THE ECONOMIC CRISIS VERSUS THE CRISIS OF ECONOMICS AS A SCIENCE

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Abstract. *The paper starts with arguments against forming causative links between crisis phenomena in the economy, both in its real and regulatory sphere, and the crisis of the economic science as such, in terms of its cognitive and predictive values. According to the author, it is also true with respect to the current economic-financial crisis.*

The second part of the paper is an attempt of explaining what should be considered a 'normal' way of development of economic science. The author puts and justifies a thesis that this development is a journey of ideas being brought about by numerous causes, with a significant role played by inspirations related not to observation of the real world but to the 'world of economists' (ideas shared by academic communities) and the phenomena appearing in the external environment of economics as a science: new political and social ideologies, cultural and technological trends, as well as geopolitical changes.

In the subsequent part of the paper, starting with the recognition of the so-called logical and historical factors in the development of economic science or, following the distinction made by D. Ross (2005), the distinction of philosophical and historical-sociological strategies in this development, the author tries to prove that over the last half-century the development of economic science has been heavily influenced by the broadening acceptance of the criterion of instrumental effectiveness (Laudan–Mongin) in the appraisal of its scientific progress. It is argued in the paper that this has the effect of diminishing the ability of economic science to recognize and explain some major contemporary civilizational and technological trends (a kind of crisis in terms of the cognitive realism criterion). However, with respect to the emergence of new and cognitively valuable schools and currents (e.g., New Institutional Economy), this should not be considered a common feature of today's economics. Secondly, the increasing role attributed to the instrumental effectiveness criterion in the evaluation of progress in economic science, has resulted in some crisis phenomena with respect to the predictive strength of economic models and theories.

The paper ends with some more general reflections attempting to identifiy the civilization and technological trends and structural changes in modern economies that are not sufficiently addressed and analyzed in the mainstream economics, thus leading to some crisis phenomena (but not a general crisis) in its development in terms of the cognitive, predictive, and utilitarian value. With regard to the latter (perceived from the point of view of various economic policies), the author postulates the need for a more eclectic approach. It is understood as a postulate to look for the nature, manifestations of and reasons for both growth and crisis processes in contemporary economies, as well as for the instruments of growth state policy, in various (sometimes even competing) theories and schools in today's economics.

Key words: *economic crisis, crisis of economics as a science, criteria of scientific progress in economics, migration of economic ideas, logical and historical factors in the development of economic science, instrumental and cognitive realism, civilizational and technological trends*

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I. Introductory remarks: why economic crises should not be equated with crisis phenomena in economics as a science

The present financial and economic crisis has resulted in a fairly natural trend to question the whole idea of economic sciences. Some people believe that the economic crisis is a manifestation of the crisis in economic sciences in general, particularly in macroeconomics and the general theory of economics. Some even suggest that, since economics as a science was largely unable to predict the present depression phenomena, then it seems viable to deem it immature in the sense of its poor predictive strength. There are also attempts to put the blame for these phenomena upon economic science and economic experts. The general crisis of economic science as such is particularly strongly voiced by representatives of the heterodox movements, such as the so-called alternative economics or 'anti-economics', to use the term postulated fairly recently (although prior to the present crisis effects in global economy) by D. Coyle (2007).

This wave of criticism is, in this author's opinion, too far-reaching, often unsubstantiated, or even unjust to economics as a science or to economic experts. The increased criticism is a typical reaction observed in the periods of escalated crisis phenomena, as attested by the first and second phases of the oil crisis, with waves of criticisms from such eminent opponents of mainstream economics as J. Robinson, O. Morgenstern, and N. Kaldor. This author is a strong proponent of the thesis that – irrespective of the depth and specificity of the present crisis situation – the real crisis is evident in the way we approach the science of economics. Moreover, we can (and, in fact, ought to) point out to the crisis in the fundamental norms and values, especially those associated with the market economy norms of ethical behaviour. In this sense, the most important manifestation of a crisis is the behaviour of managers and owners of global corporations, especially those in the finance sector. To sum up this part of the deliberations, it may be useful to postulate the thesis that the economic sciences are neither 'before' nor 'after' the crisis, but actually are right in the track of its natural course of development. Perhaps crises are an inherent feature in the development of the economic sciences, since the scientific perception is always, to some extent, delayed in its cognitive evaluation of theories and in its power to address the most important processes and trends in the development of economy, civilization, technology, and culture. These trends and processes, as important constituents of economic policies, will be presented in the last part of this paper.

Lastly, due to the vast research field covered by the economic sciences (even in the relatively narrow perspective of the economic theory), it seems viable first to establish a good definition of the areas affected, or at risk of being affected, by the potential crisis phenomena. For example, it seemed viable to emphasise crisis or 'stagnation' within the mainstream (neoclassical) theory of economic growth in the 1970s and 80s. In that context, the term 'crisis' was relatively fit to describe, on the one hand, the science's

inability to explain the disparities in the dynamics of technological progress as well as economic growth and its sources, as observed among individual countries, and, on the other hand, its inability to provide an economic evaluation of the impact of progress, science, and education upon economic growth. In this context, the rapid development of the endogenous growth theory, initiated in the late 1980s, may be interpreted as a relatively successful reaction to the observed deficiencies, also those associated with the crisis of the standard growth theory (i.e. the neoclassical theory of equilibrium growth[1]). Moreover, a simplified, purely mechanical reasoning that certain crisis phenomena observed in economy, both in its real and regulative dimensions, are somehow related to weaknesses or even a crisis situation in some narrow area of economic sciences (either cognitive or utilitarian). To put this argument in a proper perspective, let us consider the example of the current crisis of public finance, observed in many developed economies. Drawing conclusions that this crisis in some way attests to the general cognitive inability or the crisis in modern macroeconomics or in fundamental macroeconomic policies (fiscal and monetary) would be a clear contradiction to the most basic observation that a deep imbalance of public finance is not only a result of factors in the realm of a medium-term economic cycle, but also those in the realm of politics, such as the concerns that a strict fiscal policy may translate to a rapid decrease of votes[2]. Another example of the lack of substantiality, or even of absurdity, of the simple and direct approach of equating diverse crisis phenomena (or, in a wider context, the detrimental phenomena) in economic development with the crisis of economics as a science is the common practice of 'blaming' economic sciences, in particular, the ecological economics, for the outburst of the present ecological crisis, namely the degradation and deterioration of natural resources, both non-renewable and renewable ones.

II. The nature of 'normal' development of economics as a science

Coming back to the thesis that economic sciences are neither 'before' nor 'after' the crisis but on the proper course of their normal development, it may be useful to pose the question which seems essential in this context: what is considered normal in the development of economics as a science? It is difficult to provide an extensive response to such a fundamental question in a short article. The more so that the answers are many, depending on – generally speaking – a number of determinants, from the widely accepted general philosophy of scientific development, through numerous distinguishable factors

[1] For an interesting analysis of the added value of the endogenous growth theory from the viewpoint of explaining the nature and sources of economic growth in modern times, see: Liberda Z.B., Maj E. (2009).

[2] More on this, see: Moździerz A. (2009). This mechanism, i.e. the impact of political determinants upon choices made with respect to macroeconomic policies or public regulation, has already been discussed extensively in the context of the New Political Economy (or the Public Choice Theory). See, e.g.: Teoria wyboru publicznego, Wilkin J. ed. (2005); in particular: Wilkin J., Teoria wyboru publicznego – *homo oeconomicus* w sferze polityki, pp. 9–29.

of such development, to definable criteria of progress in science, etc.[3] However, putting aside the widest context of the issue at hand, let us come forward with a thesis that the development of economic sciences, to a large extent, is a journey of ideas. What are the general sources of it? With reference to the opinion voiced by E.R. Weintraub, one of the most prominent contemporary historians and methodologists of economic sciences, it may be stated that the inspiration for the scientific knowledge of economics (or, more precisely, for new ideas in economics) lies, on the one hand, in the observation of the real world, deemed by Weintraub as fairly marginal. On the other hand, ideas are products and constructs developed in the 'world of economics' (a dominant source of inspiration, according to Weintraub), i.e. by academic and research communities (Weintraub 1991, pp. 4–9). It seems that the notion of development in economic sciences as a journey of ideas is particularly relevant for macroeconomics and economic policy (especially macroeconomic policy). These areas of economic science are a battleground of competing ideas, and this competition dates back to the 18th century or even the late 17th century, as manifested by a dispute between the proponents of statism and liberalism. It was at that point, back in the times when economics evolved to be a field of science, that the dispute took the form of a theoretical and political/ideological discourse between mercantilism and the emerging classical economics. This is worth pointing out, since John Maynard Keynes, the main originator of the theoretical fundaments of the present interventionism, was often regarded as a neo-mercantilist, while proponents of economic liberalism typically invoke the theoretical framework postulated by Adam Smith and the whole classical school of economic thought.

Presently, we witness a spectacular revival of this eternal dispute, mainly with respect to the public regulation of the widely defined financial sector. In fact, the dispute is mainly concerned with the range of public, strictly market-type, regulation and the optimal range of state interventionism in economy rather than the binary choice of 'either this or that'. It may be useful to point out in this context that, in the period of deregulation and liberalization of the public utility sector (energy, networking, and other infrastructural sectors) in Europe and the US at the turn of the 1980s and 90s, the main focus of the dispute was again not on the complete withdrawal of the state and local administration from those sectors, but on changing the methods of state regulation to make them more effective and market-oriented[4]. There is, however, one important difference as regards the to public regulation of these sectors. In the case of state regulation of the public utility sector, the range of regulatory measures is contained within the confines of nation state borders, or – in the case of the European Union – within a group of nation states that chose to delegate parts of their statutory rights to supranational bodies, but in line with

[3] For more on the subject, see: Brzeziński M. (2004), particularly pp. 6–29, and: Brzeziński M., Kostro K. (2006).

[4] For a broader discussion, see: Szablewski A. (2003).

the binding principles of international cooperation, WTO agreements, and other applicable international conventions. Good examples of this mechanism can be found in the EU regulations pertaining to such sectors as energy or environment protection. However, in the case of public regulation of the financial sector, the introduction of effective regulatory measures requires global-reach agreements, mostly due to the increasingly global character of economic entities and transactions made in the sector of finance. As attested by the ongoing negotiations within such international bodies as the International Monetary Fund, G8 and G20 groups, as well as bilateral state agreements (the US, Great Britain, Germany, etc.), the task of reaching a global agreement on the required range and methods of regulation within the finance sector (most notably the banking sub-sector) may prove arduous, if possible at all. Another problem in this respect is the large dissimilarity and incompatibility between national regulatory systems and the natural tendency of state authorities to focus their improvements of regulatory regimes on providing the most effective realization of state macroeconomic policies.

The journey of economic ideas does not follow any universal paths or schemes that incorporate the same mechanisms and prime movers. Therefore, it is not always true that – as Weintraub puts it – inspirations for new generalizations, as formulated by the economic sciences, are always generated solely within the 'world of economics' (this author's term). On the contrary, the journey of economic ideas is oftentimes a reaction to the new processes and phenomena observed in the 'external environment' of economics as a science, such as the political environment with its new ideologies, social ideas, cultural and civilizational trends, and geopolitical changes, rather than the effect of changes and developments within the economic sciences as such. The latter aspect, although still important, should be understood as a critical evaluation and synthesis of the existing scientific output, used as fundament to build new generalizations – models, theories, paradigms, and research programs. A good example of this approach can be found in the development of the neoliberal revolution and the resulting Washington Convention, i.e. a reaction to the ideological products of the conservative revolution of the 1970s and 80s.

In their journey, the economic ideas do not follow Plato's concept of ideal forms; they permeate, complement, and change one another. Therefore, they can never be regarded as 'pure'. In this context, it may be useful to bring forth the popular postulate of departure from liberal or neoliberal models of macroeconomic policy, voiced frequently with reference to the present economic and financial crisis (e.g., by P. Krugman). Proponents of this approach insist on the need to return to the Keynesian fundaments of macroeconomy, while at the same time postulating a radical departure from the Keynesian concept of fiscal policy. In this author's view, such a radical approach is completely unfounded, since the complex realities of modern economy require the application of new instruments of state economic influence on economy – within the limits of the narrowly defined public regulation, fundamental macroeconomic policies, and sectoral

policies – based on theoretical concepts taken from both approaches and supplemented with other theoretical schools (this argument will be elaborated further on).

Thus, instead of returning to the source or rejecting all previous theories, it may be more sensible to pursue ***new great syntheses***. Since the great neoclassical synthesis of P.A. Samuelson, understood here as an attempt to construe a model of economic policy (state interventionism) based on the Keynesian theory of aggregate income and demand and neoclassical microeconomics, has already lost its 'appeal' of being the most suitable fundament of macroeconomic policy, it is important to seek for a new synthetic approach, without losing sight of the phenomena, processes, and challenges which – up to date – have been either largely neglected or inadequately represented in economic sciences. The need for such a synthesis applies also, or maybe even more so, to microeconomics, in line with the postulate of methodological individualism for the need of a constant search and elaboration of the fundamental explanations for the behaviour of individual microeconomic entities. In this author's opinion, this may be seen as a source of important premises for the development of economics as a science, as opposed to the notion of crisis in economic sciences. The most important new trends in this respect are the schools of behavioural economics and complexity economics[5]. Behavioural economics and behavioural finance, as part of the above currents, although still in their infancy period, seem to carry a considerable explanatory potential, especially with regard to the analysis of the nature and sources of the present financial crisis.

III. The logical factor ('a philosophic strategy') versus the historical factor ('a historical and sociological strategy') in the development of economics as a science

The aforementioned phenomenon of the 'journey of ideas' in the development of economics as a science should be analysed – as in any other discipline of the widely defined realm of social sciences – in the context of an traditional dichotomy between logical and historical factors. This dichotomy is well-defined in the science studies (the meta-conceptual 'science of science'. With respect to the theory of economics as such, D. Ross (2005) has addressed this dichotomy as a struggle between 'philosophical strategy' and 'historical and sociological strategy' in the development of economic sciences. The dominant position of the logical factor within the last half-century, referred to in this article as 'the journey of ideas', was further enhanced by the internal criteria of the evaluation of an individual scientific development, in particular the large and still growing attachment to the criterion of instrumental effectiveness (the Laudan–Mongin criterion[6]). To

[5] For more on this, see: Wojtyna A. (2009).

[6] The criterion of instrumental effectiveness in its most developed form was formulated by L. Laudan in Laudan (1977), particularly pp. 31–69. It was subject to simplified modifications by P. Mongin in several publications, especially in Mongin P. (2002).

put the issue in simple terms, the Laudan–Mongin criterion brings the evaluation of scientific advancement (in economics) down to a simple task of evaluating the potential to construe models and theories which explain more scientific problems than do the earlier or competitive theories or models, or which explain problems previously unsolvable, irrespective of their actual contribution to the increase of cognitive realism of the theory under evaluation. The growing significance of the above criterion of scientific progress in economic sciences is, without doubt, a result of the recent propagation of the strictly modelling-deductive approach to economics. Moreover, to put it frankly, the more or less internalized 'inferiority complex' of economic experts towards the representatives of more 'scientific' disciplines seemed to play a large part in this context. This remark is by no means intended to depreciate the significance of model-deductive methods of analysis in economic science; this author simply opposes the idea of putting a disproportionate significance on the criterion of instrumental effectiveness in the evaluation of scientific progress in economic sciences, since this approach has already led to:

- a diminished potential of economics to recognize and explain the major contemporary civilizational and technological phenomena, processes and trends, leading to a sort of a crisis situation from the viewpoint of the ***scientific realism*** (cognitive realism) criterion. This is by no means a crisis in economics in general, since the above trend is counterbalanced by the dynamic growth of the New Institutional Economy. As a neoclassical take on the theory of institutions, the NIE places well within the bounds of mainstream economics – at least in this author's opinion. Through development of the transaction cost theory and the economic theory of ownership rights, the New Institutional Economy offers a valuable cognitive potential to explain the operation of companies and markets, as well as an economic interpretation of the state and political systems, not to mention the supra-economic spheres of social activities, especially the law[7]. Another good example is the rise and development of the theory of endogenous economic growth, which helped overcome the fundamental weakness of the standard (neoclassical) theory of growth, namely its inability to take into account the advancement in technology, science, and innovation as sources and factors of economic growth;
- secondly, the dominant position of the instrumental effectiveness criterion may be viewed as a source of crisis in economics, in the sense of its diminished potential to ***predict*** (the criterion of predictive strength in the evaluation of scientific progress) the future course of economic processes, particularly in the medium- and long-term perspective. This opinion, however, should not be interpreted as an argument for some potential capacity of economic sciences to provide accurate forecasts over such periods in a foreseeable future, similarly to, say, demographic forecasts,

[7] For a broader discussion, see this author's: Fiedor B. (2009). C f.: Hardt Ł. (2010).

particularly in the present context of the economic and financial crisis. The above conclusion applies also to the task of forecasting medium-term business cycles. Obviously, models of business cycles should be continuously updated and modified to account for a larger number of economic and non-economic variables. In the same way, the experts should seek endogeneous interpretations for those variables – if possible. Thus, without underrating the significance of the real business cycle theory in identifying the causative factors and mechanisms of contemporary medium-term cycles, it seems important to reverse the perception of the variables at play by exploring the endogenous properties of the external demand and supply shocks targeted by the theory. Such an approach will, undoubtedly, increase the 'predictive capabilities' of the variables in question (the accuracy of forecasts), which in turn will translate to a greater effectiveness of macroeconomic policies with respect to their power to tone down the fluctuations of business cycles. However, if the above postulate holds true, it would lead to a derivative risk of a partial loss of some of the most prominent sources of economic growth dynamics in the market economy, triggered by economic crises, namely the elimination of less effective economic organizations and the radical innovations in technology and organization (this is an obvious reference to Schumpeter's concept of creative destruction). Secondly, it must be remembered that the postulated endogenization has its natural boundaries, since both the technological phenomena and the (widely defined) cultural factors that influence the external supply and demand shocks will never be perfectly foreseeable.

IV. Crisis phenomena in economics in the context of contemporary technological and civilizational trends and structural changes in economy

In general, crisis phenomena in modern economic sciences should not be perceived, or at least analysed, not solely in the context of the present economic and financial crisis, but in a much wider context of the limited capacity of economic sciences to analyse or provide a broad theoretical outlook of the fundamental economic processes and civilizational trends which have a strong impact on the character of state economies and the global economic system. To state it in a different manner, the mainstream economics is still strongly dominated by the view that, in modern developed economies, both the growth phenomena and the stagnation phenomena (recession, depression, etc.) are decidedly influenced by business cycle factors. The only notable exception to this trend is the aforementioned New Institutional Economy, with its emphasis on formal and informal institutions as growth and development factors, and with its focus on social capital as an important source of economic growth. Similar conclusions can be made with respect

to the endogenous growth theory, not only based on its strong emphasis on the role of sciences, innovation, and education in economic growth, but also based on its formal demonstration (in a clear opposition to the standard theory of economic growth) that the state may sustainably affect the tempo and structural distribution of economic growth.

At this point, it may also be useful to depict the fundamental economic processes and civilizational trends that are not sufficiently diagnosed and addressed by economics as a science and largely neglected in the practice of economic policy, thus opening up the 'space' for crisis phenomena in economic sciences. These include:

1. The growing significance of supra-national corporations in the globalizing world economy – both with respect to their real and potential benefits and risks to economic growth.
2. The 'virtualization' of capital, particularly in the sphere of the so-called new economy, which often leads to a complete break-off between financial capital and the real economic processes, pump the priming effect and turbulent crises brought about by the realization of the real value of companies.
3. The extensive autonomization of financial markets (often referred to as the 'financialization' of economy) in relation to the real economy, resulting in a distortion of microeconomic calculations in production investments.
4. The globalization of the world's financial market, posing obstacles to an effective, pro-growth macroeconomic policy in some countries and supra-national entities (e.g., the European Union).
5. The demographic trends observed in the majority of developed and 'transitory' economies, resulting in the erosion of social security foundations and a number of other detrimental effects in the sphere of public finance (with less and less leeway to cushion them).
6. The emerging global-scale risks to economic growth and development, particularly in the sphere of energy and environment protection, as well as the growing disproportion of income and wealth, which also translate into global political and social problems, such as the threat (or even real attempts) of 'energetic blackmail' on the part of global holders of strategic energy resources or the growing threat of terrorism;
7. The unilateral (polar) structure of the modern world, understood here as the economic, political and military supremacy of the US, resulting in the disruption of self-regulatory processes in the world economy[8].

[8] The above problems are well-addressed in professional literature, both domestic and international. In-depth analysis of the problems is outside the scope of this article. See, for example: Sachs J.D. (2006), Friedman B.M. (2006, Part IV and V); Stiglitz J.E. (2004), Sadowski Z. (2005 and 2006), Kołodko G. (2008), Equity and Development (2006), Diverging Growth and Development (2006).

The above list of problems is surely a matter for a further discussion and represents the subjective view of this author on the present dangers to economic development and stability, as well as challenges faced by the economic science. It is also meant to emphasize one important issue. As we know, the most important task in the short-term perspective is to restore and retain the macroeconomic balance and stability on a national scale (also with respect to the balance of public finance), so that individual economies faced by crisis phenomena may be redirected on the path of a sustainable and relatively rapid economic growth in the medium-term perspective. However, this approach is by no means sufficient in the long-term perspective, since the growth potential of individual countries and that of the world under globalization will be determined by the above factors of civilizational, technological, and cultural character (surely not all of the above factors will play an equally important part in this process, but economics as a science must not ignore them, as long as the scientific progress is not reduced to a mere fulfilment of the instrumental effectiveness criterion.

If we choose to accept the list presented above, then it may be viable to conclude that the modern processes of economic growth and development are increasingly more complex and influenced by structural and (broadly defined) cultural factors. In particular, it would be theoretically ungrounded and highly inadvisable from the viewpoint of economic policy to define the role of the state based on a single theoretical school of thought. For example, it seems utterly wrong to limit the perception of the state and its role in economy exclusively to a single concept of macroeconomic policy (i.e. fiscal and monetary policy), be it neo-liberal or Keynesian. It would be equally improper to construe the concept based solely on the theoretical perspective of the real business cycle theory, only because the economy is under the influence of periodic supply and demand shocks (again – this argument is purely speculative and used as an example). Thus, both in the theoretical and pragmatic perspective, i.e. from the viewpoint of an integrated and comprehensive policy of state influence on economic development, it seems that the more advisable strategy would be to reach for a sort of an eclectic approach to the problem at hand. This should be interpreted as this author's postulate for the identification of the nature, manifestations, and sources of the contemporary growth and stagnation phenomena, coupled with the search for the mechanisms and instruments of a pro-growth state policy based on many (often contradicting) theories and models. Apart from the already mentioned, those include also:

- the theory of sustainable development, accentuating the environmental and energy-related determinants of economic growth and taking account the correlated nature of economic, social and environmental objectives of the growth processes: the above correlation is particularly important in this context, although largely neglected in simplified interpretations of this theory;

- the broadly defined evolutionary economics, including the New Austrian School of Economics and the 'long wave' theories, with its emphasis on the search of long-term correlations between innovation dynamics and real investment on the one hand and the economic growth on the other;
- the New Institutional Economy, focusing on the significance and impact of (broadly defined) institutions, also in terms of property rights and transaction costs, upon the economic growth dynamics;
- the New Political Economy, with its emphasis on the identification of economic and social mechanisms behind the formation and acceptance of particular economic solutions of economic policies (both macroeconomic and sectoral), as well as public regulation in market economies;
- ordoliberalism as a theoretical school focused on the need of a continuous, active role of the state in shaping the constitutional and legal fundaments of the economic order (*Ordnungspolitik*), while at the same time protecting the state from being 'captured' or taken over by pressure groups and enforcing the solutions that support social balance.

Should we choose to subscribe to the view that the growth and stagnation phenomena observed in the contemporary world are complex and multidimensional, then we should also agree that their identification and diagnosis require a multidimensional approach based on a variety of available theories and models. This approach has also an important implication of practical nature, namely the need to construe state economic policies based on various available methods and instruments. The state should also initiate a broad range of pro-growth activities (as dictated by the respective theoretical concepts), instead of taking a dogmatic stance in the task of formulating its policies in this respect.

Regardless of the apparent failure of the economic science to properly address the above megatrends of economic and technological-civilizational nature, and irrespective of the fact that the predictive and utilitarian power of theoretic generalizations offered by contemporary economics is largely limited, it may be safe to say that supporting the very foundation of microeconomic processes is of great importance for the further development of economic sciences. This conclusion is, of course, implicitly based on the concept of methodological individualism and as such may be subject to criticism on the part of those experts who subscribe to other methodological concepts, such as cognitive holism or cognitive realism[9]. However, should we choose to accept methodological

[9] The methodological concept of cognitive realism is typically evoked in relation with the complexity economics. To put it in simple terms, it is based on the notion of a certain 'space' between the individual (*homo oeconomicus*) and the economic universum, a space identified as 'social structures' which cannot be reduced to a set of economic entities. These structures are objective constructs and have an autonomous influence on the operation of individual economic entities. See, for example: Lewis P. (2004) in: Lewis P., ed. (2004).

individualism as an important constituent of the mainstream economic science (along with the concept of balance and the Popperian critical rationalism) and if we agree that the economic science (economic theory) will not progress without a clear understanding of the microeconomic and anthropological fundaments representing an individual dimension of economic decisions and activities, then we should also anticipate a constant need for improvement in our understanding of these fundaments. In this context, it seems that the most promising trends of research are offered by the new (and already mentioned) schools: the behavioural economics and the complexity economics.

By emphasizing the notion that certain crisis phenomena observed in contemporary economics should not be linked in a simplified and mechanical way with the present manifestations of the economic and financial crisis, this author was in no way intent on proving that such correlations are absent. Furthermore, and reiterating the earlier reservation, the crisis of economics as a science, in this author's view, should not be perceived in general terms as a crisis of cognitive, utilitarian or predictive value of the science. The intention was to demonstrate that the crisis phenomena observed in economic science should be perceived in a much wider and complex perspective, since they originate in the science's inability to fully recognize and address some of the most important civilizational, technological, and cultural trends which have a strong impact on economic practice in all dimensions, from microeconomic activities to global phenomena.

It may be useful to add here that the very same trends, described briefly in this article, were responsible for deep structural changes observed both in individual countries and on global markets. It may be safe to say that their impact on the scale, nature, and adversity of the present economic and financial crisis was overwhelming. However, it is this author's belief that the scale, nature, and adversity of the present crisis cannot be explained without taking into account the obviously cultural factor, namely the creeping erosion of fundamental values which constitute the economic culture and the ethos of economy based on free market and individual entrepreneurship. Such factors as individual responsibility based on personal property and wealth, empathy, and the notion of community to temper the individual strive for wealth, honesty, and transparency of agreements and other contracts of exchange – all those values have been present in economic discourse ever since Adam Smith's *The Theory of Moral Sentiments* and were perceived as a fundament for a positive feedback between individual wealth and the wealth of the nation, i.e., *ipso facto,* as a fundament of economic growth and development.[10] However, if we look at the present economic crisis from this very perspective, we can see important references to the sphere of real economy, particularly in the rapid

[10] It may be useful to note here that, irrespective of the 'selfish' category, i.e. the egoist notion of self-interest and wealth as a basis for any economic (and social) activities, A. Smith also emphasized the view that consumption and satisfaction of human needs are the ultimate objectives of production (Smith A. 1954, p. 355).

and dynamic process of separation between property (and the resulting responsibility) and management in large, privately owned economic entities, especially those of the finance sector, over the last 3–4 decades. Does it pose risks to the long-term survival of economies based on free market and private entrepreneurship? If so, in what way? These questions, posed already by Veblen and Schumpeter, are still open.

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