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Present-day topics

HISTORICAL RETROSPECTION AND STATISTICAL INTROSPECTION INTO ROMANIA'S CONVERGENCE TO THE EUROPEAN (MONETARY) UNION AND THE SEASONAL MOUNTAIN TOURISM'S IMPACT

Abstract

This article provides a retrospective and a summary of the convergence of Romanian economy to the model of the European economy, from the transition to a stable market economy, through the pre-accession period, and also the post-accession to the European Union since 1 January 2007, with the declared intention of eventually joining the euro space or area. The retrospective is accompanied by an instrumental-statistical or reasoned introspection based on key indicators. Tourism, and especially its seasonality, is analyzed from the angle of their present and future impact on the national economy. The conclusions highlight the need for programs and policies meant to promote tourism development and diminish the seasonal character of tourist activities, with a higher contribution of mountain and rural tourism.

Key words: convergence, convergence criteria and indicators, seasonality, statistical instrument, the euro area.

1.Introduction, or from the entropic economic model to convergence

Teleonomics is the science of research into the living organisms, due to their specific features, which include causality, finality, and especially their development towards *higher functionally differentiated structures* (i.e. the famous teleonomic capacity). Teleonomics includes both convergence and divergence, while being a much longer term in relation to either of them. Divergence is an antonym of convergence, but in conjunction with convergence, it dominates the paradigm of variation in biology, culminating in the law of irreversibility in evolution, which, in the simplest form, would translate as *regressive evolution is irreversible*, and thus it identifies with the signal of *entropy*, ever since Rudolf Clausius and Nicolae Georgescu-Roegen [1971], as a measure of the irreversibility of spontaneous processes in isolated systems.

The model of entropy provides an incipient answer for a number of essential questions of economic theory, inducing hopes that economics can become a science with a rigorous approach within a broader framework of globalization, in a necessary yet not sufficient manner, virtually accepting the principle of entropy, postulated by the second law of thermodynamics. Nicolae Georgescu-Roegen, the founder of the new *bio-economic* theory, and implicitly the and entropic economic model, identified economic decline as an imminent prospect (very much as other researchers comment on sustainable decrease as counting among the few solutions that take into account the law of entropy), but entirely based his theory on the mechanisms of the living world, on the similarity between the economy and every living organism, where the individuals become cells, companies and states become tissues or vital

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organs, the public services become organic functions, etc., so a living body existing precisely on account of some (money, energy, etc.) fluids and nutrients of the food and non-food type.

The entropic model led giving up the classical model (permanently under political impact, so in a qualitative leap declared theoretically, and also rational, i.e. imposed), through the apparently idealistic and irrational attempt of globalization (actually, a scientifically real alternative), hoping to speed up the access of the Earth's economy to resources of low entropy, or qualitative procedures such as limited increases or decreases in the economic environment, seen as a system, and thus a reduction of the rate of the process of world economy entropy. The extent to which the entropic economic model is correctly specified and analyzed allow one to identify a set of solutions of intervention in the system, in order to try to change the rate of unequivocally entropic flowing, which is unfortunately not acceptable by any standard, though declaredly nonspecific to the living world, yet accurate and demonstrated as an end. The solutions are somewhat similar to those concerning the ways to put to use photosynthesis in converting solar energy in a negentropic manner (in a direction going counter that of evolution, from high to low entropy), and are aimed at, with an ever growing interest, in the world economy in order to get a cessation, or at least a relative reduction of the complete degradation of the planet's environment.

The entropic economic model draws economics close to biophysics, obviously through biology, and then via physics (i.e. thermodynamics), noting that in the new economy a theoretical code of phenomenological ordering cannot be provided without quality and entropy evolution. So the originality of the thinking based on the entropic model can arguably consist precisely in the presence of this new variable, i.e. the size of that disorder, called entropy, and economic theory should identify solutions to predict the temporal (partial) stages and their order in an entropic economic universe. The economic system being an open system, in which permanent shifts and exchanges of matter and energy with the outside occur, it can make its living entities and structures be in a perpetual state of instability (matter and energy waste being high, it can be defined as a highly dissipative system). The state of economic equilibrium cannot be modelled statistically, but only dynamically, and the economic phenomenon should be simplified as a continuous oscillation around an equilibrium point, which involves including in the equations the impact of self-regulation processes (based on feedback connections, and even anticipatory anti-entropic or negentropy connections, through consumption of low entropy from the environment, in order to maintain the initial entropy of the economic phenomenon, which is itself relatively low). Accepting the entropic model generates an additional crisis of classical economic theory (bivalent by its theoretical and forecast emphasis, the consistency and verisimilarity of classical economics being directly dependent on the quality of the forecast). The entropic tries to also subsume eco-economics, or ecological economics, a derived field of bio-economics, a multidisciplinary science proposed by Lester Brown. Eco-economics is redefining the current economic theory and practice through a long-term type of development, without affecting its own support system (the environment), or providing essential own models having the same quality as predictive originality. Obviously, the process does not stop here, the entropic model continue integrating, into its own fabric, the sciences of complexity, the science of systems, the applied holistic theory, etc.

To facilitate its broader application, to begin with at the level of the European Union, and then globally, the entropic model should be applied in an expanding system (in a context of accession and continuous integration), with a convergent evolution of its subsystems (national economies, and especially regions of development).

To do that, a common evolutionary cycle and a complex convergence would create the truly scientific prerequisites of integrated EU economic development, a faster inner expansion of the European Monetary Union within the context of a complex paradigm such as economic

convergence. But first it is necessary to clarify, in terms of terminology, convergence and the inflectional picture of this key contemporary economic concept. This paper advocates a hierarchy in which tourism should be positioned as a priority domain, alongside of agriculture, in relation to many of the other activities providing and generating services, in the long process of the real convergence of Romanian economy towards the EU mean value of sustainable economical and social development.

2. The multiparadigm, or the complex paradigm of economic convergence

Economic convergence represents a complex paradigm, or more correctly a multiparadigm, and is conceptualized circumstantially, as defined by a state of similarity, apparently structurally complete, but also partial from the point of view of the limited similarity of a small number of level parameters, which an economy, seen as a complex open system, must reach within a certain time horizon. Convergence is also definable as a dynamic and systemic integrative phenomenon, which presupposes pooling to achieve economic and social objectives that are regularly assessed and updated, based on historical requirements and the global evolution, and involves, in a systemic manner, other phenomena too, or at least some aspects of those, generally of a biological nature and apparently omitted, or less dealt with, in today's scientific knowledge of human society developments, such as *emergence*⁵ and *teleonomics*.

Extended economic convergence has in practice as many as four dimensions [Iancu, 2006]: a) *nominal* or strictly monetary, targeting economic stability and the transition to the single European currency; b) *actual* or *real*, intended to diminish disparities (especially felt by income and productivity); c) *institutional*, i.e. ensuring compatibility of institutions; d) *structural* or complete. Theoretically, another classification of convergence coexists, of an instrumental and parametric type: β (conditional on the initial state), σ (similarity of GDP per capita), γ (business cycle synchronization), δ (similarity of convergence factors), α (similarity of the structure of the economy), etc., which is commonly used in structuring the phenomenon and its distinct way of modelling. Basically, convergence postulates, in the neoclassical theory of economic growth, that all economies that are characterized by the formal similarity of their basic parameters (of the production function) will achieve the same level of development, regardless of their initial position.

Based on these findings, three hypotheses of convergence were formulated in the convergence theory: a) the *absolute convergence* (unconditional) *hypothesis*, according to which the level of income per capita across countries converges in the long term, regardless of their initial conditions b) the *conditional convergence hypothesis*, in keeping with which the level of income per capita in countries having fundamentally identical structure converges in the long term, independently of the initial conditions; c) the *hypothesis of club or group*

⁵Emergence, unlike teleonomy and convergence, still retains a sense of ambiguity and remains a concept in construction from the standpoint of contemporary science, being exploited variously as an explanation of the emergence of coherent global properties in any system which consists of subsystems, or any whole composed of parts or items, all of which hold observable behaviors in space and time, and sometimes it substitutes the inexplicable in the behavior or development of any complex system. Being specific to complexity sciences, this still unfinished concept of emergence remains mostly the new properties, coherent but unpredictable, as an immersion into the substrates occurs in a global vision. What is thought to be evidence is that the emergence depends on the self-organization of the system, and the emergent properties determine the maintenance of the cohesion of a system in the face of entropy induced by the environmental action, as well as its already recognized typology as ontological emergence (which tries, and partly manages, to explain how a system exists in a universe dominated by the second law of thermodynamics), and also representative (which theorizes about entities, components and structures, observed and explained in the world continuously redefined as objective and real).

convergence. Testing those hypotheses led to the initial definition of several types of convergence:

a) *type β ("beta") convergence*, indicating that, in the long term, in the context of the absolute convergence hypothesis, according to its own regression equation and its own *regression coefficient* [Sala-i-Martin, 1996], economies in developing nations tend to grow much faster than those in developed countries, and in the context of the conditional convergence hypothesis, there is the same phenomenon, only with some parameters changed, depending on some determinants (focused on the connection between classical qualitative convergence and contemporary convergence, which also includes some qualitative aspects, while also reflecting a decrease in the disparities, or the processes of bridging the *gaps* (*dimensional* or of macroeconomic correlation, of *dynamics* in the real economic variables and *simple structural*, or structural differences that exist between two entities that are segmented methodologically), rather than those of *catching-up*, defined as dynamic recovery, at different rates, in the short and medium term, to the advantage of the less developed and developing economies, against developed economies;

b) *type σ , or "sigma" convergence*, indicating a decreasing variation in the level of the income per capita in a group of countries; convergence of type σ is expressed by the statistical indicator of the *coefficient of variation of GDP per capita*, and is fairly commonly exploited in analyses of convergence or economic studies, through a mathematical expression based on an indicator resulted from the classical statistical algorithm of the coefficient of variation (σ_t); the interpretation is quite straightforward, when σ^2 or the dispersion of the phenomenon considered is decreasing in a certain period of time or a transverse process, or in a certain spatial delimitation of national economies (or even parts of these), or when the coefficient of variance σ decreases, then it identifies a convergence process ($\sigma_{t+1} < \sigma_t$).

c) *type γ , or "gamma" convergence* (quasi-real convergence), which can be described as synchronization of business cycles, is valid even in conditions in which, structurally, there are notable differences between the economies analyzed as an open system or a set of open events (synchronization of business cycles may have positive effects in terms of elimination of asymmetric shocks by transforming them into symmetric shocks, which can be exemplified by the shocks generated by the monetary policy in the euro area);

d) *type δ , or "delta" convergence* [Dinga, 2008], which requires *similar levels of real convergence factors for two or more economies*, or at least a "list" of factors of identical convergence, yet not necessarily similar levels of those (once the convergence factors having become similar in two economies, the convergence process would be already completed);

e) *the convergence of type α or "alpha"*, which involves "the final target, or a destination of the ultimate type" of any economic development, is shown by *a similar structure of the economies being compared, although permanently raising major dimensional and methodology questions that are hard to solve* (once they are solved, the very idea of a process of convergence disappears, too).

The updated 2013 version, at the level of EU, includes six convergence indicators of the Maastricht Treaty, structured as in Table 2.4: a) three based on monetary criteria, viz. *inflation* ($IM3 \leq +1.5$ pp, where IM3 is the average inflation of the three EU member states having the lowest inflation), *the nominal interest rate on long-term bonds* ($\leq D3 + 2$ pp, where D3 is the average of nominal long-term interest of the three EU member states having the lowest inflation), and *the nominal exchange rate* (keeping the nominal exchange rate within the band $\pm 15\%$ of the pilot exchange rate); b) two fiscal and budget criteria: *total public debt* (percentage of GDP $\leq 60\%$) and *the general government deficit* (percentage of GDP $\leq 3\%$); c) a legislative criterion: national financial legislation (including national central bank legislation – focusing on the status of the central bank). Tables 1 and 2 show how Romania has evolved,

and, at the end of 2013, managed to meet two major criteria, and is currently approaching the other limit values quite clearly.

Table 1
Concrete monitoring of fulfilling the Maastricht Treaty criteria for Romania, in 2011

Criterion	Thresholds, limits and bands of variation, and fulfillment		
Public debts	Maximum 60% of PIB	Fulfilled (33.4%)	YES
Budget deficit	Maximum 3% of PIB	Not ulfilled (4.9%)	NO
Inflation rate	1.8%+1.5%=3.3%	Not ulfilled (5.8%)	NO
Nominal long-term interest rates (10 years)	2.4%+2% = 4.4%	Not ulfilled (7.0%)	NO
Exchange rate	Two years without devaluation in ERM* II	Not ulfilled	NO

Source: *** (2012), Romanian Academic Society (SAR), *Euro, mai devreme sau mai târziu?* (*Euro, sooner or later?*), accessible on-line: <http://www.romaniacurata.ro/spaw2/uploads/files/SAR-13-24.pdf>.

Table 2
Analysis of satisfying the convergence criteria for Romania as of 31 March and 31 October 2013

Country	Average inflation rate (in last 12 months)	Budget deficit as% of GDP	Public debt as % in GDP	Member state ERM II	Long-term interest rate (last 12 months)
Limit indicators (thresholds/limits)	maximum 2.5% (31 March 2013)	maximum 3,0% (fiscal year 2012)	maximum 60% or decreasing (fiscal year 2012)	Minimum 2 years (31 March 2013)	maximum 4.81% (31 March 2013)
31 March	3.9	2.9	37.8	Not member	6.43
Conclusions	Not fulfilled	Fulfilled	Fulfilled	Not fulfilled	Not fulfilled
Limit indicators (thresholds/limits)	maximum 2% (31 Oct. 2013)	maxim 3,0% (fiscal year 2012)	maximum 60% or decreasing (Oct. 2012)	Minimum 2 years (31 March 2013)	maxim 5,1% (31 oct. 2013)
31 October	3.7	3.0	37.9	Not member	5.7
Conclusions	Not fulfilled	Fulfilled	Fulfilled	Not fulfilled	Not fulfilled

Sources: <http://appsso.eurostat.ec.europa.eu/>; http://en.wikipedia.org/wiki/Euro_convergence_criteria and <http://www.acad.ro/com2013/doc/d1211-ConferintaESPERA2013-Isarescu.pdf>

*Note: ERM II stands for *Exchange Rate Mechanism*. By 1999, the exchange rate mechanism (as an important element of the European Monetary System) was a multilateral system of parities which allowed each currency to fluctuate within a band limited in relation to each of the currencies included in the system, and at the same time a central parity rate in ECU was established. It was called the first exchange rate mechanism (ERM I). When the the single currency, the euro, was adopted in 1999, a new exchange rate mechanism, called ERM II, was adopted. Thus, the multilateral system was replaced by the bilateral system, through which each participating currency has a defined central parity rate expressed in euro.

As can be seen, the variables described above cover the combined criteria, but explain only partially explain the convergence factors, whose spectrum is very broad, as they appear in the econometric modeling devoted to this phenomenon. To be sustainable and real, Romania's economic development of a convergent type to the European Union (including the euro area, or the European Monetary Union) is structured based mainly on fiscal, banking and monetary targets, and this in turn implies the existence of a converging economy oriented, as shown by the so diverse factors of convergence, towards: stability and economic balance, mobility of production factors, similarity of inflation and interest rates, similar productivity, relatively equal economic structure, price flexibility – within acceptable parameters,

integrability of financial markets, comparable economic openness, diversification in production and consumption, fiscal and especially political integration.

It can be asserted that Romania's long progress towards the average value of EU sustainable development is still ongoing; even in the context of a poorer political and even economic management, the national economy has covered, over a quarter of a century, the difficult route to a functional economy, then towards an economy competing for accession, and after the accession there followed an intense process of economic integration, with a population that are making huge efforts towards convergence, without however feeling also the benefits of real income convergence. This route could be simplified, we believe, by a more active participation of tourism, through a real convergence of tourism revenues towards average European income, a goal much easier to achieve than in other economic activities.

3. Macroeconomic convergence and priority convergence of tourism, or the compromise on a new hierarchy of the importance of economic activities

The stage argumentation based on systems of variables, as well as the conclusions about the completion or the state of duration or historical processes, with diverse territoriality or structural elements which have the nature of thresholds or limits, underly most complex phenomena investigated in the statistical spirit of thinking spirit, such as the transition, accession, integration, emergence, convergence, etc. [Săvoiu, 2007; Săvoiu, Iorga-Simăn, 2010; Săvoiu, Popa, 2012; Săvoiu, Apostol, 2013]. If similarities can be identified with the mathematical theory of convergence of the series, then they should be accepted in parallel with the absolute convergence, in the context of the Maastricht Treaty and semiconvergence, temporarily, for some of the criteria that are potentially or partially met, yet whose instability can lead to the opposite of convergence, i.e. to absolute difference. According to the same type of statistical and mathematical thinking, greater dispersion implies a greater distance or real convergence harder to achieve if the current activities with the lowest incomes are not encouraged or supported to develop as priorities.

Recalling that this is type σ convergence, expressed through the statistical indicator of the *coefficient of variation of GDP per capita*, capitalized in convergence analyses through the coefficient of variation (σ_t), whose rather simple interpretation conduces to this reasoning, i.e. when σ^2 , or the dispersion considered decreases over a certain period of time, or in a transverse process, or a certain spatial delimitation of national economies (and even parts of them), or when the value of the coefficient of variation σ decreases, then a convergence process ($\sigma_{t+1} < \sigma_t$) is identified. This requires unconditionally there to be a statistical and mathematical culture of economic convergence, according to which precisely the least developed spaces and the least prosperous activities should be supported, which actually coincides with the European culture social cohesion. This is the major reason that the Romanian economy would have to accept a new hierarchy of activities and a change of priorities and hierarchies starting from macroeconomic convergence criteria.

Two special emphases are detectable, the first placed on the convergence of the Carpathian and coastal tourism, alongside the second, meaning the cancellation of seemingly divergent trends in rural tourism, which is deprived of the seasonality making up for agricultural activities, so necessary for the economic recovery of the area of the Romanian village, permanently deprived of its essence, the resurgence of small peasant farms.

According to these initial emphases of re-scaling hierarchies on the principle of the priorities in Romanian tourism and agriculture, within the broader context of achieving the objectives of economic convergence towards the EU average, two directions of sustainable development of the two activities were born:

C. Revival of tourism, especially Carpathian mountain tourism and countryside tourism,

D. Revival of Romanian small rural farms in mountain agriculture, where it was otherwise necessary, and where it was the only solution.

Essentially, all that can recover the size of a convergence programme of mountain rural tourism and agriculture, whose title could be *Saving the the Romanian Carpathians through European economic convergence*, exploiting new Romanian priorities and European funds through pilot researches pilot applied to a new model of farm in mountain villages. The central idea should be started from the experience inherited from Dimitrie Gusti's sociological school, and the programme will investigate, will model and become the genuine "godfather" (i.e. "sponsor") of over 1,000 families (in a first pilot project), accessing European funds for a new economic model of rural family mountain farm. Alexander the Great's victory was greater through the marriage in Susa of the 10,000 Macedonian and Greek soldiers to Persian women, than by the battles he won, and even more than by the conquest of the world, which suggests that demography should be the essence of the revival of the Romanian mountain village by stimulating 1,000 marriages, which can generate, supported by European funding, the demographic revival of a mountainous range, on different economic principles, in the idea of a starting point (if a family will have a child, ownership of what will be called the farm of the mountain rural family will enter his property after the first year or within three years of stability of the farm activity, with or without a baby born in the new farm).

The value should be increased of the state allowances for mountain children, in the form of a special mountain aid (1,000 children of the 1,000 new families, in the first three years, which can have a possible EU support under the program to compensate and stimulate the adaptation effort). The new families will have previous ties with the mountain or mountain farming activity (mostly animal breeding), but they will also graduate special training courses with touristic impact. The Carpathians is an aggregate of ranges, and if a well-devised pilot project can revive a mountain range, it can be generalized and adapted to all the ranges that make up the Carpathians.

A first draft of the pilot project located in the Vatra Dornei area or any other area, for instance the Apuseni Mountains or the Fagaras mountains, can be the start of adaptive inferentiating. Thus, the small small mountain household or farm can become the basic cell of that pilot of the Carpathians. The modern Carpathian mountain farm will be focused on mountain agriculture and endowed with pasture and livestock from European funds.... The same farm will be stimulated to keep the traditions of Romanian Carpathians and will have, through education and proper training, certified specialists in the development of tourism activities in the mountain area, marketing its products in the European space, etc. As part of the essential principles of optimization or cost effectiveness of the mountain farm business, the project will have to ensure:

- a) the **energy** independence of the Carpathian mountain farm;
- b) economic and productive activities in keeping with the **seasons** and interspersed infra-annually (agriculture and tourism, agriculture and domestic industries, agriculture and hunting and competitive fishing tourism, agriculture and commerce, tourism and rapid transport in other European regions of clients and organic products), etc.
- c) a new form of **school training**, beyond the ninth grade, with **new** mountain-wise **skills** as its target..., a new school of mountain apprenticeship, with an intra-Carpathian programme, adapted to geography, to crafts, from traditions to the languages specific to the Carpathian region, from the economy of the mountain to mountain services, from mountain tourism to mountain trekking.
- d) a new way to **manage the free zone of the Carpathian mountain farm** (zero fiscal requirements for the first 3-5 years, mayors elected from the new farmers, administrative services appropriate to the new farms and their activities, tourism incentives, etc.)

e) a new **culture**, which combines the tradition of the fair with the modernity of sales on the Internet, traditional customs with international online competitions winning European prizes live.

f) a **new system of health care, safety, comfort and communication** specific to the mountain farm.

g) a successful model will be generalized locally, and the farm of the year award will be presented by leading European personalities in saving the mountains (promotion and impact).

If such a pilot project unfolds, to begin with, on its own, it may be followed by a national one, and then by a Carpathian trans-border project, all from European funds, which together can increase the convergence speed of Romania to the EU average and the EMU.

4. A final remark

The lack of interest in mountain tourism and agriculture on the part of the policy, economy, institutions or government of any kind, automatically becomes a lack of interest in the long process of real convergence, causing delays and gaps that will not be recovered in generations, but the essential problem is even more serious, even alarming, namely that soon the rural Carpathians, unsupported demographically, agriculturally and touristically, will become desert, and it all may be too late...

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