994. Through its main principles and provisions, this law transforms Romanian statistics from a narrow legal – regulatory framework to conform to the statistical practice of countries with democratic traditions.

♦ Results obtained during the first ten years reveal not only major changes which have taken place in the old statistics system, but also significant progress in modernising it.

2. In the light of the fundamental parameters for shaping the structure of a country statistical strategy i.e. the depth and extent of changes in the Romanian society and the need to adopt our statistical service to a European standard, the central objective to be obtained are:

Finalising the implementation of statistical standards, classifications and methodologies employed by the European Union; enabling the Romanian statistical system to meet the domestic needs as well as data requirements at the international level comparable to the performance of members of the European Union.

3. Up to point in time, emphasis has been given to the assimilation of concepts to reshaping and adjusting the methods required by the statistical system, further on storing the knowledge and being able to work with new techniques as well as to accomplish significant statistical tasks in almost each priority area. Efforts were and will shift to maintaining the significant progress, to adjusting procedures in the course of through various projects, tests and pilot-actions, and to harmonising and adopting ever higher performance standards.

4. The rapid increase of the private sector that may be characterised by multiplication of the number of small-and medium-sized enterprises raises particular problems for the statistical system. This is especially true for the attempts to include them in statistical survey. These demands further efforts to clarify both the methodological aspects as well as the practical aspects of the problem. Such practical aspects include: applying sampling methods, developing and implementing of business registers, using the administrative records and gaining private agents for participation in the statistical process. Close co-operation with the financial-banking bodies and other institutions because of its own activity in monitoring the private sector is needed. At the some time, preserving the confidentiality of such financial information needs to be guaranteed.

5. The Population and Housing Census in January 1992 offers a solid and actual sampling base for the ultimate goal introducing household survey covering a large range of topics.

In 1994, the labour force survey and the multifunctional integrated household survey were initiated. They furnish extremely useful data and information for policy-makers regarding many

important social issues, such as employment and unemployment, standard of living, poverty line, educational attainment, public health as well as other topics. Depending on the relevance of the results of the above mentioned surveys, work will have to be directed towards redesigning survey system in the general field of social statistics.

6. Statistical infrayearly surveys and particularly the annual ones included in the economic statistics, such as annual structural survey initiated in 1993 are able to provide the necessary information about the private sector. Needed are statistics related to the demography of establishments, in particular of small and medium size ones. The diversity of information of sector links (to be acquired through a structural survey) will undoubtedly work to meeting the requirements of the certain data users, especially of one category that until now has shown little interest in requesting data, namely the business community itself.

The survey was later be improved, upon mostly with respect to the data requirements for compiling the national accounts, through the implementation of business register.

7. A particular concern is determined by the unsatisfactory actual solutions used for the measurement of the hidden economy to be included in the macroeconomic aggregates. The own efforts in surpassing difficulties of ascertaining in this sector, enjoying foreign assistance shall be finalised the soonest possible into adequate statistical instruments, that may remove incertitude and non-confidence in the statistical capability to have a complete cover economic activities.

Having a necessary financial resource, a modern office of statistical data dissemination and public relations will be designed and set up together with corresponding network and macrodata banks.

8 8. The priority fields of the statistics are the following:

- System of National Accounts,
- Classifications and nomenclatures,
- Business register,
- Enterprise statistics,
- Price statistics,
- Statistics of domestic trade in services,
- Statistics of the foreign trade,
- Statistics of the labour force, wages, earnings and unemployment, etc.

9 9. In the field of classification and nomenclatures, the work done till now includes:

- Classifications of Activities in the National Economy (CAEN) compatible with NACE and CITI Rev 3 for every statistical purpose.
- First version of the Classification of Products and Services Associated to Activities.
- Introduce harmonised system into customs and foreign trade statistics practice.
- Project of Classification of Occupations compatible to ISCO 89 and ISLO COM.

10. In spite of the efforts made so far there is now performant Statistical Register able to supply all the necessary information concerning the establishment demography and, at the same time, to constitute a basis of the sample survey conducted. Statistical Register (Business Register) is connected with Fiscal Register from Ministry of Finance and Trade Register.

11. The field of enterprise statistics including also services enterprises has known a fast development and a fast adjustment to the requirements of transition period. New methods to determine industrial output index to reflect short-term economic changes have been elaborated as

were as statistical work regarding industrial output, civil engineering, transport, trade and services. Since 1993, the use of the annual enterprises survey started that offers a bulk of information related to the structure of capital, incomes and outlays, investment, labour utilised, etc.

12. Both the economic phenomena specific to the transition period and the requirements to reflect, as accurately as possible, their trend have strongly imposed to develop the price statistics. In the last seven years, the achievement include:

- the methodology and calculation of the Consumer Price Index (CPI) starting in 1990,
- the methodology and calculation of the Production Price Index in the industry and civil engineering starting from 1992.
- the theoretical approach of establishing the other index categories of prices and tariffs specific to other sectors.

13. The activity carried on in the field of services statistics has pointed the valuation, as reliable as possible, of the production for all the services effected in the economy, including those which have been considered as "non-material", in communist period.

The objectives of this field are:

- to harmonise statistics on services with data collecting and processing practised in the European Union member countries.
- to correlate the system of services statistics with the system practised in the commodity production sector especially in the industrial sector.
- to create a data collecting system based on administrative sources included for certain categories of services such as those referring to the social protection, education, health, rest, entertaining and sportive activities.
- to approach statistically non-market services in close relation with central and local public expenditures.

14. The transition process in the field of statistics has known a lot of problems that were determined by the radical change, in some situations, of the methods of gathering, and processing the information.

Statistics are expected to quantify new economic and social phenomena, specifics for this period and to adapt it at the international standards.

II. IMPLEMENTATION OF SNA

15. The System of National Accounts (SNA) implementation in Romania was done by means of definitive giving up of the Material Production System starting with 1991. Year 1990 has been the last year for which the calculations concerning the macroeconomic indicators were worked out in accordance with the material conceptions.

The National Accounts drawn up in the Romanian statistics implied the accomplishment of some concrete actions:

- to study the methodology concerning the European System of Integrated Economic Accounts (ESA) – 1979;
- to identify the data sources used in order to appraise the flows specific to our economy;

- to elaborate a draft of methodologies related to the institutional sectors, taking into account the classification stipulated in ESA, the grouping principles of economic agents (principal function and resources) as well as the conditions specific to our economy;
- to establish the correspondence among indicators from financial-accounting, banking and budgetary informational system and transactions in goods and services and distributive transactions of SNA;
- to align the classification of national economy to the international classification of activities and products in order to accomplish the commodity flow by products and to build up the Input-Output Tables (IOT) at current and constant prices;
- to draw up a form (annex of the balance sheet) with indicators responding to the computation requirements of national accounts for 1991;
- to set up statistical surveys with a view to obtaining information related to the output, intermediate consumption and gross value added by industries necessary to work out the IOT for each year.

16. Taking account of the actions performed, the available information for the calculations and the professional background of the statisticians involved in this work, the national accounts drawn up in Romania have passed through three distinct stages corresponding to those years for which the calculations were already done, thus:

a) a stage corresponding to 1989 and 1990 when one has done a transposition of the aggregate indicators from Material Production System to SNA by means of some adjustments and corrections of indicators field and content. This stage ended by working out a semi-final and final version of accounts for each year;

b) a stage corresponding to 1991 and 1992 when one has pursued the strict applying of methodological principles foreseen in SNA. This fact was facilitated, on one hand, by the improvements brought to the balance sheet annexes of economic agents and, on the other hand, by the perfecting of budgetary classification and by a better structuring of statistical report related to the national public budget execution.

c) from 1993 onwards with new data sources necessary to draw up national accounts such as: structural annual survey, labour force survey, household's survey, etc.

Regarding the working procedure, this was represented by:

- drawing up the sequence of six accounts for resources and uses by institutional sectors (non-financial corporation, credit institutions, insurance enterprises, general government, private non-profit institutions, households and the rest of the world);
- accomplishment of the accounts for distributive transactions using the matrix tables by institutional sectors;
- integration of the accounts by institutional sectors and the distributive transactions accounts in the General Table of Transactions (GTT);
- compilation of IOT at current and constant prices (prices of previous year);
- accomplishment of the arbitration between the institutional sectors indicators comprised in GTT and the indicators from IOT at current prices.

III. INPUT-OUTPUT TABLE

17. At the beginning of 1990, Romania had a minimal experience in the elaboration of Input-Output Table and in its uses for economic analysis, economic forecast or scientific research. The only Input Output Tables elaborated in our country were for 1970 (when it was done a special calculation) and for 1980 and 1982 (these tables were compiled on data sources existent in the statistical informational system and on an experimental macroeconomic computation).

The elaboration of national accounts in Romania means the compilation of annual Input-Output in current prices and in the prices of the previous year and a general table of Transactions for institutional sectors.

The IOT is symmetric and has 105 industries. These industries correspond to the new "Classification of national economy activities" done by the National Commission for Statistics, according to the international classifications (ISIC and NACE Rev.3).

18. Some characteristics of Romanian Input-Output Table:

- it is integrated in national accounts, being coherent with the General Table of Transactions. This treatment has been chosen because the flows reflected in the two synthesis tables describe some process from the point of view of institutional sectors or industries;
- it contains four sub-tables:
  - ♦ the supply table which contains resources by products, production and imports, as well as the adjustments elements which allow the passage from the basic price in which production is valued and the CIF price in which imports are valued, to the purchasers' prices in which the uses are valued. These elements are: taxes on products including VAT, customs duties, subsidies on products and imports and trade margins. Note that transport margins are included in intermediate consumption by branches and, on the supply side, in the production of transport.
  - ♦ the intermediate consumption table which is a matrix of 105 industries by 105 products.
  - ♦ The final uses table which contains the following aggregates, detailed by 105 products: final consumption of households, final consumption of general government and the non-profit institutions serving households, gross fixed capital formation, changes in inventories and exports.
  - ♦ The primary input table which contains the elements of value added, viz. compensation of employees, other taxes on production, other subsidies on production and gross operating surplus.
- consumption of fixed capital is not clearly highlighted, the aggregates being expressed in gross value;
- the Input-Output Table is compiled at current prices and the prices of the previous year;
- in Input-Output Table there are 105 commodity (rows) and industries (columns) using a classification compatible with NACE Rev.3;

- the final version of Input-Output Table is available two years after the end of the period, at the same time with the General Table of Transactions; a semi-final version is ready one year after the end of the period.

19 19. Current price valuation of the aggregates of the input-output table:

- production is valued at basic prices.
- intermediate consumption is valued at purchasers' prices, excluding deductible VAT.
- gross value added is valued at basic prices.
- final consumption of households is valued at purchasers' prices for goods and services which are purchased and at cost for goods and services which are produced and consumed by households. ESA 1979 and the 1993 SNA/ESA 1995 recommend basic price valuation for consumption of own-account production.
- final consumption of general government and non-profit institutions is valued on the basis costs incurred in the industries which produce non-market services.
- gross fixed capital formation is valued at purchasers' prices, excluding deductible VAT, for capital goods purchased and at basic prices for own-account fixed capital formation. Basic prices include zero profit in line with ESA 1979. It should include estimated profit according to 1993 SNA/ESA 1995.
- imports of goods and services are valued CIF. Use of FOB valuation will be introduced with the implementation of the SNA 1993/ ESA 1995.
- exports of goods and services are valued FOB.
- changes in inventories are valued at basic prices with zero profit for stocks of finished goods and work-in-progress (producer stocks) and at purchasers' prices, excluding deductible VAT, for raw materials and fuels (user stocks) and goods for re-sale (trade stocks) in line with ESA 1979. 1993 SNA/ESA1995 recommend basic prices for the valuation of additions and withdrawals of all the types of inventories.

20. Constant price (price of previous year) valuation of the aggregates of the input-output table:

- the price indices used for the estimation of output of market goods and services in constant prices are: producer price indices, aggregated by activity at the level of 105 products; consumer prices indices, aggregated by groups of goods and services at the level of 105 groups; indices of prices on the farmers' market; price indices for agricultural production; construction prices.

In parallel, estimates of production in constant prices are made using volume indices, when there are available. Estimates made using these two approaches are the reconciled. The reconciliation in performed gradually during the process of analysing simultaneously the current and constant price estimates of output, intermediate consumption and gross value added. Plausibility checks on the value of production and intermediate consumption take place

at the commodity level (105 industries) by comparing the volume changes of production and intermediate consumption (as a use of this production) with each other and with other uses. Adjustments are made and the new plausibility checks are carried out. This process is repeated until the data are considered to be reliable.

- for constant price estimates of output of non-market goods and services, intermediate consumption and value added are each valued at constant prices and output is derived as the sum of these.

Output in constant prices is calculated as the sum of the above two components.

- the constant price estimation of taxes and subsidies on products and customs duties is undertaken for each type of tax/subsidy. Base year tax rates are applied to the flows in base year prices. These are calculated for 105 products.

The tax base used for the estimates include: retail sales data and data concerning services rendered to the population (this information is used for estimation of VAT and subsidies on products); data concerning output and imports-used for estimation of other taxes on products; import data-used for estimating customs duties and subsidies on imports; data concerning agricultural production-used for estimation of the subsidies granted to agricultural producers.

The VAT yield at prices of the previous year is calculated as follows: the average rate of VAT in the previous year is calculated as the ratio of the VAT yield over the value of retail sales in that year; this ratio is applied to the value of the current year's retail sales expressed in the prices of the previous year.

- for customs duties and subsidies, similar methods are used. The overall rate of customs duties is calculated by reference to total imports. For subsidies, the ratio is calculated by reference to private consumption from retail sales and agricultural production separately.

- two methods are used in the initial stage in order to estimate intermediate consumption in constant prices: price deflation; use of volume indices.

In order to derive a price index, which can be used to deflate intermediate consumption within an input-output framework, synthetic indices are created by weighting together, using base year weights, the implicit price indices for output, imports, taxes on products excluding VAT, custom duties, trade margins for intermediate consumption, separately for each product. These indices are used to value the table of intermediate consumption of the input-output table in constant prices. This method is generally used for agriculture, financial, banking and insurance services and general government.

The second method used to estimate the table of intermediate consumption in constant prices starts with the intermediate consumption table of the previous year in current prices and applies output volume indices by industries. This approach is based on the assumption of constant technological coefficients, that is a change in the quantity of output between periods requires a similar change in the quantity of goods and services consumed for its production.

This method is generally used for all industries, excepting those mentioned above for which the technological coefficients might significantly change from one year to another.

In practice, both methods may be used with a comparative analysis of the results being undertaken. This allows a better cross-checking of the data contained in the intermediate consumption table.

- for the valuation of final consumption expenditure in constant prices different price indices are used which take into account the various components of final consumption expenditure. The components of household final consumption expenditure are thus deflated separately at the level of 105 products. The main items are described below.

Purchases of market goods and services are valued at constant prices using the consumer price indices by products. For electricity, gas and water, volume indices based on the quantities consumed are available. For transport, the index of the number of passenger kilometres is used as a volume index.

For the valuation of purchases of goods on the farmers' markets at constant prices, the price indices, by products, on the farmers' markets are used. For household production, volume indices of household agricultural production are used. This is equivalent since the current price data is derived as volume times the price on farmers' markets.

The prices indices used to estimate own consumption in constant prices are those of agricultural production.

For the valuation of incidental sales in constant prices, implicit production price indices by product and activity are used. For the valuation of wages and salaries in kind and social benefits in kind, consumer price indices by products are used.

The final consumption expenditure of general government and NPISHs in constant prices is calculated as the difference between the production of those industries producing these services in constant prices and the value of incidental sales in constant prices. This means that the ratio of consumption to production is the same at both current and constant prices since the same deflators are used.

- in order to derive a price index which can be used to deflate gross fixed capital formation within an input-output framework, synthetic indices are created by weighting together price indices for output, imports, taxes on products excluding VAT and custom duties, separately for each product.

The volume index of investments is used for purposes of checking the constant price estimates of gross fixed capital formation.

- the estimates of changes in inventories in constant prices are made by deflating the values of the changes in inventories adjusted for holding gains and losses in current prices with the same type of synthetic indices which are calculated and used to deflate intermediate consumption and to estimate holding gains and losses. Rather than deflating inventory levels, it is the change in inventories which is deflated.

- in order to calculate the value of exports and imports of goods in constant prices, the values in current prices are deflated by unit value indices (UVIs). The Department of Trade in the NCS started to calculate UVIs based on customs statistics from 1997. Prior to this date, UVIs were estimated in the national accounts department.

The export and import unit value indices in lei are calculated by correcting the indices of the unit values of exports and imports of goods in US dollars by the index of the trade-weighted average exchange rate on goods calculated on the import and export of goods. The price indices are calculated in CIF values for imports and FOB values for exports of goods. Unit value indices in US dollars are calculated for approximately 300 products. The indices (aggregated to the level of 78 groups of goods) are Paasche type indices. The weights used are the quantities of goods exported or imported during the current period.

Since appropriate price indices for deflation of exports and imports of services are not available, the average exchange rate index for total services is used to deflate exports and imports for each type of service. This ignores the effect of inflation in partner countries, but as long as inflation in Romania is significantly higher, the error introduced is not extreme.

21. The main characteristics of the Input-Output Tables of Romania are presented in Appendix no. 1.

22. The first stage in compiling the input-output table is the estimation of each indicator of the supply and the use table in current and constant prices for the whole economy and by-products. The second stage is obtaining the balance between resources and uses of each product. This is undertaken simultaneously in current and constant prices. The discrepancies at the product level are generally allocated to those indicators for which the original estimation was based on incomplete data sources or on less accurate methods, mainly intermediate consumption, household consumption expenditure and changes in inventories. Throughout this process, attention is paid to the consistency and plausibility of implicit price indices and volume indices, corresponding to different resources and use categories.

IV.ECONOMIC SITUATION OF ROMANIA

23. After the events of December 1989, which marked the start of the transition period towards a market economy, economic activity in Romania has displayed a constant downward trend in virtually all industries and sectors as a result of imbalances inherited from the old system, as well as new difficulties associated with the implementation of economic reform (Table 1).

The year 1990 can be defined as the first year in which Government's intervention in economy was eliminated and, at the same time, as the year when a large number of social unrest prevailed with direct repercussions upon activity results.

The measures undertaken in 1990, particularly those involving the sharing of farm land, the reduction of the weekly working time, the recognition of new employee right a.s.o, have brought about an explosive rise of consumption as well as spectacular decrease of investment and output.

Table 1: Gross Domestic Product's resources and uses

	Billions of Lei - current prices							
	1990	1991	1992	1993	1994	1995	1996	1997
Resources								
Total Gross Value Added	788.1	2066.1	5915.2	18579.2	45954.7	66598.5	101854.2	232817.6
Agriculture, forestry, logging and fishery	187.1	415.9	1147.9	4205.8	9897.6	14269.3	20949.2	45532.8
Industry	347.6	834.7	2311.0	6781.4	18018.3	23711.3	36181.5	78093.8
Construction	46.0	96.1	290.1	1040.0	3251.3	4755.1	7067.4	13230.0
Trade	53.2	296.5	859.5	2057.7	4075.8	7570.2	12722.3	28767.5
Transport and communication	49.4	147.1	514.3	2014.6	4354.0	5576.6	9804.7	22665.3
Other services	124.7	322.9	1073.4	3327.6	8348.4	12891.0	17351.8	45784.2
Imputed bank services	-19.9	-47.2	-281.0	-847.9	-1990.7	-2175.0	-2222.7	-1256.0
Tax on the circulation of commodities	102.0	193.2	484.8	1857.5	3848.2	5579.4	7458.7	18569.1
Custom duties	1.6	24.6	86.9	303.5	648.9	1189.0	1852.3	3808.2
Subsidies on product	-33.8	-80.1	-457.7	-704.5	-678.6	-1231.4	-2245.6	-2269.2
GROSS DOMESTIC PRODUCT	857.9	2203.9	6029.2	19733.3	49773.2	72135.5	108919.6	252925.7
Uses								
Final consumption of households	557.7	1323.7	3750.8	12233.3	31442.0	48545.1	75288.8	186238.8
Final Consumption of General government	114.3	333.9	861.1	2623.3	6851.8	9877.0	14273.9	30999.8
Final Consumption of NPIs	7.5	14.9	30.6	100.5	158.6	240.3	376.7	1381.8
Gross Fixed Capital Formation	169.8	317.0	1156.9	3383.7	10095.7	15424.9	24998.5	53540.1
Change in stocks	89.7	301.1	736.7	2396.9	2252.6	2085.1	3161.4	-1368.7
Net export	-81.1	-86.7	-506.9	-1004.4	-1027.5	-4036.9	-9179.7	-17865.5

In 1991 the control exercised upon prices continued, especially for basic raw materials and energy, motivated by a desire to undertake such reform with reasonable social costs, has induced negative economic outcomes, especially with respect to the pace towards a market economy.

The lack of firm financial discipline had as a consequence getting such outputs which ended in both stocks acquisition and increase of business debt; the so-called "financial blocking" became a major problem, the Government being compelled to made compensatory payments of business debts.

Gross Domestic Product (GDP) decline had started in 1988, has gone on in the subsequent years and has even sharpened in 1991 when it diminished by 12.9 % as against foregoing year and by 17.8 % as compared to 1989.

24. The changes which have taken place in the social and political area since December 1989, represented the determinative element for the important changes occurred in the economic field, synthetically emphasised by the structural changes of GDP final uses (expenditure) (Table 2).

Table 2: Evolution of Gross Domestic Product

	Changes versus the previous year[1] - % -							
	1990/ 1989	1991/ 1990	1992/ 1991	1993/ 1992	1994/ 1993	1995/ 1994	1996/ 1995	1997/ 1996
Resources								
Total Gross Value Added	-2.4	-11.8	-9.0	3.3	4.3	6.8	3.9	-7.3
Agriculture, forestry, logging and fishery	37.3	-12.3	-12.9	13.6	2.9	4.7	-4.2	-1.3
Industry	-16.7	-12.8	-13.7	1.0	3.4	5.6	6.9	-8.0
Construction	1.1	-19.4	-5.6	24.7	27.4	6.7	0.8	-19.3
Trade	9.3	-25.6	-9.1	-9.1	-0.9	21.8	12.5	-10.8
Transport and communication	-21.4	-8.8	-4.0	2.8	0.8	1.6	6.4	-9.5
Other services	11.0	0.5	13.9	0.8	5.0	4.8	1.0	-10.1
Imputed bank services	28.8	-5.7	50.8	0.5	1.7	-2.9	-5.3	-53.4
Tax on the circulation of commodities	-2.0	-22.9	-10.5	-4.4	-5.9	9.6	5.2	-5.6
Custom duties	11.3	2.8	6.8	-6.3	14.5	10.2	7.0	-0.7
Subsidies on product	690.9	-15.4	-13.4	16.5	-9.1	-0.7	10.8	-54.8
GROSS DOMESTIC PRODUCT	-5.6	-12.9	-8.8	1.5	3.9	7.1	3.9	-6.1
Uses								
Final consumption of households	8.1	-16.2	-16.2	-2.2	2.6	13.0	8.0	-3.7
Final Consumption of General government	14.1	10.6	2.2	1.8	11.0	1.0	1.5	-8.5
Gross Fixed Capital Formation	-36.6	-31.6	13.1	4.9	20.7	6.9	5.7	1.7

Table 3: Structure of GDP by expenditure

	1990	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**
GROSS DOMESTIC PRODUCT	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1. Final consumption	79.2	75.9	77.0	75.8	77.3	81.3	82.6	86.4
1.1 Final consumption of households	65.0	60.1	62.2	62.0	63.2	67.3	69.1	73.6
1.2 Final Consumption of General Government and private NPIs	14.2	15.8	14.8	13.8	14.1	14.0	13.5	12.8
2. Gross Capital Formation	30.3	28.0	31.4	29.3	24.8	24.3	25.8	20.7
2.1 Gross Fixed Capital Formation	19.8	14.4	19.2	17.2	20.3	21.4	23.0	21.2
2.2 Change in stocks	10.5	13.6	12.2	11.1	4.5	2.9	2.8	-0.5
3. Net export	-9.5	-3.9	-8.4	-5.1	-2.1	5.6	-8.4	-7.1

24.1. It is to be noted that while in 1989 remarkable efforts focused on carrying out investment - reflected by a 29.9 % share of gross fixed capital formation in GDP (Table 3) -, in

[1]- Annual growth rates are calculated using the data in constant prices (the prices of the previous year).

1990 this share diminished down to 19.8 % and to 14.4 % in 1991. In 1992 the weight of gross fixed capital formation registered an increase to 19.2 % and then, in 1993, it decreased again to 17.9%.

This fact was mainly due to the drastic cut of investment out of the public budget, from 135.3 billion lei in 1989 (under the centralised system), down to 61.9 billion lei in 1990 and to 76.5 billion lei in 1991, this reduction having not been compensated by the resources at the disposal of businesses.

The increase of final consumption share in 1990 - 1993 versus 1989 and of stocks as well, in correlation to the continuous diminution of the weight of gross fixed capital formation, was also accompanied by a changes of net export contribution to GDP which had a positive outcome in 1989 (a 2.7 % share into GDP) and a negative one in the four following years (-9.5 % in 1990, -3.9 % in 1991, -8.4 % in 1992 and –5.0 % in 1993).

24.2. In 1992 the GDP underwent the same downward evolution as before (this decrease amounts to almost 30percent versus 1989 GDP), but in 1993 this aggregate registered a positive trend at macroeconomic level, reflected in an increase by 1.5 % in GDP. This was due, primarily, to an increase in agricultural production and relaunching of activity in some industrial branches and construction. The decline of industrial production came to half shrinking to less than a half of the 1989 level.

24.3. In 1993 the reform process continued albeit at a slower pace. It was reflected, among others, in deepening structural changes in the sphere of ownership (the share of private sector in GDP increased to 30.0 %), as well as in initiating new measures within the legal and institutional framework in order to consolidate and speed up the new emerging market relations. Among these measures have been: completion of liberalising prices; elimination of the remaining subsidies in the consumer field (in May 1993); furthering the fiscal reform (introduction of VAT starting from July 1993); improving financial discipline of the state-owned enterprises; and creating more favourable setting for the development of foreign economic relations (Romania signed in 1993 an Association Agreement with the European Union, as well as a Free Trade Agreement with the EFTA countries, and received MFN - status from the US).

Although the economic performance of 1993 could be considered as a success in comparison with the former years, the reform process continued to be marked by a whole array of negative phenomena. The most striking one was inflation which peaked to a two-digit average level i.e. of 300.0 % on an annual basis. Unemployment rate increased at the end of 1993 to 10.2 % (i.e. more than 1 million jobless people).

24.4. A notable result of the efforts made by the Romanian Government during 1994 in order to stabilise the economy was the significant reduction of the inflation rate. Measured by the consumer prices at the end of 1994, this fell from 295 % in 1993 down to 61.7 % in 1994. The

Government programme provided an inflation rate of 70-75 % over the period December 1993 - December 1994. The fact that the inflation of 1994 ranged comfortably below that level removed practically the danger of sliding into hyperinflation and showed the important attenuation of the major structural disequilibria inherited from the command economy. Consequently, the production posted an upward trend and the GDP grew by 3.9 %, consolidating the tendencies manifested since the second half of 1993.

The performance of the external sector represents one of the most encouraging evolutions of the year 1994, showing that the economic policy of spurring the increase of export-oriented production gave the first good signs. Exports grew by 25.7 %, up to a level of more than USD 6 billion, exceeding the maximum level of the export in foreign exchange reached by 1989. This evolution contributed, to a large extent, to relaunching the production, attenuating the BOP deficit and the substantially increasing the international reserves of the country.

Under the impact of the both the results obtained by applying various sectorial strategies of reform, and random factors, the year 1994 was characterised by many changes in the structure of GDP resources categories, as well as in the contribution of these categories to the real growth of this macroeconomic indicators.

In this respect it could be mentioned the substantial decrease of agriculture and forestry contribution to the real change of the GDP (by 2 %) to the advantage of services.

The relaunch of construction activity and investment determined a contribution of 3.7 % of gross fixed capital formation which is more than twice as compared to 1993. The other elements of GDP (final consumption and net export) also had important contributions in the two years, respectively 2.8 % and 3.6 %; making allowance for the fact that the weight of the change in stocks into the GDP shrunk from 11 %in 1993 to 4.5 % in 1994, this item contribution to the real growth of the GDP reached –6.9 %.

24.5. Economic policy followed by Romanian authorities during 1995 focused on increasing output and better employment. In contrast to 1994 when growth was driven by exports, in 1995 there was a domestic demand-driven growth which also included the development of economic sectors reliant on external supplies.

The GDP rose in 1995 by 7.1 % against the previous year, this growth has representing 85 % as compared to 1989. As concerning the gross value added, a positive evolution has been marked (by 6.8 % in 1995 in comparison with the previous year), respectively for trade (by 21.8 %), construction (by 5.6 %), insuring thus the ascendant trend of production.

Sustained growth in output contributed to a curtailment of unemployment rate against the background of further upward trend in labour productivity. Unemployment rate at the end of 1995 was 8.9 %, as compared to 10.9 % at the end of 1994, mostly as a result of vacancies in the private sector. For the fifth consecutive year, labour force in industry decreased (to 2,577 thousand

employees from 2,703 thousand employees at the end of 1994). Labour force in agriculture continues to hold a large weight, with more than 35.0 % of employment.

Inflation rate continued its downward trend throughout 1995, with consumer prices increasing by 27.8 % during 1995, compared to 61.7 % in 1994 and almost 300.0 % in 1993. The situation helped Romania enter the group of countries in transition with moderate inflation.

As far as restructuring is concerned, it might be asserted that Government strategy was taking shape more clearly. Accordingly, big state-owned enterprises as well as regies autonomes were included in the restructuring programmes. Other enterprises established their own restructuring programmes, with financial support of the banking system, the State Ownership Fund and foreign and domestic investors. Nevertheless, the process did not reach the consistency necessary to pledge for lasting stabilisation.

Privatisation process continued during 1995, albeit at slower pace than envisaged. Law on acceleration of the privatisation process was passed by the Parliament in June 1995, but the subscription went beyond end of 1995. Although large privatisation continued at a more accelerated pace compared with previous years, there is a long way to go before completion. Under this circumstance, private sector accounted for the 45.3 % of GDP, as compared to 38.9 % in 1994. Within the private sector, significant contributions the accomplishment of gross value added ware recorded in agriculture (89 %) and constructions (57.8 %), while the services, as a whole, amounted 58.1 %.

24.6. In 1996, for the fourth consecutive year, Romania’s economy recorded a positive growth rate. GDP increased by 3.9 %, accounting for 88.1 % of the level attained in 1989. Subsequently, the industrial output, labour force and households incomes rose accordingly.

Economic growth was costly and below qualitative standards required. In the external area, several reasons stood behind this development, such as: growing imports, sluggish exports, widening balance of payments current account deficit to the point of losing confidence in macroeconomic policies. In the domestic area, fiscal and particularly quasi-fiscal deficit widened, while inflation rekindled considerably. A large number of further administered prices and postponed structural reforms hampered smooth-functioning of markets, as well as competition and competitiveness, fuelling repressed inflation. It is noteworthy that throughout the transition period only in 1994 and partly, in 1995, Romanian’s economy saw robust growth rates, with increased output against the background of curbing inflation and rising exports. In the latter half of 1995 economic growth posted a setback.

Economic growth was inconsistent. The more fiscal and balance of payment current account deficit widened, the less chances remained to support economic growth. This development enjoyed little viability due mainly to the combined effect of two causes: lax macroeconomic policies – under circumstances specific to two election campaigns - and gradual postponement of economic reform paving the way for economic growth based on former structure.

The rise in GDP was particularly driven by domestic consumption. Promoting domestic absorption without the support of restructured goods and services supply put pressures on prices. Maintenance of energy-intensive structures with little added value contained the upgrade in economic efficiency, and a decrease in investment tempo was detected. Nonetheless, in 1996 traditional sub-sectors diminished their share to 7 % in industrial output growth, from 60 % a year earlier. Similarly, expansionary sub-sectors[2] increased their share. Main indicators of foreign trade proved poor quality of overall economic growth: massive imports (of which a notable share is essential for production) and exports with little added value. Energy imports played a significant role in accomplishing the outturn; they held an almost 20 % share and became the centrepiece of economic policy in recent years. Lack of restructuring in energy-intensive sub sectors urged some other steps taken in order to provide economy with energy, namely administered price below the level ruling in the international and partner countries markets, as well as subsidies and directed credits, and payments arrears, too, further screened real efficiency of national output.

Although largely privatised, agriculture was still in need of restructuring, as proved by: i) lack of free markets for land and major inputs (seeds, fertiliser, loans, agriculture-related services) and ii) further administered prices on staple food-items (flour, bread, milk, pork and poultry).

Restructuring of loss-marking sub-sectors actually slackened in 1996. On the other side, endogenous normal restructuring continued but at a slow pace: i) activity in big energy and material intensive sub-sectors grew dull; ii) several viable sub-sectors, less dependent on imports, posted higher growth; iii) private sector gained ground (accounting for 54.9 % of GDP).

Financial supervision over 153 enterprises encompassed no longer financial restraints and became a resources accommodation programme lacking structural adjustment: re-schedules of debts towards banks, budget and energy suppliers were granted as well as financial support from State Ownership Fund, state budget and the recovery fund. Results were the opposite of intentions: supervised enterprises recorded higher arrears and losses, thereby affecting confidence in economic policy.

Privatisation experienced moderate performance. Mass privatisation programme was actually completed by means of free of charge transfer of ownership. Privatisation addressed only small and medium size enterprises which had no severe impact on ownership structure in economy. In 1996 state-owned tangible assets in industry represented 76 %, of which 40 % was held by regies autonomes. Moreover, MEBO-based privatisation acted as disincentive on companies' increasing viability in the long run. Sluggish privatisation process was also proved by blocking both enforcement of the existing laws focusing on privatisation and several draft laws.

24.7. After four years of economic growth Romania experienced a 6.1 % downturn in the GDP as compared to the level of 1996, primarily due to the shrinking activity in all the areas of the

[2] Communication equipment, publishing houses, electric machinery, fabrics, fuels, leather products, furniture

economy, especially in industry (-8.0 %) and services (-10.6 %). The two aforementioned sectors represents the main sources of GDP formation, namely 30.9 % for industry and 38.4 % for services. In agriculture, the unfavourable influences exercised by the decline in animal breeding and agriculture-related services sensibly diminished the effect of the vegetal output growth.

The final consumption of 1997 decreased by 4.3 % as against the previous year, driven, on one hand, by purchasing power downfall and the cutback in General Government expenditure, on the other hand.

There is also to be noticed a downturn in investment process as shown by the investment rate level (23.0 %in 1997 against 24.5 % in 1996), consequently to both the deterioration of economic agents financial results and the restraining monetary policy.

The net export of goods and services, in exchange, has improved, leading to an estimated deficit inferior to the previous year level by 27.4 %.

Unfavourable evolutions posted both unemployment rate (8.8 % at end of 1997 against 6.6 % at the end of 1996), and inflation rate (151.4 % in December 1997 versus December 1996). The evolution of the inflation rate could have as reasons: the growth of the exchange rate and the changes which took place in the taxes on products level (the increase of the VAT – in special for the meat products, the dairy products and bread -, the establishment of the new taxes).

The evolution of the privatisation in Romania, especially the results of the activities performed by enterprises having important productive capacities in the private sector led to an increasing in the GDP share of this sector by 5.7 % in 1997 versus 1996, the sector contribution in 1997 being of 60.6 %. The weight of private sector in key economic sectors was the following: agriculture 96.8 %, services 71.5 % construction 66.5 % and industry 42.1 %.

V. CONCLUSIONS

25. Romania has been engaged for over light years in an ample process of restructuring in order to create proper conditions for the development of market specific phenomena, replacing this way an over-centralised economy. The economic problems arisen during this period are huge. Decades of bureaucratic resources allocations and ill-oriented subsidies created serious distortions within the command economy in which some sectors - industry, in particular – were excessively developed while others - such as services – were drastically repressed. Relative prices were very different from market structure; the weight of energy-intensive structure exceeded by far the level of market economies and the rules governing the economy were totally different. Consequently, the main objective of our country during the transition period is represented by a massive restructuring.

The transition process is going forward and after eight years there are still many problems waiting for their solutions. Among these problems is ranking the economic reform which is far from being completed. At the start of the transition, the liberalisation policies adopted by the government

encouraged the growth of private enterprises and of sectors less developed in the past, especially services.

At the macroeconomic level there is, in general, a concord to the decision-makers concerning the necessity that the reshaping should be channelling on some essentially direction: the structure modernisation of the production within correlation with domestic and foreign market demand; the amplification of the investment process, inclusively through the drawing of the foreign capital investment; the economic edification by the inefficiency production capacity. Finally, the future of the Romanian economy and the chance of integration within Union European depend into essential way by the reshaping capacity of the economy and to develop the viable sectors of economy.

A very important tool which could help the decision-makers to take the good economic decisions are the IOT. Some of the most important areas in which the input-output framework is used for analytical purposes are: analysis of production, analysis of employment, analysis of prices and costs, analysis of import required, etc. In Romania, unfortunately, the decision-makers not are paying the proper attention to the IOT.

CHARACTERISTICS OF ROMANIAN INPUT-OUTPUT TABELE (I.O.T)

No. Crt	IOT for the year	Year of Publication	Compiling		System		Size	International Compatible Classification		Content Industry(I) Commodity (C)			Price Evolution for Production			Price Evolution for Production	
			direct	estimates	MPS	SNA[3]		Yes	No	ixi	cxc	cxi	basic	producer	market	current	constant[4]
1.	1970	1973	X		X		74		X	X				X		X	
2.	1980	1982		X	X		33		X	X				X		X	
3.	1982	1984		X	X		54		X	X				X		X	
4.	1989	1992	X			X	105	X				X	X			X	
5.	1990	1993	X			X	105	X				X	X			X	X
6.	1991	1994	X			X	105	X				X	X			X	X
7.	1992	1995	X			X	105	X				X	X			X	X
8.	1993	1996	X			X	105	X				X	X			X	X
9.	1994	1997	X			X	105	X				X	X			X	X
10.	1995	1998	X			X	105	X				X	X			X	X
11.	1996	1999	X			X	105	X				X	X			X	X
12.	1997	2000	X			X	105	X				X	X			X	X

[3] Using the European System of Accounts (ESA) 79 methodology
[4] The prices of the previous year