ASSESSMENTS REGARDING METHODOLOGY AND THE SIGNIFICANCE OF THE MAIN MACROECONOMIC INDICATORS

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Abstract: This paper highlights a parallelism between the methodologies of determining the macroeconomic factors used in Romania before and after 1990. It is known that before 1990, the Romanian statistics used a methodology which was based on the Material Production System (MPS) in order to determine the macroeconomic indicators (social product, national income). Taking into consideration the experience of the occidental countries and Romania’s intention to integrate in the European Economic Community, the Romanian statistics has adopted and gradually introduced after 1990 the National Accounts System (NAS), which is used in the European Community. This article will reveal some aspects regarding the characteristics of the two systems, as well as some observations which aim at the methodology which is used within these systems in order to determine the macroeconomic indicators. Thus, the main characteristics of the methodology of Material Production System are presented together with a particularization of the components of the Global Social Product. Consequently, the characteristics of the methodology of the National Accounts System are highlighted, emphasizing the calculation of the Gross Domestic Product. A parallelism between the calculations of the two indicators is conducted, indicating which components are included in each calculation.

Keywords: social product, gross domestic product, material production system, national accounts system

1 Introduction

It is known that before 1990, the Romanian statistics used a methodology which was based on the Material Production System (MPS) in order to determine the macroeconomic indicators (social product, national income). The balances of the national economy were used within this system as practical instruments for the summarization of the statistic data. This system was used on a large scale by the socialistic countries, which had a planned economy.

After 1990, once the socialist system collapsed, there has been a gradual series of radical transformations in the Romanian economy, thus foreshadowing more and more conspicuously, the components of an economy based on the free exchanged, which is specific for capitalist economies. The fundamental principles and laws, which acted according to the new conditions, would entail – as an objective necessity – the change of the assessment system and of the quantification system for the national economy resources. This fact had a direct influence over the structure and dynamics of the macroeconomic indicators.

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2 The main characteristics of the Material Production System (MPS)

We shall characterize this system by mainly focusing on the use of its components within the calculation of the Social Product (SP) and National Income (NI).

It is known that one of the essential traits of the MPS has been the structure of the national economic branches in two main categories:

- The material production sphere – which consists of the goods production branches (production means and consumption goods);
- The services sphere (was considered for a long time a non-productive sphere) – which contains the educational system, health care system, cultural system and sports system, etc.
Within the Social Product and implicitly within the National Income the results of the branches integrated in the material production sphere were taken into consideration, but not completely (as in the case of Transport and Commerce, for example). Because of this, the level of the two indicators do not completely reflect the results of the activity specific to every branch, which entered the economic circuit, regardless of their form – material or immaterial – whose purpose was the satisfaction of a social needs, as goods. From the same reason, the international comparability of the level of the two indicators was affected. By analyzing the calculation methodology of the Social Product a series of aspects appear, which deepen discrepancy between the level of this indicator and that of the real result, which it should have synthesized.

There are at least two types of social product:

- Global social product;
- Final social product.

The Global Social Product (GSP) – is determined as being the sum of the global products (GP) which are achieved within the branches of the material production sphere ([2]):

\[ GSP = \sum GP_i \]  

where

- \( i \) represents the number of branches within the material production sphere.
- E.q. (2.1) is valid only for industrial branches.

If we only focus on this type and go on with representing the methodological line, the global product from any branch is also determined as being the sum of the global productions (Pg) achieved within a year by the companies which belong to the respective branch:

\[ GP_i = \sum Pg_{ij} \]  

where

- \( GP_i \) = global product from branch \( i \);
- \( Pg_{ij} \) = global production of the companies belonging to branch \( i \); \( j \)=the number of these companies.

Finally, the global production of each company had the following calculation relation ([3]):

\[ Pg = A + S_i + L_r + (S_2 - S_1) + (N_2 - N_1) + (M_2 - M_1) \]  

where

- \( A \) = the value of the final products, which are finished within a given period (month, trimester, year);
- \( S_i \) = the value of the half-finished materials from the personal production, delivered to third parties or destined for selling;
- \( L_r \) = the value of the industrial works, completed for third parties;
- \( S_2 - S_1 \) = the variation of the semi-finished inventories from the personal production, destined for internal productive consumption;
- \( N_2 - N_1 \) = the variation of the inventories from the unfinished production;
- \( M_2 - M_1 \) = the variation of the matrixes, patterns, tools, devices inventories, from the personal production.

It is worthy to notice that:

- \( S_1 \), \( N_1 \) and \( M_1 \) = existing inventories at the beginning of the period;
- \( S_2 \), \( N_2 \) and \( M_2 \) = inventories at the end of the period;
- The production with a manufacturing cycle which exceeds a month’s period was considered unfinished production.

If the first three elements, respectively \( A \), \( S_i \) and \( L_r \), could be altered on a small scale, the other elements of global production had a rather high level of uncertainty, because the control of the exactness of the respective inventories level was very difficult to achieve. Usually, the tendency to increase the fictive inventories level at the end of the period manifests itself, so that the variation of the inventories should bear
the sign “+”. There had become notorious some situations in which the level of global production had increased so much that the discrepancy between figures and reality was strikingly big. These shortcomings were transferred on the methodological line up to the level of the global social product.

3 The main characteristics of the National Accounts System (NAS)

In contrast to the MPS, within the NAS, for the calculation of the macroeconomic indicators, one takes into consideration the results of all economic units, which have entered the economic circuit, as goods.

The activity branches are classified in three categories:
• Branches which produce goods and services for the market;
• Branches of the general government which produce non-market goods and services;
• Branches of the non-profit institutions with activities in the household service, which produce non-market goods and services.

The National Accounts System (NAS 93) offers a classification of the activities according to the International Standard Industrial Classification-ISIC, which is made by the Statistics Office of UN. This classification represents the basis for the systems used in every country, thus guaranteeing the methodological unity and comparability of the data.

The European Union uses the NACE classification (Classification of Economic Activities in the European Community) and Romania uses the Classification of the National Economic Activities (CNEA), which is absorbed by ISIC and NACE.

Within the NAS, the methodology used for the calculation of the macroeconomic indicators is different from the one used in the Romanian system before 1990. Consequently, the shortcomings of that system have been completely eliminated.

If we only refer to the Gross Domestic Product (GDP), by using the National Accounts a final source for summarized data at the national economic level, there have been created three possibilities to quantify the level of this indicator, i.e.:

a) Production approach (or value added approach) – implies the aggregation of the gross value added (GVA) which corresponds to the activity branches. According to this approach, the GDP is expressed using the prices of the production factors. The calculation relation is (1):

\[ GDP_{pf} = \sum_{i=1}^{k} GVA_i \]  

where

\( i \) represents the number of goods and services producing branches.

In its turn, the Gross Value Added, determined at the level of each branch is obtained by eliminating the intermediate consumption (i.e., the productive domestic consumption) from the Global Product, thus the calculation relation would be (2):

\[ GVA_i = GP_i - C_i \]  

where

\( C_i \) represents the intermediate consumption.

Therefore we met again the Global Product indicator. But this time its calculation is not only based on using the global production, as in the case of MPS, to which we made reference in the previous pages.

In order to determine the GP, one takes into consideration not only the elements of goods production \((A + S + L)\) from the old global production. On the other hand, the area of the branches for which the global production is calculated, is much larger, as it contains the complete results of these branches and in addition, a series of activities which are ignored in the MPS, such as the activities in hotels and restaurants, transport, storage and communication, financial brokerages, real estate transactions, public administration, education, health care, etc.

b) Final usage approach (or the expenditure approach) – implies the aggregation of the components which express the final usage of goods and services, respectively: personal consumption (private) – PC, public consumption – PLC, gross formation of capital – GFC, net export (Export - Import sale) – NEX.
The calculation relation is ([5]):

\[
GDP_{\text{mp}} = PC + PLC + GFC + NEX
\]

(3.3)

Remark. The obtained GDP is expressed using current market prices.

c) The income approach – consists of the aggregation of the elements which express the compensation of the production factors, which are materialized in: wages, interests, annuities, profits, allowances for the fixed capital consumption, pay-offs, indirect taxes, production and import-related taxes, exploitation and import subsidies (are taken out).

The calculation relation is ([5]):

\[
GDP = C + GOS + NIT + OTP - OSP
\]

(3.4)

where

- \(C\) = compensation of employees;
- \(GOS = NOS + AFCC\) = gross operating surplus;
- \(NOS\) = net operating surplus;
- \(AFCC\) = allowances for the fixed capital consumption;
- \(NIT\) = net indirect taxes;
- \(OTP\) = other taxes on production;
- \(OSP\) = other subsidies on production.

The range of macroeconomic indicators which can be calculated within the National Accounts System is very large, which entirely covers the informational requirements of all decisional factors. Thus, we can enumerate: the Gross National Product, the Net National Product, the Gross Disposable Household Income, the Gross Disposable Income, etc.

4 Conclusion

The two systems MPS, NAS respectively, aim at highlighting the results of the economic activity, the connections between the structural elements of the economy, the dimensions, proportions and rhythms of the development, but regarding the content of the measured categories and the interpretation of the production sphere, they greatly differ from each other. The material production system considers that the object of the research is the material production sphere, while the national accounts system – the entire economic activity. Therefore, the main difference is given by the type of interpretation and inclusion in the calculations of the services sphere.

MPS is based on the Marxist conception according to which the production activity resumes to material goods production (industry, agriculture, commerce, etc.) and productive services (repairs, goods transportation, commerce, etc.), on one hand, and on the other, it resumes to the fact that only labour creates new value.

Starting from this conception, the material production sphere which creates value contains only branches which directly produce material goods and branches whose activity determines or supports the evolution of the production process. “Unproductive services” which are obtained in the “non-material branches” are education, health care, culture, administration, defence, public order, etc, to which we add the state and the private households, which are considered non-productive, by considering that they do not contribute to the production of the national income and they only consume it. “Non-material services”, which according to the MPS does not bring national income, but it creates gross domestic product, according to the national accounting, include: general government services; educational services; instruction and health care; credit units and insurance services; renting of movable and immovable assets. The services from the non-material sphere are not included in the production in the MPS, even if they are the result of the secondary activities conducted by the units which are included in the material sphere.

Both the limited definition of the concept of production in MPS in comparison with NAS and the ignorance in the MPS of the other production factors apart from labour, determine the background difference between the two systems, which is materialized by the fact that the national income calculated in the MPS is much smaller that the corresponding indicator from the NAS with value added in the sphere of non-material services (and considered to be non-productive in the MPS).
In the MPS, on the other hand, the material expenditures relevant for the non-material services do not distinguish themselves in the productive consumption of the material sphere, this consumption being included in the value added.

From the limited delimitation of the production in MPS derives the existence of the institutional sectors, in the sense defined by the NAS. This happens because of the fact that the state and the private households are considered not to create value.

We underline the fact that by the adoption of the NAS by the Romanian statistics, even from the first years after 1989, we can definitely claim that – from this point of view – Romania has integrated in the European Union long before January the 1st 2007.

5 References