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Report/Summary on the
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Let me, first of all, thank the organizers of this conference for a great topic and interesting series of presentations. You have done a wonderful job. For me, it is a great honour and pleasure to be your foreign guest-speaker and to present this concluding summary of the symposium.

My report, however, will not be able to approach all the papers presented yesterday and the round table discussions which we had today as deeply as I would have liked to do. I can only emphasize the importance and the scientific value of a few ideas and concepts, which characterize one or the other paper and which I liked very much. Perhaps I am particularly in favour of them because they are closely related to my own research.

What I also want to do is to introduce them in a more or less systematic way, keeping in mind the overall frame and the main topic of this symposium. As far as I understand the program, it intends above all to bring together analytically and empirically the real economy and the financial sector in the context of Evolutionary Economics in order to find better explanations of, or better solutions for the crisis we are all experiencing at the moment, compared to what mainstream economics has to offer.

I am sure that all participants of this symposium and an ever growing number of economists worldwide believe that main stream economics did a very bad job not only in forecasting but also in analysing and understanding the current crisis. We have to raise the question why the economic mainstream has so much difficulty in deciphering a cyclical development process such as the just experienced one. Why does it fail in the quest for its underlying reasons, in the recognition of its true characteristics, and in the deduced proposition of the most promising measures against a looming economic crisis? A central point may be found in the

predominant opinion declared for decades in research and teaching that economics is first and foremost a discipline which has its main interest in the free and flexible adjustment of supply and demand. Intellectually, this may result from the fictional creation of the “homo oeconomicus”, the imagined rational economic agent who is able to accomplish an efficient and balanced allocation of goods, services, wealth and other resources on all markets by using the price principle and through the interaction with other economic actors.

In other scientific disciplines, and especially in the natural sciences, the mainstream has successfully grown out of those rather mechanistic explanatory patterns. Main stream economics, on the other hand, still derives its theories in large parts from equilibrium models which allow a mathematical, formal, and logically consistent systematization and analysis. A central criticism is that it lacks a sufficient comprehension of qualitative inputs of economic life, which are influential and empirically verifiable in technical processes and developments or in psychological phenomena. Above all, the mainstream does not show a future orientation but tries to find solutions in the present, thus raising the principle of static, allocative efficiency above all other possible strategies of accrual of wealth in economy as well as in society.

In order to fully understand and model the capitalistic system, we have to include other forces and factors into our analysis, such as the risk-taking entrepreneur, who acts on the basis of innovation and future oriented strategies in his enterprise and in markets. The willingness to take risks is therefore just as necessary for the creation and implementation of new goods and services in markets as are capabilities and creativity. Thus defined, capitalism becomes a system which is to a high degree linked to uncertainty and insecurity, both in a positive and negative sense. Basically, everything can and will happen if the system is allowed to develop freely. It is capable of generating most impressive performances and also of causing most painful collapses. It is, therefore, not a system of balance and harmony, but one which flutters between possible extremes of the highest success and the most deplorable decay. This quandary between forces that gravitate towards equilibrium and those that always force the system into a newly unbalanced state can be regarded as an almost constitutional phenomenon as well as a fundamental problem for a modern society that relies on progress both in knowledge and technology. Schumpeter referred to this situation with the ingeniously accurate phrase of “creative destruction”.

In economics, there really is only one school of thought which teaches the reality and experiences of capitalistic systems by applying such a strategy. It is the discipline of Evolutionary Economics.

But, if I am right, evolutionary economists also failed to a high degree to deal with a crisis of the present dimension. The reason for their failure lies at hand as well. In the last 30 years or so, the focus of research in Evolutionary or Neo-Schumpeterian economics concentrated especially on the real sector of an economy, on processes of innovation and technological change. Our dear colleagues, and I think also a great part of this audience, had problems and questions on their research agenda which dealt in a positive manner with the potentials and instruments to create innovative dynamics in companies or in an economy. So, industrial dynamics, economic success, growth, and structural change were the dominant topics of scientific interest. Without doubt, in this field they achieved a lot of new insights in the last decades, in different countries and different research groups, following mainly the eminent work of Nelson and Winter from the late 1970's and early 80's (cf. Nelson and Winter 1982).

On the other hand, however, hardly anyone of the best known evolutionary economists spent even one single thought on the fact that a general purpose technology, such as ICT, might be able to create such a tremendous dynamics and an economic boom which spread around the world like wildfire and which in the year 2000 stumbled over its own hubris, its own contemptuousness, its own exorbitance, and the limitless optimism of the involved actors. And, in addition, no-one thought about the consequences which such a boom in the real sector might create in the financial markets by forming an inflated bubble.

The only evolutionary economist I have in mind, who consequently stressed the interdependence of the real and the financial sector, and who rigorously worked out possible catastrophic consequences for the whole economy, was Carlota Perez (cf. Perez 2002). She seems to have studied very carefully the Japanese case of the 1970's and 80's. There you could observe the prototype of a Schumpeterian economy with a boom-bust development exactly comparable to the situation we are experiencing today.

So, first of all, I would like to congratulate the organizers of this symposium for their sensibility to bring together a group of evolutionary economists just in time to elaborate on the topic Evolutionary Economics, finances, innovation, and growth. As far as I know, this

conference is one of the first which on a broad basis tries to face the global crisis looking at the real as well as the financial sector and their deep interdependence.

I say that with great sympathy. Because, several years ago I formulated a manifesto for a “Comprehensive Neo-Schumpeterian Economics” in which not only the real sector of a capitalistic economy should be studied carefully, but with the same devotion also the financial and the public sector as well as their co-evolutionary development (Hanusch and Pyka 2007a, b, c, d).

This idea of connecting the real and the financial sphere of an economy in an evolutionary context is the red line of this conference, and it can be found in most of the presentations.

Let me first of all mention Prof. Polterovich’s paper. He stresses the importance of general purpose technologies for explaining and analysing the current crisis. And, I think he is right in doing that. To me as well, the global crisis is a typical “Schumpeterian” crisis, induced in a first phase by the extraordinary dynamics of far reaching high technologies. The example of Japan and the U.S. in the last decades are proving that to a remarkable degree. Also, the paper of Prof. Dementiev, and the presentation of Professors Badalian and Krivorotov are arguing along this line when they refer to the theory of long waves and emphasize their importance for a cyclical development.

But, technology and the resulting economic consequences embody only the first phase of a boom-bust story. Here ends, so to say, the orthodox Schumpeterian explanation. What is needed, in a second step, is an analysis of the effects for the financial markets, as Prof. Polterovich rightly argues. Such an analysis is hardly to be found even in the literature of evolutionary economics, as I already stated. So, Prof. Sergienko is completely right when he mentions Hyman Minsky in his paper as one of the very few economists who saw and who was able to draw the right conclusions from this ingenious insight for a theory of crisis of the capitalistic system. However, and here I have a different opinion compared to Prof. Sergienko, Minsky (1919-1996), a student of Schumpeter in Harvard, did not succeed to install his approach into Schumpeterian economics and there it never became a traditional element of economic reasoning. On the contrary, I remember very well the second conference of the International Joseph A. Schumpeter Society in Siena in 1988, which Minsky had attended and where he appeared to be a very isolated scientist, unable to convince the audience of the relevance of his concept (cf. Minsky 1990). Until nowadays, he remained a kind of “prophet

in the desert”, and only in the last two years or so, long after his death, he gets that recognition which he should have received during his lifetime.

Prof. Sergienko is also right when he mentions financial innovations in the context of a bubble. However, this kind of innovation should not be interpreted in the traditional Schumpeterian sense. In the real economy, an innovation may induce a process which we all know as “creative destruction”. In the financial field, however, it seems that innovations often create quite different effects. They easily can be described as products of “destructive creation”. The reasons for that are manifold and as yet not deeply researched and understood. Also, evolutionary economics will have to cope with that phenomenon and, as a consequence, enlarge its basket of concepts, instruments, and methods: this time not from the field of innovation economics, but from the field of behavioural science. Robert Shiller, the Yale economist, also mentioned by Prof. Sergienko, has been one of the rare birds in economics who more than 20 years ago tried to explain abnormalities in the financial markets by introducing concepts from psychology and behavioural sciences (see for example Campbell and Shiller 1984)

I stumbled upon this name and work just after the collapse of Wall Street in 1987. In the years after that we in Augsburg started to model a bubble development of financial markets using ideas of Shiller and mathematical concepts of nonlinear dynamics from natural sciences (see for example Kugler, Sommer and Hanusch 1996). A few years ago, a Ph.D. student of mine tried this endeavour again, this time by constructing an interrelated, artificial world on the basis of a Schumpeterian multi agent model, consisting of an industrial as well as a financial sector (cf. Grebel, Hanusch, Merey 2004). So, I was very glad when I listened to the presentation of Prof. Malkov who also seems to be very fond of this method. But as I see it research of this kind still lives in an exotic corner and is not well appreciated especially by the economics mainstream.

Also in this symposium, I am missing a presentation which would stress the behavioural element in explaining and solving the crisis. Why do rational and risk aware economic actors change their behaviour fundamentally in a situation of exuberant success or a boom? They suddenly appear as agents directed by “animal spirits”, as Keynes would say and as Akerlof and Shiller pointed out in their recent book (cf. Akerlof and Shiller 2009). Rational behaviour changes into a greedy, irrational one that is no longer able to judge a situation or make a decision based on a sound risk calculation.

In such a situation, I think it is not the specific type of a bank which determines the economic result of its undertakings, as Professors Vernikov and Kirdina argue in their presentation. The mentioned changes in behaviour occur in a private banking system as well as in a public one. Germany is a good example for that observation. There, especially the public Landesbanken (federal state banks) were the first ones which developed a greedy, risk neglecting attitude, and thus were the first to fall a few years ago into the stormy floods of crisis. Maybe one reason for that can be seen in the financial guarantees which governments normally offer to their own banks. Apropos public guarantees for banks: It seems that the recent government programs to rescue the banking system installed in different countries have the same effect. The Wall Street boys and the London bankers have already started again with their shameless activities as if the tremendous crisis of the last months had not existed.

In the context of the financial crisis, one also has to mention the role of the central banks. This is accentuated in several papers, although in a more indirect manner. Prof. Mayevsky pursues this idea when he argues that they had mainly the inflation of consumer prices in mind and that they did not consider that there could also arise developments induced by inflowing money and liquidity into the asset markets. How asset inflation comes into existence and how it is processing dependent on the situation in the real economy are questions of greatest importance. But, unfortunately, they have not been examined until now in a successful manner. That is true for academic research as well as the in-house research of central banks. Especially, the central banks failed significantly in addressing the importance of asset inflation as a detrimental cause and element of crisis. Maybe certain mechanisms as discussed in the presentations of Prof. Mayevsky or Prof. Frolov could be the driving forces for inflationary processes in asset markets. Here some more insight is needed, and I would like to encourage both professors to continue with their promising research.

A further approach which I like very much is discussed in the papers of Oleg Sukharev, Michail Stolbov, and Prof. Kleiner. All three reason on the concept of a sustainable development of economies. Such a development could be based on endogenous processes, influenced by the structure of an economy, and the grade of dependence between the real and the financial sector. Michail Stolbov relies in this respect on a concept offered by Ben Bernanke years ago, called the financial accelerator concept. Oleg Sukharev tries to find his own way through this complex and difficult subject using methods of intersectoral dynamics to uncover the interactive processes between the real and the financial sphere in the Russian

economy. And, Prof. Kleiner uses the well-known systems theory approach to elaborate his ideas. Here you can see how many roads lead to Rome. This is really a promising research.

Naturally, sustainability can also be a political goal exogenously aspired and executed by governmental institutions (cf. Hanusch, Pyka and Wackermann 2009).

Without any doubt, sustainability is a concept which is far away from a Schumpeterian process of boom and bust, and also from the analytical framework of Austrian economics. Schumpeter would probably reason that we should leave the capitalistic system alone, even in a severe crisis and even in spite of all the other threats facing the world today such as climate change or aging societies. There are enough self-healing forces within it that will make sure that after a certain period of global downturn, we would return to a phase of common growth; meaning that it would start a development which will once again lead through a powerful, maybe technological incitation from a bust towards a boom situation. But, can and may we consider this option justifiable in economic or political terms after we have made the terrible experiences during the first world economic crisis, and, in the subsequent years, in the devastating consequences of the Second World War? No, the political dangers that would arise here are by far too unforeseeable and dramatic that such a strategy could not be tested under any circumstances because of consequences, such as an increasing protectionism and nationalism, social riots and possibly even wars. Therefore, a crisis needs the government and its policies.

The government as a political actor can, and should of course, make a contribution so that ups and downs in the development process of an economy are more moderate and steady, and that a smoother evolution can be attained. In this context, I introduced earlier a concept called the “Neo-Schumpeterian Corridor” (cf. Hanusch and Pyka 2007b, c and Hanusch and Wackermann 2009).

Such a corridor is designed in a future oriented way and represents an open space for development which runs acute-angled between two axes representing time and economic success and for which the innovation and firm driven dynamics of modern economies can be modelled regarding sustainability and moderate development. Within this corridor, economic entities, companies as well as economies, can move freely and can choose a success-based and promising position dependent on their specific preconditions. The essential aspect of this concept is its future-oriented focus, since it is of utmost importance for each economic system

to evolve on a path that lies within the corridor. An economy which finds itself below the corridor cannot create a sufficient dynamics which would empower the people to maintain their living conditions. As a consequence, a downward spiral of growing risk aversion, decreasing innovative pressure and relative decline of the standard of living would ensue and hamper any positive economic progress. On the other hand, an economy that is growing exuberantly fast and therefore positions itself above the corridor risks breaking its structures because it asks too much of its more sluggish members. The danger is that those sectors will make the entire system break into pieces and that the economy will drop into a position below the corridor, where economic development is not sufficient. The best and in a long-term view the most successful situation will be for an economy to position itself towards the upper boundary of the corridor, where the dynamic sectors can use and develop their potentials while the less dynamic fields will not be left behind or torn apart by the high speed of change. Maintaining such a position can secure a stable, sustainable and progressive development for an economic system.

Thank you very much for your attention.

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