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National Wealth in National-Territorial Connexion

The national-territorial connexion is one of the main connexions characterizing the general cybernetic system of national wealth. Its importance and ampleness lies in the fact that the flows characterizing it refer to the national-wealth components. The paper presents some modalities of quantifying such components in the synthetical inter-correlation national wealth — economic development — territorial homogenizing.

The national-territorial connexion occupies an important place in the economic strategy of Romanian society development. This importance is expressed by characterizing the development in territorial profile as a basic direction of building the manysidedly developed socialist society [1]. The content of the socio-economic development strategy in territorial profile is given by gradually homogenizing, in territorial connexion, the national economy [2]. The decisions concerning the intensification of the homogenizing process of territorial development, practically hints at the whole mass of material and spiritual goods, produced by man or existing in nature, created at present or existing from the past, as well as all components of the national economy general cybernetic system. And this because, from the point of view of individual, group and social human necessities, as well as from the viewpoint of efficience increase necessities, all resources must be attracted in the economic circuit, and from the structure's viewpoint, there exists a deep interpenetration betweeen horizontal and vertical structure.

Within the basic territorial units and within the counties, respectively we find again effectively the quasi-totality of national economy structure components. As a matter of fact, the kind of selfmanagement, of economic-financial selfadministration and of selfsupplying in territorial profile, amplifies

the dual trend diversification-specialization regarding the territorial units activity, particularly the economic activity. At the same time, within the management in territorial profile, the weight of social cultural, communal, husbandry, urbanistic problems a.o. has a trend of increase. Resulting from the diversifying of men requirements, as well as form defining such independent activities, the trend of increasing the weight of these activities determined itself an extension of the attribution sphere, responsibility and competence of the territorial units. There is genereated an approaching of the structure complexity between the two reference levels: central level and local level.

Within the basic territorial units or within the counties, respectively, the attribute of the national wealth, as premise of the socio-economic development, is effectively achieved. Starting from national wealth elements, the development plan of every county is established. A substantiating element of the plan is the dimension of attracting into the economic circuit the natural resources: the categories of ores and minerals which are exploited and thier exploitation volume, the categories of feelling areas to be exploited and the volume of these exploitations, the turning to account of the cynegetic fund etc. These are also taken into account the dimensions and structure of material funds fixed assets, production assets in turnover and of assets in hand, the dimensions and structure of manpower, information stock, nation's creative (technical-scientific, cultural) potential etc.

The national-territorial connexion expresses the essential characteristic of the territorial development problem: the approach of the development in territorial development in the national context, as composing part of the national development. This orientation of principle is moreover substantiated by the idea of systemic approach of territorial development, or as an understanding of the national economy as a hierarchical cybernetic system, territorially structured. Thus, the development in territorial profile, correlated with the national economy territorial homogenizing must be understood as an expansion of the country itself, in every one of its territorial components, and not as a decentralization of the national cybernetic macrosystem development. In this acception, the support of the national-territorial connexion includes the multitude of demo-socio-economic and ecologic aspects, characterizing the complexity of the development process. More than the departmental and branch structure, the territorial structure, by affording priority to the development economic aspect, needs also the approach of social, cultural, demographic, urbanistic, husbandry, communal aspects.

The national economy territorial components development, as well as the homogenizing (with regard to development) of the various zones of the national economic space, are based on their potention, on the possibilities of attracting the potential resources of these components in the economic circuit. With regard to management, to command, to control, to adjustment and selfadjustment—this needs a permanent dialogue centre-territory, in view of assuring the maximal efficience of national wealth careful management, through the national correlation of the requirements and constraints imposed by national, general interests and priorities, with those imposed by territorial interests and priorities.

Referring to territorial homogenizing process, most authors report it to the production forces. It is obvious that they are determinant, but we appreciate that they do not exhaust the content of this process [4].

The national wealth only, in the widest comprehension of this category, fully expresses the content of the homogenizing process. On the basis of the national wealth, of the potential natural labour, technical-scientific, money, informational resources, and of resources of any other kind, the dimensions and rates of development can be established. Territorial homogenizing refers, to the same extent, both to rational distribution of production forces, and to attracting in the economic circuit of all resources in the territory.

The consideration in these terms of the homogenizing process expresses at the same time, the correlation between national wealth, as premise of the development, of the reproduction on an enlarged scale, and the utilization of the production forces, in the labour process, as single way of national wealth increasing. It is obviously necessary, to take into account all elements which define the content of this macroeconomic relation: population - natural resources, population-education stock, development level - farming resources, a.o. [3].

An important aspect of this correlation may be emphasized by means of the role played by the resource utilization indicators in determining the growth rate of the social product.

The model is based upon distribution-type balance relations

$$PS = CM + V \tag{1}$$

$$CM = A + C + AC \tag{2}$$

$$V = FA + FC \tag{3}$$

$$A + FA = FND \tag{4}$$

where PS = social product
CM = material expenses
V = national income
A = amortization
C = material expenses representing indigenous primary resources attracted in the economic circuit
AC = other material expenses
FA = accumulation fund
FC = consumption fund
FND = socio-economic development national fund.

The growth rate of the social product is subsequently introduced, by means of some efficience parameters concerning the utilization of natural and financial (investment) resources.

Each element of the above mentioned balances can be temporally indexed with an index t, which takes values in a set $T \in N$ whose cardinal is equal with the length in years of the plan horizon.

So as to emphasize the social product structure in terms referring to itself, a series of parameters are used, as follows

a = weight of the material expenses in the social product

$$a = \frac{CM}{PS} \tag{5}$$

γ_i = weight of the structure elements of the material expenses in the social product ($i = 1, 2, 3$)

γ_1 = weight of amortization

$$\gamma_1 = \frac{A}{PS} \tag{6}$$

γ_2 = weight of the material expenses of indigenous primary resources attracted in the economic circuit

$$\gamma_2 = \frac{C}{PS} \tag{7}$$

γ_3 = weight of other material expenses

$$\gamma_3 = \frac{AC}{PS} \tag{8}$$

$$\text{Relation } a = \sum_{i=1}^{3} \gamma_i \tag{9}$$

Each of these parameters may be temporally indexed with time index t. Within the territorial model concerning the social product growth, these parameteres are changed in comparison with the territorial unit, so that they are indexed also with index j, representing the territorial unit. For specifying the territorial structure, in the model the county is considerd as a unit, so that the set of values of the county index is $j = (1, 2, ..., 41)$.

So as to emphasize the attraction of natural resources in the economic circuit and the utilization of these resources, two parameters are used:

ξ = weight of indigenous primary resources attracted in the economic circuit, as against the known indigenous primary resources total

$$\xi = \frac{C}{R} \tag{10}$$

where: R = present-day value of the known indigenous primary resources. The hypothesis that the resources attracted into the economic circuit are integrally used in creating social product, is obvious; their value represents exactly the material expenses for indigenous primary resources attracted into the economic circuit.

δ = indicator of the strategy of utilizing known indigenous primary resources

$$\delta = \frac{\Delta PS}{R} \tag{11}$$

where ΔPS = social product growth in two successive years from set τ, let them be t and $t+1$, bence

$$\Delta PS_t = PS_{t+1} - PS_t \tag{12}$$

Indicator δ expresses the resources utilization efficience.

The two indicators allow to express the correlation between the growth policy, reflected, on the one hand, by the social product growth or the volume of this growth, respectively, and the policy of attracting resources in the economic circuit, reflected by the attracted resources weight or the present-day value of these resources, on the other hand. Both indicators can be indexed temporally with time index t, and territorially with county index j. It is obvious that each county has a specific policy of attracting natural resources. This policy is the resultant of the combination of both categories of interests:

— local interests — those of the county — expressing the trend of turning to account as highly as possible own resources and to achieve, on this basis, a powerful growth;

— national interests, which take into account simultaneously the efficiency of attracting some resources. For the central decision-maker, there is an ordering indicator of turning to account resources, so that their attraction into a county can be, either stimulated, or contrarily, retarded.

So as to emphasize the final utilization of the national income, following parameters were used

b = efficience of the investments from the material sphere of production, as against the social product growth

$$b = \frac{\Delta PS}{I} \tag{13}$$

where I = investments in the material production sphere;

α = weight of these investments in the socio-economic development national fund total

$$\alpha = \frac{I}{FND} \tag{14}$$

φ = accumulation rate

$$\varphi = \frac{FA}{V} \tag{15}$$

All these parameters can be indexed with time index t. From them, the first two can be indexed with county index j. The hypothesis is accepted that, in any year, $t \in T$, the accumulation rate is constant for the whole national economy, includingly in its territorial structure.

On the basis of relations (14) and (15) we can express the national fund of socio-economic development as against the social product growth

$$FND = b^{-1} \cdot \alpha^{-1} \cdot \Delta PS \tag{16}$$

and from relations (6) and (16) the expression of the consumption fund, as against the obtained social product, is derived:

$$PC = (1 - V)(1 - a)\, PS \tag{17}$$

From relation (5), combined with (8), (9), (17) and (18), there is obtained for each county or for the national economy as a whole, the explanation of the social product growth rate, between two moments succesive in time, denoted by: $r_{t+1/t}$:

$$r_{t+1/t} = \frac{\alpha_{jt}\delta_{jt}b_{jt}(\gamma_{j1t} + \gamma_{j2t} + \varphi_t(1 - a_{jt}))}{\xi_{jt}\alpha_{jt}b_{jt} + \delta_{jt}} \tag{18}$$

From the relation giving rate $r_{t+1/t}$ one may notice that some explanatory parameters are comprised, so as to ensure the direct explanation of the sense of their influence, while other parameters have a complex participation, which allows to catch directly a glimpse of this influence. Thus, the accumulated rate and the material expenses weight induce directly and inversely proportional linear influence, respectively. Parameter ξ, the weight of the attracted primary resources, induced non-linear, inversely proportional influences, starting from the maximum attainable ceiling.

$$\alpha_{it}\delta_{jt}b_{jt}(\gamma_{j1t}\gamma_{jzt}\varphi_t(1 - a_{jt}))$$

When analysing the influence of this parameter, one must take into account the fact that one of the indicators, on whose basis the latter is com puted, also enteres the composition of parameter γ_{jxt}. This is why the analysis of the influence of this indicator upon rate $r_{t+1/t}$ is imperative. It concerns volume C of the material expenses for indigenous primary resources attracted into the economic circuit.

If we denote by $f(.)$ the function expressing the rate and by x the dependency factor, then in comparison with this factor, the functional expression of the rate is as follows:

$$f(x) = \frac{mx}{nx + q} \quad \text{if } X = \alpha \text{ or } x = b \tag{19}$$

$$f(x) = \frac{mx}{x + n} \quad \text{if } x = \delta \tag{20}$$

$$f(x) = \frac{mx + n}{qx + p} \quad \text{if } x = C \tag{21}$$

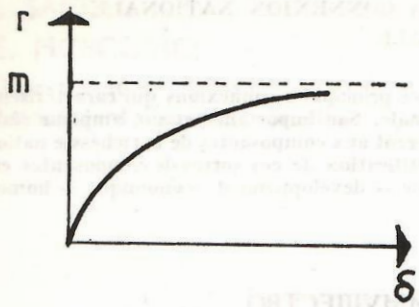

Fig. 1. Rate depending on parameter α or b.

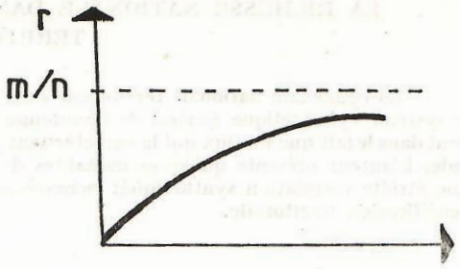

Fig. 2. Rate depending on parameter δ.

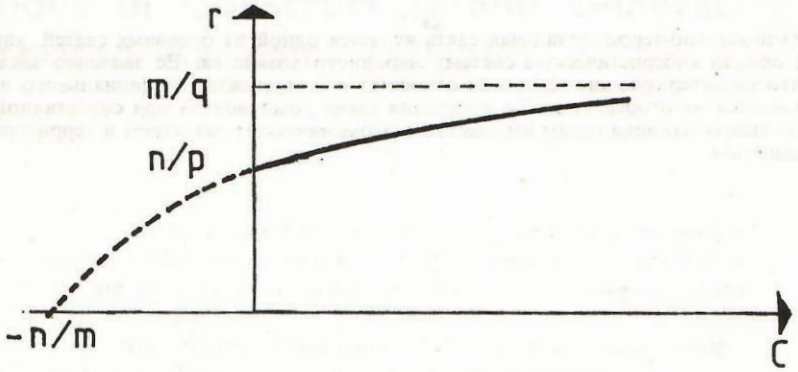

Fig. 3. Rate depending on parameter C (the dotted line of the function graph is outside the definition field).

Supposing all parameters m, n, q, p, $\in R_+$ and accepting for $f(.)$ the property $f:R_+ \to R_+$, the diagrams of the dependency of rate as against parameters α, b, δ, C are those in figures 1—3.

For all these parameters, one can notice the non-linear, directly proportional influence they exert on the rate. Also, the factor connected to national wealth (δ and C) exert a positive influence.

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LA RICHESSE NATIONALE DANS LA CONNEXION NATIONALE TERRITORIALE

La connexion nationale territoriale est l'une des principales connexions qui caractérisent le système cybernétique général de l'économie nationale. Son importance et son ampleur résident dans le fait que les flux qui la caractérisent se réfèrent aux composantes de la richessse nationale. L'auteur présente quelques modalités de quantification de ces sortes de composantes en une étroite corrélation synthétique: richesse nationale — développement économique — homogénéification territoriale.

НАЦИОНАЛЬНОЕ ИМУЩЕСТВО В НАЦИОНАЛЬНО-ТЕРРИТОРИАЛЬНОЙ СВЯЗИ

Национально-территориальная связь является одной из основных связей, характеризующих общую кибернетическую систему народного хозяйства. Её значение заключается в том, что характеризующие её потоки относятся к компонентам национального имущества. Приводятся некоторые способы измерения таких компонентов при синтетичной взаимной связи между национальным имуществом, экономическим развитием и территориальной однородностью.