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Abstract

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THE TRANSITION PERIOD*

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EXPLORATION OF ECONOMIC SYSTEMS IN THE TRANSITION PERIOD *

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The collapse of former communist regimes in Central and Eastern Europe opened the transition period from centrally planned to market oriented economies. Thus, the exploration of economic systems in the special situation of transition has become an interesting research topic.

The exposition plan includes: 1. General Remarks; 2. Theoretical and Empirical Premises; 3. Econometric Approach; 4. Proposals for Subsequent Research.

1. GENERAL REMARKS

There are two different tendencies in contemporary science: one is to deepen specializing; the other is to search unifying laws and principles.

The second tendency is based on finding some striking similitudes between certain behaviours of the most diverse systems. Such analogies have contributed to the creation of three new scientific disciplines, in the 1970s: Dissipative Structures Theory (Ilya Prigogine) (1); Synergetics (Herman Haken) (2); Structural Stability Theory (René Thom) (3).

Fundamental elements of Prigogine's, Haken's and Thom's theories are, in this order, dissipative structures, slaving principle, and elementary catastrophes. In fact, these cannot be separated: they represent the WHAT, WHY, and HOW for the determinative phenomena of complex systems evolution in the zone far from equilibrium, viz in the most meaningful conditions for them. In the scientific community, future development of sciences and achievement of complex systems theory are also expected to be ensured through these great unifying theories.

Recent development of some scientific disciplines is due to abandoning the restrictive deterministic principles and linearity assumption. Economic research will have to adopt such a way too. Moreover, better relationships should be ensured between theoretical and empirical studies through spreading of econometrical approaches (4).

At present, the investigation of the transition problems in Central and Eastern Europe represents a genuine challenge for economic research.

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Thus, we must consider both adapting the existing body of economics to the transition situation (5) and the experience of developed capitalistic and newly industrializing countries (6). Also, I think we must try to build some specific econometrical models for the description of atypical situations of transition and future structural movements.

In post-communist economies, there is a profound systemical crisis, which may be assimilated to a major catastrophe. We can say these economies are in a potential pit, and no standard solution exists for the emergence from this situation yet.

For the present, the proposed measures actually represent only a few small steps; the successive ones will guide the real transition. But yet, we are not sure if and when it will be achieved. Concomitantly, due to the actual catastrophe of East Europe, it comprises multiple and interdependent levels (moral, political, social, economic, institutional, ecological), there will be a great risk that the systems be attracted in new potential pits.

From a philosophical viewpoint, transition may be assimilated to chaos, systems moving under the influence of many mysterious and unknown factors. In these conditions, the use of some classic analytical methods will inevitably be strictly limited. It is timely to consider the economic system evolving in promixity of critical points, where their behaviour is essentially different from that of systems evolving in zones far away from these remarkable points.

In a specific period like the transition period, there is an opportunity: the development of proper economic research can contribute to achieve some catastrophic (or/and fractal) models. In their turn, these will contribute to a better investigation of the transition process.

2. THEORETICAL AND EMPIRICAL PREMISES

Among the ultimate results of theoretical development, having a major impact on economic policies in the transition period, I shall dwell more on disequilibria theory and supply-side economics. Other topics approached in this section are classification of alternative policies and review of transition problems in the East of Europe, and especially in Romania.

Disequilibria theory (or non-walrasian equilibria theory) has its beginning in the 1960 s. Its fundamental postulate asserts that economies can function in disequilibrium (temporary or perpetual) conditions. In reality, there are disequilibria on the four classic markets (goods and services; monetary; labour; foreign exchange). This theory permitted classification of four disequilibrium regimes (Keynesian unemployment; classic unemployment; reprimed inflation; subconsumption), as a function of signs of inequality between demand and supply on goods market and on labour market, respectively and establishment of some measures of economic policy (7) (8).

For the transition period, studying disequilibria may be an efficient instrument for analysis and a reservoir for macroeconomic policy suggestions. Thus, in accordance with disequilibrium regimes classification,

the situation of present Romanian economy could be assimilated to a classic unemployment regime (excess of supply on labour market and excess of demand on goods market). There is also a double rationalizing of individuals (population) on both markets; they (and not the enterprises) are supporting the consequence of disequilibria. In this case, reduction of the real salary is a strictly limited solution due to a reduced livelihood level of population, on an average (9).

Supply-side economics emerged as a political force partly as a reaction against the steep progressivity of personal and corporate income taxes and partly as a result of the breakdown of international monetary system in 1971. The principal features of supply-side program were a reform of the tax system, featuring a drastic slashing of marginal tax rates, and a reform of the international monetary system to one based on stable exchange rates (10). Supply-side economics addressed itself directly to policy considerations rather than to theoretical abstractions. Yet its own academic credentials lie in the solid allocation-theoretic literature of neo-classical economics and the policy-oriented models of global monetarism and macroeconomics.

Supply-side economics achieved major victories in monetary and tax policy in an amazingly short period. From its beginnings in 1971 through its first success in indexing tax brackets in Canada in 1973, to the first credited implementation in the United States in 1981, considerable success was achieved in less than a decade. One of the important tools of analysis, and a strong selling point of supply-side analysis was the Laffer curve, relating tax rates and tax revenues.

Supply-side economics focussed on the efficiency-incentive considerations relating to the taxation; the rising dead-weight welfare cost as the tax share of GNP rose; the changing elasticity of government revenue with respect to tax rates (the Laffer curve); the high transfer cost of transfers (including interest payments on the public debt); the inefficiency of double taxation (on both corporate profits dividends received); the inefficiency of taxing capital gains at the same rate as personal incomes (especially in an inflationary economy); and the importance of entrepreneurial profits in the allocation of investment (11). These important results of supply-side economics can be used partly to estimate the efficiency of some economic policy measures in the transition period and partly to prepare an economic program for the post-transition period.

Classification of alternative policies starts as a rule from grouping policies in two great parts: policies that reduce demand, and policies that increase the availability of resources (viz supply). According to where their primary impact will be: on absorption — demand management policies; on current and potential output — structural policies; on the composition of absorption and production between tradable and nontradable goods — exchange rate policies; and on capital flows — external financing policies.

Demand management policies. Macroeconomic adjustment is often viewed as synonymous with policies to restrain demand, so they received considerable attention in the literature (for example, adjustment programs

of IMF are described by some observers as being primarily demand-oriented). The two main instruments for controlling demand are monetary policy and fiscal policy.

Structural policies differ from demand management in two respects. First, they place more emphasis on growth rather than on the control of domestic demand and an immediate improvement in the current account. Second, they may take a long time to show results. Structural policies usually require a significant rise in investment in the more efficient sectors, combined with the release of capital and labour elsewhere. Such major adjustments take longer to achieve than a program to reduce demand, and thus structural programs have to have a longer time horizon. Structural policies can take many aspects depending on the nature of economy and the types of problems it faces. However, such policies can be put into two broad groups: policies to improve efficiency and resource allocation and policies to expand the productive capacity of economy.

Exchange rate policies. Exchange rate action to improve international competitiveness and increase the incentive to produce tradable goods is often the center-piece of any adjustment effort. There are many studies focussed on the effect of devaluation. Four issues are involved for conducting analysis: determining the degree of overvaluation and therefore the size of the real depreciation required; achieving the target value for the real exchange rate; establishing the effects of a change in the real exchange rate; deciding what exchange rate regime or rules to adopt (13).

External financing policies. It is generally thought that, because developing countries (and now post-communist countries) face a scarcity of capital, they should be net foreign borrowers. The rate at which they borrow abroad (the "sustainable" level of foreign borrowing) depends on the links between foreign and domestic savings, investment, and growth. In literature, the main problems approached report on: calculus of sustainable level of foreign borrowing; estimate of rates as debt to exports or debt to GNP; establishment of equilibrium level of rations for different countries in different periods; when debt might be explosive; expanding exports or cutting imports; decline in the supply of foreign capital and its impact on adjustment policies; the theory of growth with debt; impacts of "capital flight", etc. (14).

In new conditions of transition of the former CPEs to market economies it appeared as a necessity to adapt the existent body of economics to this situation. Thus, marketisation and demonopolisation issues become major research topics beside the privatization problems (15). Regarding selection of the most effective policies for the release of market forces there are three approaches. One approach would stress the need to reduce market concentration by breaking up large firms and encouraging new entrants into the more concentrated industries (16). Another approach would stress scale, plus acquire a running start by rapid domestic expansion as a launching pad into foreign markets (17). The latter approach would also encourage large firms to cooperate rather than necessarily compete (18).

The economic literature now offers a large menu of choice concern when increasing market forces are likely to give desirable results, as well as a number of alternative ways that the market might be supplemented and has been limited by other institutional developments (19). Thus, industrial policy, itself, as a term denotes a range of possible interventions and supplements that appear as available choices to policy makers in Central and Eastern Europe (as practiced earlier in the EC) (20). The most successful cases of policy application seem to be those of Japan and other East Asian NICs (21). These cases, however, might have restricted application to Central and Eastern Europe, because much of their success is probably derived from being combined with other non-reproducible institutional elements issuing from historical sociology of East Asian region (22) (23). That is why I consider more interesting to study the experience of the latter South European countries integrated in EC (Greece, Portugal and Spain) (24) (25) (26).

A promising line of research might be to explore the best combination of market forces, industrial policy and some institutional innovations that can be more easily grafted into the value systems and sociology of Central and Eastern Europe. Possibly this can come from the increasing number of enterprises that are being acquired by their employees. But such a direction of research must be careful not to repeat certain exaggerated conceptions about how different are the societies in the region or the ready skills and abilities of policy makers that would have to practice industrial policy. Too many of its elements could simply be a disguised form of old central administration (27).

Transition problems review. The results of analyses concerning structural configurations of national economy and its main branches represent important empirical premises for establishing management transition instruments. Also an important source of data and suggestions constitutes applying theoretical results to transition problems research. At the same time, identification of some likely anomalies will need international comparisons.

Weak performances of Romanian economy, its actual crisis and disequilibria are, in a large measure, results of the former forced industrialization policy. Industry supersizing and its faulty structure are regarding both national available resources of energy and raw materials and demand (internal and external). Comparing with international situation, the share of industry, in Romania, both in GDP (48.2 percent, in 1990) and in employment (37.8 percent in 1990), exceeds shares of industry recorded in western industrial countries. But as regards labour productivity, efficiency and competitiveness levels, Romanian industry ranks among the last in Europe. Also, regarding the share of services in national economy, Romania ranks among the last in the world (alongside of some countries such as Uganda, China, Somalia, and Nepal)*. In the structure of industrial production, the branches of metallurgy, chemicals, and engineering, based, in a large measure, on imports of raw materials and energy, represent together over 40 percent. The inefficient structure

* Account must be taken of the possible differences in the sphere of services.

of Romanian industry is also reflected by its intensive consumption of energy: over 73 percent of the national consumption of energy was swallowed by industry, in 1990. This year, in the total consumption of energy, agriculture represents only 4.4 percent; community services — 1.1 percent; and domestic use — 13.3 percent (28).

For the future, both empirical and theoretical analyses should be developed with a view to diagnosing accurately and to choosing the most adequate alternative policies in restructuring Eastern economies. Thus, a research way will have to be focussed on remarking the main structural anomalies as a consequence of former arbitrary hierarchies of economic branches, on the one hand, and on promoting some intelligent structural policies in prospect, on the other hand (29) (30). The starting point of these policies would have to reconsider the interbranch relationships, based, in its turn, on adopting the new criteria of market economy (31).

The last developments showed a great intricacy of the transition process, this demanding the breaking of many and interdependent vicious circles. Thus, in accordance with the specific nature of each country, a lot of new elements must be considered: pressure of social order; initial developing level of national economy; adapting availability of people to the cultural model attached to market economy system; inertia of different structures (social, economic, institutional) opposed to the transition process and their adapting capacity, in a destructive or in a constructive sense, to the new conditions; existence of some important tensions between the social groups and between the ethnic groups due to the former class-policy and jingoistic policy; reluctance of foreign companies for direct investments due to great instability and little experience of the Eastern partner; insufficiency of capital funds and braking their forming due to, in a large measure so-called demonstration effect (mirage provoked by individual consumption in Western countries, which limits savings, in conditions of one small level of incomes); existence of some severe structural disequilibria in social production and employment fields, which, kept in the past in a latent phase through coercion measures (price and wage levels which did not reflect the real economic results; restrictions in movement of employees; inadequate central planning policies in education and in forming employees; all-embracing state monopoly in foreign trade field), became acute in the transition period; undevelopment of services sector, economic infrastructure and data systems relating to the needs of one market economy; collapse of national currency and continuous depreciation of its course of exchange, in conditions of hyperinflation and therefore tendency to accumulate gold and strong international currencies; collapse of former organization and management system at all levels, based on rigidity and coercion, and impossibility to construct others, in a short period, in conditions of increasing power of trade unions and other organizations having social purposes; disparity between the speed of monetary, fiscal and banking policies implementation and the speed of achievement of pure economic foundations of transition (privatization; marketisation, demonopolisation, and the development of internationally competitive enterprises; accumulation of capital; rising of supply of goods and services based on labour productivity, efficiency and competitiveness growth (32) (33) (34).

As a general feature of the Romanian economy coming into the transition period may be considered the great structural discrepancy between supply (both potential and effective) and demand (both potential and effective), which tends to stress due to the absence of a coherent self-adjusting economic mechanism based on the free market rules. The immediate consequences of this situation may be described through the following vicious circle: penury of goods — rise of prices level — growth of nominal salaries — increase of inflation rate — depreciation of money and uncertainty of savings — propensity to consumption — low level of savings — insufficient investments — productive capacities on the decrease — penury of goods, etc. In conditions of a too little extended private sector, attracting the foreign investments has a major role in destroying this vicious circle (for example, in 1990, in Romania, the share of the private sector in the GDP was only about 15 percent; in Poland 25 percent).

The transition process is too heavy because there are two simultaneous phenomena: (1) profound structural crisis, and (2) severe fall in production and other essential indexes level. As a rule, a certain measure of economic policy has contradictory effects. That is why an intricate strategy must be adopted, which will have to harmonize as well as possible the two great groups of policies, in their diverse alternatives: stabilization policy/structural policy; demand-side policy/supply-side policy; short-term policy/long-term policy (more precisely: short-term stabilization policies/long-term growth policies) etc. The emphasis would be placed primarily on the theoretical and empirical links between policy instruments and ultimate objectives. An examination of these links is necessary before issue of the appropriate mix of demand-management, structural, exchange rate, and external policies, and the sequencing of these policies in a program, can be properly addressed. A supplementary attention is required in the first part of the transition period when a slashing stabilization policy could introduce earnest brakes in promoting reform and in restructuring post-communist economies. This may encourage a counter-attack of the conservative forces.

Also, special emphasis must be laid on the so-called cultural-side of transition; the changing mentality and behaviour of people; and the democratization of political and social life, and economic life also. The axioms implicit in the theory of general equilibrium are based on responses of individual agents to economic incentives. These incentives, however, may not be operative in certain economies. A typical case is where private enterprise is prohibited, as in some former socialist economies and in some that have not yet made, or are not intending to make, the transition to free enterprise market capitalism. Even if prohibitions on private enterprises are lacking, regulations and taxes can discourage private enterprises. But in some of the least developed countries and in formerly socialist economies, entrepreneurship itself may still be lacking. It is necessary, therefore, for stabilization policies to take into consideration the social, institutional, technological and psychological factors that govern economic incentives and yield the required increase in production. Although an important feature of every stabilization policy must be the demand-side elimination or absorption of excess liquidity, its long-term

success depends on an adequate supply-side response. The basic pay-off from monetary stabilization policy is the supply response attracted by a stable monetary unit and the increased allocative efficiency of economic activity organized through the market principle. The success of the macroeconomic stabilization is therefore predicated upon the creation of conditions under which the microeconomic preconditions are established. The following points suggest factors that need to be considered as preconditions for achieving the wider long-term goals of stabilization policy: budgetary policy; government sector and privatization; tax revenue policy; supply-side tax principles; private commercial banking; foreign banks; capital markets; venture capital and merchant banking; property and leasing rights; free enterprise; increasing and decreasing the number of employees; wage and salary ceilings; supply of entrepreneurship and management; future monetary and exchange rate policies; national indebtedness (35).

3. ECONOMETRIC APPROACH

This section includes a review of econometric approach features, on the one hand, and some general considerations about the opportunity of using one econometric model derived from catastrophe theory to explore the economic systems behaviour in the special situation of transition, on the other hand.

Review of econometric approach features. When the term "econometrics" was first used in the 1930s, it conveyed both the development of pure theory from a mathematical viewpoint and the empirical estimation of economic relationship. Now it signifies primarily the latter; the mathematical development of economic theory is now called mathematical economics (36) (37). A distinction might also be drawn between econometrics and economic statistics. Economic statistic is concerned with descriptive statistics, including developing and refining economic data such as the national income accounts and index numbers, while econometrics utilizes these data to estimate quantitative economic relationships and to test hypotheses about them (38) (39).

Figure 1 summarizes the econometric approach. There are two basic ingredients in any econometric study — theory and facts. Indeed, a major accomplishment of econometrics is simply that of combining these two ingredients. By contrast, a considerable amount of work in economics emphasizes one of them to the exclusion of the other. The "theory-only" school is concerned solely with purely deductive implication of certain postulate systems involving economic phenomena. The "facts-only" school, by contrast, is concerned solely with developing and improving data on economy. Theory is one of the basic ingredients in any econometric study, but it must be developed in a usable form. The most usable form for the purposes of econometrics is typically that of a model, in particular an econometric model. The other basic ingredients in an econometric study is a set of facts, referring to events in the real world relating to the phenomena under investigation. These facts lead to a set of data, representing observations of relevant facts. In general, however, the data

have to be refined, or "massaged", in a variety of ways to make them suitable for use in an econometric study (this refinement includes various adjustments such as seasonal or cyclical adjustments, extrapolation, interpolation, merging of different data sources, and, in general, the use

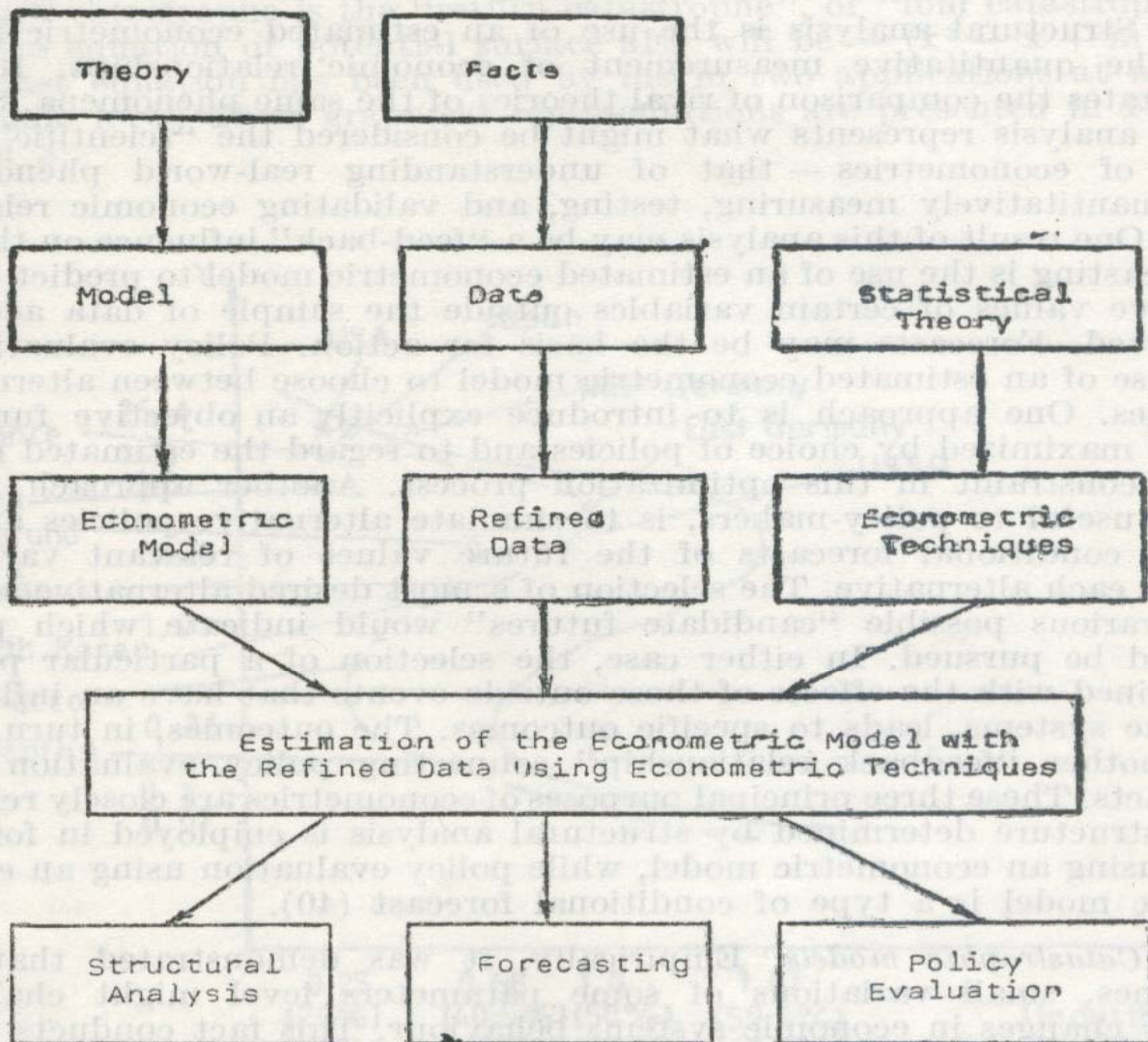


Fig. 1

of other information to adjust the data). The result is a set of refined data. The next and central step in the econometric approach, which combines these two basic ingredients, is the estimation of the econometric model. That step requires the use of a set of econometric techniques, which are extensions of classical methods of statistics, particularly statistical inference. Extensions of the classical methods are needed to account for certain special problems encountered in estimating an econometric model. The result of the process is an estimated econometric model, in which certain magnitudes, known as parameters, are estimated on the basis of relevant data. The estimated model provides a way of measuring and testing relationships suggested by economic theory.

Figure 1 can be thought of as a flow diagram showing schematically how the different parts of an econometric study are combined and eventually utilized. Thus, the three principal purposes of econometrics — structural analysis, forecasting, and policy evaluation — represent the “end products” of econometrics, just as “theory” and “facts” represent its “raw materials”.

Structural analysis is the use of an estimated econometric model for the quantitative measurement of economic relationships. It also facilitates the comparison of rival theories of the same phenomena. Structural analysis represents what might be considered the “scientific” purpose of econometrics — that of understanding real-world phenomena by quantitatively measuring, testing, and validating economic relationship. One result of this analysis may be a “feed-back” influence on theory. Forecasting is the use of an estimated econometric model to predict quantitative values of certain variables outside the sample of data actually observed. Forecasts may be the basis for action. Policy evaluation is the use of an estimated econometric model to choose between alternative policies. One approach is to introduce explicitly an objective function to be maximized by choice of policies and to regard the estimated model as a constraint in this optimization process. Another approach, often more useful to policy-makers, is to simulate alternative policies and to make conditional forecasts of the future values of relevant variables under each alternative. The selection of a most desired alternative among the various possible “candidate futures” would indicate which policy should be pursued. In either case, the selection of a particular policy, combined with the effects of those outside events that have an influence on the systems, leads to specific outcomes. The outcomes, in turn, lead to another “feedback relationship” connecting policy evaluation with the facts. These three principal purposes of econometrics are closely related. The structure determined by structural analysis is employed in forecasting using an econometric model, while policy evaluation using an econometric model is a type of conditional forecast (40).

Catastrophic models. Empirically, it was demonstrated that, sometimes, small variations of some parameters level might challenge major changes in economic systems behaviour. This fact conducts intuitively to a catastrophic approach. The essential condition of catastrophe theory use is the existence of one special function, $V(x; m)$, so-called the “potential-function”; where x represents slow variables (or parameters, or external variables, or command variables, inputs, etc.), and m — rapid variables (or state variables, or internal variables, or outputs, or effects, etc.). This condition is apparently restrictive, for the explicit knowledge of what represents V is not compulsory (also, this is one of the most important features of catastrophe theory). Function V may be conceived as a potential function proper, or a cost function, or an entropy function, or a probability function, or just as a Lyapunov function of the set of equations which describe the system (41) (42) (43). The existence of function V makes, in the case of the fixedness of parameter m , the system to evolve to certain equilibrium states. It is important to find the changes in behaviour system when parameter m moves itself. This can

be achieved minimizing V , resulting in the equation of potential surface : $V/x = f(x; m) = 0$.

When the dimension of the slow variables space (m) is 1, the selected function may be : $f(x; m) = -(x^3 - x + m)$. Therefore, the potential-function V will be : $V(x; m) = -x^4/4 + x^2/2 - mx$ (in this case, elementary catastrophe is the "return catastrophe", or "fold catastrophe"); and the equation of potential surface also will be $-(x^3 - x + m) = 0$. This last equation has been used by me in two applications at macro-economic level. Their graphical representations are presented in Figures 2 and 3.

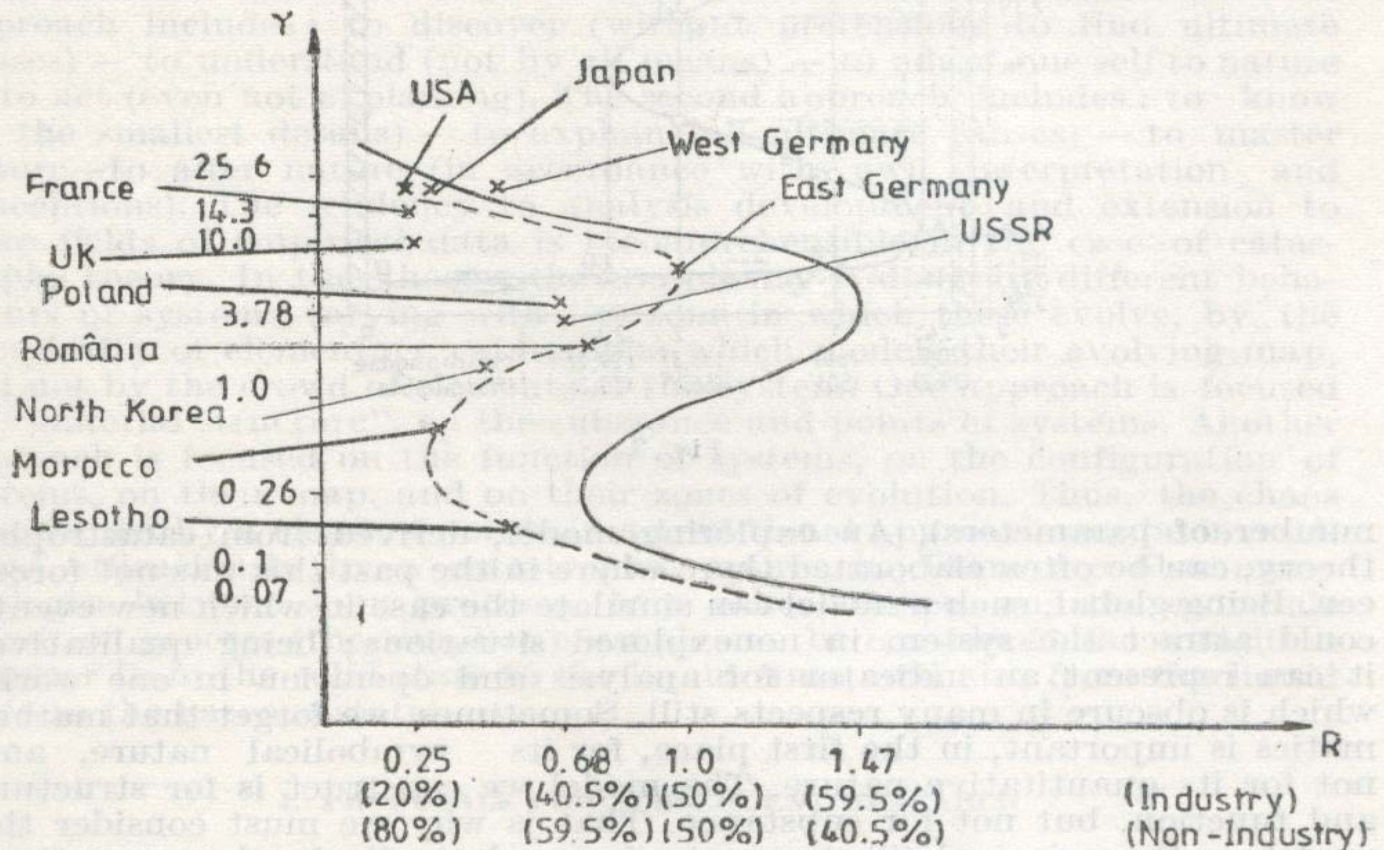


Fig. 2

One application is to analyse the evolution of investments efficiency (rapid variable, β) varying with a structural parameter appointed by the ratio intangible investments/tangible investments (slow variable, R). Another application is to research the impact of the modification of a structural parameter as the ratio employment in industry/employment in non-industrial sectors (slow variable, R) on the GDP per capital level (rapid variable, y). Of course, evolution of the two rapid variables is influenced, in fact, by many other factors, which require to add new parameters of command.

Catastrophic models are efficacious instruments of investigation though their application is limited to the systems of gradient type depending at the very maximum on 4 parameters of command (therefore to the class of problems in which the system may be controlled by a small

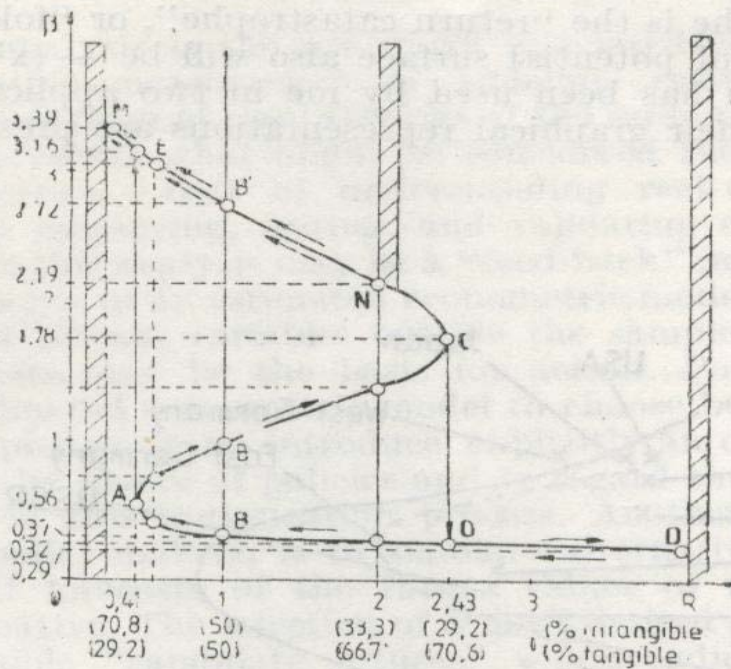


Fig. 3

number of parameters). An exploring model, derived from catastrophe theory, can be often elaborated there where in the past this was not foreseen. Being global, such a model can simulate the case in which new events could attract the system in nonexplored situations; being qualitative, it can represent an indicator for analysis and operation in one world which is obscure in many respects still. Sometimes, we forget that mathematics is important, in the first place, for its symbolical nature, and not for its quantitative nature. The model we construct is for structure and function, but not for substance. That is why we must consider the model as the principal "instrument of speculation". At the same time, a symbol more abstract will have a larger series of senses which we can attribute to it. An example imposes itself. Under the impulse of non-Euclidian geometries discovery, the idea was adopted that axioms are free to contradict the apparent evidence of our senses. This victory of abstract thinking on the common sense was decisive for physics. Physicists learned to work with the non-Euclidian space of 4 dimensions, understanding that the direct intuition of space notion has a false necessity nature. Extending to economy, the direct intuition, on the basis of one experience inevitably limited, of some notions and phenomena has often a false necessity nature also (45).

Catastrophic models often show another interpretation of economic system evolution. Their behaviour is a rule more complex than we can intuit and even than we can imagine. In this sense, an interpretation

strict in deterministic terms, based on a linear model may often become unseasonable. As we see, there are "calm zones" far away from critical points, and there are also "hot zones" near these points. There are concomitantly stable zones and unsteady zones. According to this new interpretation it is possible that many economic laws and principles, considered in the past as being intangible may lose their significance. But this must not surprise us because this is the way in science. They can become some peculiar limited cases in a likely global theory. At the same time, a tendency for ever more analytical investigations and consequently a tendency to explain the ultimate causes could often be a blind alley. Holistic outlook does not mean a simple outlook but a recognition of objective human limits (Heisenberg has already proved this for physics). There is a fundamental difference between this outlook and materialism. The first approach includes: to discover (without pretensions to find ultimate causes) — to understand (not by all means) — to adapt one self to nature — to act (even not explaining). The second approach includes: to know (in the smallest details) — to explain (all ultimate causes) — to master nature—to alter nature (in accordance with own interpretation and conceptions). The tendency to analysis development and extension to more fields of empirical data is incomprehensible in the case of catastrophe theory. In this theory, the complexity is done by different behaviours of systems varying with the zone in which these evolve, by the complexity of elementary catastrophe which models their evolving map, and not by the crowd of elements of the system. One approach is focused on "material structure", on the substance and points of systems. Another approach is focused on the function of systems, on the configuration of systems, on their map, and on their zones of evolution. Thus, the chaos represented by a cloud of points in a traditional approach can be investigated efficaciously by a catastrophic approach. There are also many analogies between some processes from other sciences and the economic transition process (the simplest example can be considered the transition of water from the solid state to the liquid state, and also from the liquid state to the gaseous state).

4. PROPOSALS FOR SUBSEQUENT RESEARCH

It is important to assess our place in the transition process, and what is the distance to its end. In this connection, we must choose the most suitable indicators to measure, and estimate future ways. Marketisation and demonopolisation are two principal factors. That is why the marketisation degree and demonopolisation degree must be considered as two important parameters (slow parameters) for the evaluation of the transition progress. I think that from certain remarkable values of these parameters the economy enters another zone. In catastrophe theory terms, it is a jump. There are probably many other parameters which could contribute to estimation of transition process. That is why in the beginning a choice is to be made. As a general orientation of my subsequent research I suggest:

(a) creation of one empirical base of data, including the principal indicators at macroeconomic level;

- (b) investigation of economic literature about transition problems and other neighbouring problems ;
- (c) analysis of actual phase of transition based on statistical data and theoretical problems review :
- (d) inventory of catastrophic behaviours and identification of sets slow parameters-rapid parameters ;
- (e) choice of elementary catastrophe ;
- (f) estimation of statistical parameters ;
- (g) construction of catastrophic econometric model ;
- (h) application of model to exploration of transition process and evaluation of some measures of economic policy ;
- (i) estimation of future evolution varying with alternative policies ;
- (j) comparison with results obtained by non-catastrophic analyses and improvement of initial model.

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