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Global Financial Crisis: Causes and Lessons
A Neo-Schumpeterian Perspective

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ABSTRACT

This paper analyses the current financial crisis from a Neo-Schumpeterian perspective. We postulate four linkages that led to the crisis, and that will help us find our way out of the crisis. Therefore, we show that the current evolution is very similar to the Japanese crisis in the beginning of the 1990s. Furthermore, we address the issue why the world was faced with this crisis in such an unprepared way and look at the deficiencies in current economic theories that are responsible for the fact that we did not foresee this development. Besides, we elaborate that the crisis is not a systemic default of the capitalistic system but that it is rather a consequence of its enormous success. Finally, we propose the Neo-Schumpeterian Corridor as a theoretical framework that can help avoid such dramatic evolutions as the current crisis and look at possibilities to overcome this situation.

KEYWORDS

financial crisis, Neo-Schumpeterian Corridor, crisis evolution, governmental role

JEL: B52, G01, H11, N20, O20

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Introduction

Most of the currently active economists see in the World Economic Crisis at the end of the 1920s a textbook example of economic decline. It is also a widely analyzed research topic, used as an empirical basis of many business cycle models. Hardly anyone ever really thought that the financial markets of the world could once again fall into such a crisis and that economic theories would be confronted with a situation as drastic as the one we are experiencing right now.[1] The economic fluctuations of the last 60 years have been judged more or less to be necessary processes of cleansing, which could in no way endanger the enormous success of the free market economy in the western industrialized countries. On the contrary, all those politicians and intellectuals who were hoping for a collapse of the capitalistic system instead witnessed the downfall of the state regulated and centrally administered economies in Eastern Europe, a downfall followed by an unseen and hardly thought possible increase in social well-being after the introduction of the market economy.

So what are the developments of the last few years which have led the world close to a mood of doom and have made people think more intensively than ever before on how to deal with the plight that is showing on the horizon? Is it the scientists, the politicians, and the media who have failed to point out in a timely and urgent manner the dangers or even the possibility of a crash of the capitalistic system? Why did systemic control mechanisms not strike a bell and warn us that the modern way of living, working, consuming and investing would not only have ecological but to a high degree also financial consequences?

This paper will try to answer those questions by proposing four postulates. We aim not only at explaining the causes that led to the crisis but also at showing which lessons can be drawn

[1] There is a critical overview on the state of economics as a science about 20 years ago as well as an outlook on the future developments in Hanusch and Recktenwald (1992) and in Hanusch (1992).

from the experiences of the immediate past. Our analysis is based to a large degree on findings which stem from the Neo-Schumpeterian approach. The first postulate highlights the parallel evolution of today's crisis with the one that Japan suffered during the 1990s. The second hypothesis deals with the deficiencies in the currently dominant (neo-) classical economic school and tries to examine whether it possibly shares some of the responsibility for the present situation. The third postulate concentrates on a phenomenon which seems to be particularly linked to the capitalistic system. We will talk about the dynamic forces which will, on the one hand, lead the system to almost infinite success and, on the other hand, as a consequence, may lead to unexpected crashes. The fourth hypothesis will propose a framework of goals and actions designed as a means of support to be better prepared for such global crises in the future.

In Japanese footprints

Postulate: Today's world financial crisis evolves in similar fashion to the crisis that Japan suffered about 20 years ago.

The Japanese economic miracle happened at the same time as the German "Wirtschaftswunder" and marked a period of enormous growth in production. Between 1954 and 1973, the Japanese economy increased tenfold[2] and, by 1976, Japan had risen to be the second largest economy of the world, trumped only by the USA. Three characteristics specific to Japan's situation had made this prodigious development possible: the enlargment of private investment facilitated by the large savings of households; the marked change from an agricultural to an industrial society, which was spurred by the availability of high-skilled labor; and the increase in productivity which came about from the successful replication and enhancement of foreign technologies.[3] Japanese growth peaked in the early 1970s. For the first time since the end of the Second World War, the country encountered a negative growth in 1974, and it focused towards the end of the decade on shaping its industrial configuration to be more energy-saving, since the high import-dependency concerning energy could lead to difficulties.

[2] cf. Johnson (1982).
[3] cf. Ministry of Internal Affairs and Communication (2008a).

Between 1979 and 1983, growth slowed considerably. Nevertheless, Japan remained a country with remarkable gains in productivity, and in the late 1980s, it had the highest per-capita income among the larger countries of the world.[4]

From the beginning of the 1990s, the country suffered an unprecendented crisis in the financial markets, which led Japan into a more than 10-year stagnation. The main reason for the economic slump was the hard landing at the end of the tremendously successful development of its economy. The evolution of the crisis was as follows: During the 80s, Japan saw a strong rise in prices of financial and fixed assets, followed by an overheated economic environment. This was nourished by large amounts of capital available at low interest rates, which led to an increase in the money supply.[5]

Another factor responsible for the bubble in the financial and housing sectors was the so called "Plaza Agreement" which bound the G5 countries in September 1985 to devalue the US-Dollar vis-à-vis the other four currencies. The decision was based on pressure by the USA, where the worsening terms of trade stemming from a strong dollar had led to falling prices on imported goods and a rising trade balance deficit. The so-caused upvaluation of the yen and the strong decline in Japanese exports forced the country to a change of strategy. According to the "Maekawa-Report" of April 1986, the economy should rely much more on domestic demand. Consequently, the Japanese central bank lowered the interest rates dramatically, in order to stimulate domestic investment.

A further key reason was the "Louvre-Accord" of February 1987, where the G6 countries agreed to end the depreciation of the dollar, which had followed the "Plaza-Agreement" to stabilize exchange rates. Practically, this required Japan to reduce the discount rate to 2.5 percent in order to increase the money supply and to depreciate the yen.[6] The Japanese central bank offered money in almost unlimited amounts during that period. As a result, M2 rose from 285 trillion yen at the beginning of 1985 to more than 500 trillion yen at the end of 1990.[7]

Loans were accordingly available at relatively low interest rates. Many companies used this opportunity to take out mortgages on their properties, which they used to buy new real property, requesting mortgages for the new properties as well. This was possible because the real estate prices and consequently the accounting values were soaring due to the increased de-

[4] In 1989, only Switzerland, Luxemburg and Bermuda had higher per-capita incomes. Cf. NationMaster.com (2008).
[5] cf. Okina, Shirakawa and Shiratsuka (2001)
[6] cf. Bank of Japan (2008).
[7] cf. Bank of Japan (2008).

mand. The already high Japanese real estate prices grew to astronomical heights. At the peak of the speculative bubble in 1989, the gardens of the emperor's palace were worth more than all of Canada. A 1200 square meter premise in central Tokyo was worth almost 850 million US-dollars.[8]

The high liquidity of Japanese companies also led to high investments in other sectors such as stocks or foreign investments. Especially in the USA, many companies were consequently taken over by their Japanese competitors. Driven by those investments, the Japanese economy grew at an enormous rate.[9] Between 1987 and 1990, Japanese GDP grew on average by 5 percent per year.[10]

Finally, this speculative development, which had by then been completely decoupled from real productivity growth, led to a dramatic crash. The Japanese central bank was forced to act as a result of the booming economy and the rapid price increase in the stock and the real estate markets. For fear of high inflation, it raised the discount rate from that which had prevailed in 1989 in just more than one year from 2.5 to 6.0 percent, in order to reduce the money supply.[11] Consequently, new credit became much more expensive and often people could no longer pay maturing liabilities. Since the invested money had gone mostly into items of speculative value, many companies offered their holdings for immediate sale when confronted with the new reality. Due to the excessive supply, property prices plunged dramatically so that, by 2002, Japan reached the price level of the late 70s.[12] The Nikkei-index at the stock market showed a similar development.[13]

The outmost lax monetary policy of the Japanese central bank is certainly a valid argument for explaining the development of the speculative bubble in their stock and real estate markets. Nevertheless, we have to raise the question, whether this development was inevitable. Was it not the responsibility of the political sphere to intervene in time and to stop and prevent this development from unfolding?

It was definitely a large mistake that the Bank of Japan used the interest rate as a political measure too half-heartedly at first and then too exuberantly. On the one hand, it has waited too long to raise the discount rate and then, on the other hand, acted too hectically and excessively. If this decisive mistake had not occurred, the burst of the bubble could have been avoided or at least weakened in its effects. Further defects of the Japanese policies may have

[8] cf. for example Becker (1989).
[9] cf. Okina, Shirakawa and Shiratsuka (2001).
[10] cf. Department of National Accounts, ESRI (2008).
[11] cf. Bank of Japan (2008).
[12] cf. Baader (2005).
[13] cf. for example Bigsten (2004) and Bank of Japan (2008).

been the too moderate regulations for credits as well as the missing limitation of loans in the housing industry.[14]

Needless to say, we should also ask if the burst of the speculative bubble in the real estate sector was the only trigger and the only amplifier for the economic tumble of the country in the 90s. Other factors, such as the weak world economy, did certainly play a role for the export nation Japan at that time. Nevertheless, many economists share the firm belief that the Japanese economy could have found itself resurrected after a few years if it had implemented a different monetary policy.[15]

In any case, Japan has experienced a more than ten year long recession following the burst of the "bubble economy". In the 1980s, the country achieved an average growth per year of its GDP of 4.1 percent which was considerably more than similarly highly developed industrialized countries. But between 1991 and 2000, the average growth rate of GDP dropped to only 1.4 percent per year. This left Japan among the weakest performing countries in the international growth ranking.[16]

The sudden decline in stock and real estate prices substantially impaired many companies. The commercial banks held many so called "foul credits", which surmounted by far the value of the underlying property and buildings. The debtors, who were mostly Japanese companies, often did not have the financial leeway to defray the interest payments, let alone repay the loans themselves. This led to a wave of insolvencies, which tore down other companies. The amount of irrecoverable credit amounted at the end of the 90s to an estimated 200 trillion yen, which corresponds to about 2 trillion euros.[17] Only governmental intervention could have saved the Japanese financial system from collapse. Consequently, the larger mortgage banks received about 500 billion euros in public money.[18] A similar development followed for the indebted companies. The amount of insolvencies grew from 6,500 in 1990 to almost 20.000[19] in 1998.

The wave of disappearances of firms had to induce major changes in the labor market. For decades, Japan almost reached full employment. From 1991, the unemployment rate grew continuously from about 2 percent to its historic peak of 5.4 percent in 2002.[20] Two develop-

[14] cf. Saxonhouse and Stern (2004).
[15] cf. Saxonhouse and Stern (2004).
[16] cf. Weinert (2001).
[17] cf. AFP (2007).
[18] cf. Baader (2005).
[19] The explanatory power of this figure is debatable, since there is often a lagged development due to delayed insolvency proceedings. Cf. Kageyama and Harada (2005).
[20] Data from the Ministry of Internal Affairs and Communication (2008b). The rate is still very low in an international comparison due to the specialties of the Japanese labor market, such as a lifelong relationship between

ments were striking in this situation: the accrual in the number of unemployed young adults and the reduction in the number of fulltime employees, together with a significant surge in part-time and short-term labor contracts. Furthermore, the government limited the amount of working-days as well as the amount of working-hours per week in 1992 in order to help create new jobs.[21]

In the early 1990s, Japan found itself at the beginning of a period of deflation, which was due to many factors. On the one hand, the banks largely restricted their lending after the burst of the speculative bubble; on the other hand, the Japanese customers disposed of less income and decided to save a higher percentage of this reduced income. Both developments contracted the money supply and aggregate demand. The reluctance to consume led to an under-utilization of production capacities and, therefore, to an increasing difference between potential and real GDP. This pattern continued from 1991 until 2005, pointing to the constant overproduction which had to generate a decrease in prices.[22]

So we cannot qualify the current financial crisis as a surprising and unpredictable event, when looking at the development in Japan. The Japanese crisis had similar causes and a comparable evolution to the current one, even though its dimensions did not have such a global effect. This is due to the fact that globalization, which is the worldwide interconnection of economies, had not yet been as strong as it is today, and to the fact that the USA, as the largest and most important economy in the world, had only been touched peripherally and did not play a central role or act as an amplifier.

Those factors may also have been responsible for the fact that both economics as well as global politics and the media coverage did not take the resulting shocks seriously and only treated them superficially. This leads to our second postulate.

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employer and employee, large governmental employment programs etc. Nevertheless, when including the estimated number of unreported cases, the unemployment rate is suspected to be three times as large because of the optimistic calculations. Cf. Demes (1998).

[21] cf. Hayashi and Prescott (2001).

[22] cf. EconStats (2005) and Saxonhouse (2005).

We used the wrong glasses

Postulate: The common, Anglo-Saxon theory of economics is not capable of establishing a convincing systematic cause-effect-framework for the above described processes in the case of Japan or the current global financial crisis which would put it into the position of analyzing and explaining those developments both adequately and in a satisfying way.

We have to raise the question, why the economic "mainstream" has so much difficulty in deciphering a cyclical development process such as the above mentioned. Why does it fail in the quest for its underlying reasons, in the recognition of its true characteristics, and in a deduced proposition of the most effective measures against a looming economic crisis? A central point may be found in the predominant opinion found for decades in research and teaching that economics is first and foremost a discipline which has as its main interest 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.[23]

In other scientific disciplines, and especially in the natural sciences, the mainstream has successfully grown out of those rather mechanistic explanatory patterns. Even in physics, where mechanics – a field where many substances gravitate towards an equilibrium state – has always played a major role, we find an established research on phenomena dealing with complex and chaotic processes. They cannot be characterized by the drive towards equilibrium but are rather linked by their unbalanced and often erratic dynamics.[24] Research on climate development, human genes, or large fields of modern biotechnologies has its fundamental roots in ideas that have a very qualitatively complex background restricting them from being analyzed through simple quantitative methods. The mainstream in economics, on the other hand, still derives its theories in large part 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

[23] An early but in many respects still very relevant critique of the neoclassical theory can be found in Georgescu-Roegen (1981). There is also a very harsh critique of the assumption of rationality by economists who favor the school of behavioral economics. See Kahneman and Tversky (1979).
[24] cf. Prigogine (2005).

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.[25]

In order fully to 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.[26] 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 the 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 is true for companies as well as regions, nations and global economic areas. 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"[27].

In economics, there really is only one school of thought which tackles the reality and experiences of capitalistic systems by applying such a strategy. It is the field of Evolutionary Economics. The heterodox orientation of this economic current shows in representatives such as Nicholas Georgescu-Roegen, Friedrich August von Hayek, Thorstein Veblen and, last but not least, Joseph A. Schumpeter, all of them being substantial precursors to this school of thought. Contrary to the neoclassical paradigm, which hardly ever deflects from the assumption of reversibility of the standard model and which fundamentally presupposes the gravitation towards equilibrium, evolutionary economists explicitly account for irreversibility and so called far-from-equilibrium states in their models.[28] Only then can we attain a level of explanation which is close enough to reality to allow for a substantial analysis of crises and changes. Furthermore, these economists deviate from the ideal model of the homo oeconomicus by lifting the assumed homogeneity of mainstream agents and by including heterogeneous actors. The admittance of differentiated actors and the processes of variation and selection of economic

[25] For a thorough normative critique that elaborates in a well-founded way on this argument, cf. Sen (1985).
[26] Cf. exemplarily Kirzner (1997).
[27] cf. Schumpeter (1975).
[28] cf. Haken (2005) and Witt (1992).

actions linked to them is a necessary condition for the development of true innovations, and their analytical separation in its full breadth and depth as well as their use in corresponding models as endogenous factors make an analysis and an explanation of long-term developments possible.[29] Ultimately, the creative entrepreneur who will have to deal with true uncertainty plays a central role in the development of innovations which are so essential in evolutionary economics.

Maybe it is due to the complexity of the evolutionary approach that the neoclassical is still the dominant school in economic theory, even though this school of thought apparently suffers from very narrow boundaries when it comes to analyzing and explaining phenomena of crises. In any case, we also have to ascertain a neoclassical predominance in the central banks and the philosophy they follow as well as the instruments they are using. Instead of focusing on a neoliberal, short-term policy of fighting inflation in the consumers' market basket of goods and services, the central banks should have addressed earlier, both in the case of Japan and in the run-up to the current financial crisis, the long-term inflation in assets that was developing in the stock and real estate markets as well as their underlying causes, for it is the inflation in assets itself which is in an evolutionary-Schumpeterian context a cause for distortion and crises.

In this theoretical framework, crises are not considered to be exogenous shocks that happen to arise without any real influence of the market participants, as the neoclassical business cycle and growth theory assumes. They rather occur as endogenous phenomena and can therefore be anticipated much better and be integrated into an economic and political framework. The momentous challenge for an evolutionary economic policy then lies in discouraging an excessive flow of liquidity into investments and markets, which only foster asset creation in a static, allocative sense, and in promoting the flow into investments and markets which will increase the long-term development prospects of an economy.[30]

From this perspective, we juxtapose allocative efficiency, which is elevated by the neoclassical theory, and a so called evolutionary efficiency, which relates to a successful constitution of sustainable capabilities for future development in companies, markets and economies.[31] Schumpeter already recognized this trade-off between allocative and evolutionary efficiency and explained it as follows: "A system – any system, economic or other – that at every point in time fully utilizes its possibilities to its best advantage may yet in the long run be inferior to

[29] As a corresponding evolutionary standard textbook, we refer to Nelson and Winter (1982).
[30] cf. Hanusch and Pyka (2007c) or Wegner (2004)
[31] cf. Potts (2000) and Erdmann (1993).

a system that does so at no given point in time, because the latter's failure to do so may be a condition for a level or speed of long-run performance."[32]

Our third postulate follows closely from this idea.

It's not a bug

Postulate: Crises as we experienced them in the 1920s and afterwards on a regional level as well as now once again globally do not result from failures in the market economy or the capitalistic system. They are not systemic defaults but are much rather the result and product of an excessive and exaggerated success of this system.

This can be shown by analyzing the development of the last 20 years in the USA, and as we explained earlier, this evolution is analogous to the one in Japan in the 70s and 80s. The true base of today's global financial crisis lies in the USA and in the enormous economic boom, which was spurred by the coincidence of several economic factors that may be called Schumpeterian: the innovative base technology in the IT-sector which spread like wildfire; the readiness of creative entrepreneurs; and last, the availability of sufficient risk capital that could be used to finance a future oriented expansion. Besides, the government provided the necessary framework by choosing a policy of low taxes and deregulation of economic processes. This expansion period proved to be so tremendously successful that it burst – not only in the IT-sector – all scales of evaluation of companies and it carried with it many other economic sectors to unseen heights.

Around the year 2000, the boom stumbled over its own hubris, its own contemptuousness, its own exorbitance and the limitless optimism of the involved actors. The eventual burst of the inflated bubble preceded the deep slump of the New Economy and the Dot-Net-World.

All the important stock indexes of the global financial world shrunk in the aftermath to about one third of their formerly reached highs. The political sphere, especially the central banks, had no other option but to react almost in panic by lowering interest rates and therefore by adding even more new liquidity. Since the formerly lucrative fields in the business world had vanished, investors searched for new fields with satisfying returns. They found their new Eldorado in the real estate sector. This is the point where we find the shift from the firm sector to the households and consumers. Once again, it was the substantial short-term success that led investors to be excessively optimistic. This optimism was additionally animated by innovative, supposedly risk-free financial products which were custom made for the US real estate

[32] Schumpeter (1975).

sector. The consequence was an immense speculative bubble which was no longer located in the firms sector but in the consumers and household sectors. The US homeowners had the impression that they were growing ever richer with increasing prices for their houses and they adapted their spending and saving behavior to this perceived wealth. They were willing to pile up an ever larger debt and to use the loans to a large degree for personal consumption.

In this situation, the Federal Reserve, the US central bank, feared nothing more than growing inflation. In order to counter this tendency, it began in 2004 to increase the interest rate. Many homeowners could not afford the additional financial burdens. More and more lenders showed deficits in payment which allowed a peek at the true situation in the real estate market and also aroused the suspicion of risks that might be integrated in the credit based, "innovative" financial products. Since the entire banking sector worldwide had started to believe in the easily achievable, above average return of those products and had started to buy them in large quantities, the increasing deficits in payment hit not only US banks but also shook global financial institutions in a more or less drastic way.[33] This produced a worldwide crisis of trust, liquidity shortages and, as a consequence, insolvencies and closures in the banking sector, especially in the field of investment banking.

All struggles of the central banks to add liquidity to the economy have so far hardly proven to be successful. We are still in the middle of a global financial crisis which risks spreading into a world economic crisis. In all concerned countries and economies, the call is out for the government and the political sectors to intervene as the knight in shining armor. Once again, it is the overwhelming, short-term success which pushes even such a proud economy as the USA and many other countries in its wake into the crisis and elevates the government as a potent player, conscious of its own power, back on the stage of economic everyday life. Following this finding, we add our fourth postulate.

[33] See for example Welfens (2008).

The Neo-Schumpeterian Corridor

Postulate: The task of the government in a mixed democratic economic system is to try to fit the economic policy into a holistic view of economic development in which the future oriented, dynamic co-evolution of the real and the financial sectors play a dominant role. Furthermore, the government should restrict itself to smoothing an erratic growth path and should not engage unilaterally and partially as an individual economic actor with short-term interests in the market with measures such as nationalization or governmental control of the financial sector.[34]

Due to the neoliberal, neoclassical state of mind of the important makers and shakers in academia and politics, who consider the government to be a sort of repair garage of last resort, the people in charge are skating on thin ice and risk overreacting. They think that they have recognized some defaults in the market system and are trying to eliminate them by strong public involvement. Apparently, this provides the government with a role and responsibility that exceeds by far every so far accepted dimension. The currently discussed inventory of possible measures represents exhaustively the whole spectrum of public activity: intervention, regulation, control, and nationalization are the most frequently cited terms when it comes to using governmental help to cope with both the financial crisis and the developing economic crisis. This can be an extremely risky attitude, especially when it leads to a policy of partial "piecemeal engineering" and when the overall context that characterizes modern economies in the era of the knowledge societies is not respected.

It does not seem controversial that successful capitalistic economies cannot exist without a certain amount of regulation if we want them to generate an economic development which is sustainable and less erratic than the unregulated invisible hand could achieve. 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, we propose a concept as an analytical framework which we have introduced earlier as the "Neo-Schumpeterian Corridor".[35]

[34] For a country such as China, where the market economy is firmly linked to the authoritarian system of a single party, we would most likely have to modify this assumption. For that kind of capitalism, the question of appropriateness and flexibility as well as the degree of efficiency of political measures appears to be fairly unknown. See for example Elegant (2008).

[35] cf. Hanusch and Pyka (2007b).

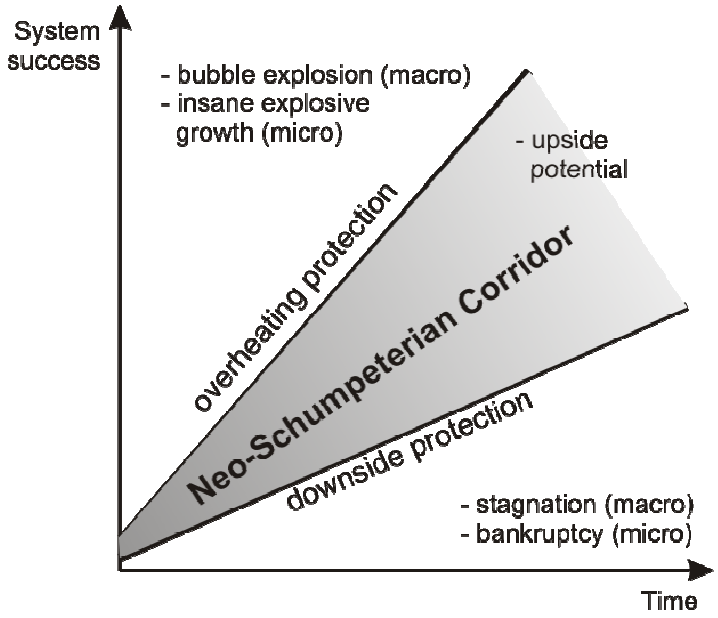

Figure 1: Neo-Schumpeterian Corridor

Such a corridor is designed in a future oriented way and represents an open space for development in which the innovation and firm driven dynamics of modern economies can be modeled. 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.[36] In this sense, the corridor also serves as an outline for possible developments that political actors have to respect as well.

Without doubt, the essential asset of this concept is its future oriented focus. It is of utmost importance for the long-term stability of the economic system that its progress is neither too large nor too small. Too little growth cannot establish an advancing dynamics, and the standard of living in an economic area would have to suffer. The increase in investments would be insufficient both in the private and the public sector as well as with respect to physical, human, intellectual and social capital. The people will then adopt a negative view on the future development and, therefore, oppose and block the creative access to innovations and risk propensity.[37] These two elements, however, sum up the driving forces of development in a capitalistic economy. At the end of a period of insufficient growth, the living conditions will inevitably decline on a relative basis. The relative recession may even be aggravated, if other regions, nations or economies achieve a higher growth and standard of living.

[36] cf. Hanusch and Pyka (2007c)

[37] Phenomena such as uncertainty and the resulting anxiety as well as success and the thus increased risk propensity and their links to individual decisions are the subject of an interdisciplinary field of study called neuro-economics, which is trying to combine approaches from neuro sciences and economics. See for example Berns (2008).

The same is true for the case of an economy that is too successful and attains growth rates far above average, rates which may be neither sustained nor stabilized. This success may very well create the positive and optimistic basic attitude in the economic agents necessary for future-oriented operations, but rapid growth is always linked to an accelerated process of change in the structures of an economy. There are sectors which are readily expanding and others that do not grow as dynamically and so cannot keep up with the fast pace of development pushed upon them by the fast growing domains. The real development in such an economic system will then be determined by two velocities. The variables that impose and can bear the high speed will be found in the innovative and strongly growing sectors and companies, while the sluggish variables fall into the sectors of low growth. As long as the latter serve as a natural brake for an exuberant economic dynamics, the economy will continue to position itself within the corridor and quite possibly even at its upper boundary. From a theoretical point of view, this is the best and economically the most successful situation for an economy.[38] Admittedly, this case will empirically only occur in the rarest cases for a longer period of time.

For the structural conflict between the fast and the slowly developing industries in an economy can – even if it was limited to the real sector and therefore seems to follow the Schumpeterian ideal of "creative destruction" – lead to the complete breakdown of the entire system, because the inert sectors can no longer support the high pace of growth of the dynamic industries. This may happen when, for example, the infrastructure, the training of employees, or the adaptation to customers' wants or suppliers' conditions cannot be altered and harmonized rapidly enough and will then work as a scotch block for all sectors.

Still, this case may also be seen as an exception, just as the "natural" adjustment of dynamic and retarding forces in an economy or an economic region. Empirical findings and the history of economics show that, in general, two spheres of action are responsible for the determination of the state and the position – within the corridor, the overheating or the stagnating zone – of an economic body. The causal factors are in the real sector on the first part and to a large degree in the financial sector of an economy on the second part.

The dynamic industry or industries such as the IT-sector in the 90s will incite the attention and the interest of all those economic actors who will want to participate in the boom in fast growing domains as financial investors and who will want to also enjoy the high returns achievable. The technology driven expansion in the dynamic part of the industrial sector will

[38] cf. Saviotti and Pyka (2008): This is based on the idea that there are forces in an economy that tend by themselves towards the best solutions following the principle of self-organization and self-regulation.

then be spurred and artificially inflated by the boom in the asset part of the financial sector, which is triggered by the greed and short-term focus of the financial investors. [39]

It is this finance-based overheating that can topple the whole economy into a severe crisis. This will always happen when we have a situation where the market is full of the fear of inflation and where the monetary policy is quickly shifted from an expansion to a contraction strategy. Just as we can see in the examples of Japan and the USA, this will lead in most cases to a panicking reaction of private investors in the financial markets. They suddenly see their return opportunities going down the drain and try to save all they can. Financial bubbles that had been built up in the time leading to this point will burst and in its wake will tear down the industrial part of the economy. The more important and interconnected an economy is in the global economic sphere, the more global and dramatic the consequences and crises will appear.

The only sensible path for a future-integrated, continuous and sustainable development of an economy or of an economic system is a political strategy of having monitored, moderate overall growth with a corresponding rate of development. Only then can all structures, both in the real and the financial sectors, advance within the Neo- Schumpeterian Corridor in a "healthy", co-evolutionary way. So it is the government and the central banks that bear the responsibility to generate an almost natural balancing between "Fast" and "Slow", between "Dynamic" and "Static", between "New" and "Old". The fast growing industries must have the possibility to expand without risking having their dynamics devitalized by the more sluggish sectors. On the other hand, the latter are supposed to form a natural brake that prevent the development of an excessive dynamic both in the industrial and in the financial sector. It is the responsibility of the public sector to provide for a framework which is designed in a way that both hardships in the present - such as can arise in regular cyclical recessions – can be shouldered and that successful developments in the future are stimulated. An economic system can achieve such a secure long-term strategy which minimizes the risks of a boom as well as those of a drastic crisis exclusively if it moves within the Neo-Schumpeterian Corridor, if possible at its upper end.[40]

The idea of such a corridor presupposes that the political sphere can actively decide on the framework and take the appropriate measures that can effectively and timely tame and domi-

[39]Hyman Minsky, one of Schumpeter's students, described such a situation more then 40 years ago very accurately. He also thought through in a visionary way the financial consequences and dimensions of Schumpeter's theory of business cycle in the real economy. See for example Minsky (1990).

[40] This idea is not in line with Schumpeter, who included the whole scope of a business cycle, both the boom and the crisis, into his model and considered the two extremes a fundamental prerequisite for a "healthy" development process of a capitalistic economy.

nate those forces in a capitalistic system which continuously try to go through the roof and risk exiting the corridor towards an excessive growth path. On the other hand, politicians have to make sure that an economy will not fall out of the corridor, and that it will not have to cope with economic stagnation. Probably the greatest challenge for academia and politics in the next years will be to bring this Neo-Schumpeterian Corridor to life by providing the economic and political content of implementing the right strategy.

As substantial as this challenge may be, there are a few rough and avoidable mistakes in politics which we can already point to today. The political framework should by all means not be limited to singular, not deeply thought through, reactive measures such as are discussed right now in Europe and worldwide for the financial sector, such as transparency, surveillance, control or nationalization in the banking sector. The focus should be much more on the dynamic overall performance of a modern, capitalistic economy which is on the brink of transforming from an industrial into a knowledge society. This evolution is driven by the three most important columns of its economic and social regime, which are the sectors of the real economy, the financial sector and the public sector. All three have to serve the future design of society and economy and assume a corresponding role.[41] In such a concept, the task of the real economy will be to foster at all times the knowledge-oriented progress and the resulting wealth of a country or a region. To accomplish this task, it needs certain freedoms and the active support of the government, for example, through a growth and progress oriented tax system on the revenue side of the public budget or investments in education and research on its expenditure side.[42]

The financial economy has an even closer, almost symbiotic relationship with the real economy. Its task is not – as it just happened – a short-term decoupling from the real economy spurred by speculation, but quite the opposite, the medium- and long-term oriented sustainable financial accompaniment and encouragement of innovative and successful companies and sectors.

The governmental and political responsibility lies, as we just mentioned, in the monitoring of the future-oriented, long-term symbiosis of the real and the financial economies as well as their co-evolutionary development. This includes the task of overcoming a period of stagnation or recession as quickly as possible. We do not need to point out specially, that this is an

[41] In a different paper, we have introduced the term „Comprehensive Neo-Schumpeterian" approach in this context. Cf. Hanusch and Pyka (2007a).

[42] The propositions that the President of the Commission of the EU, Barroso, presented after the EU summit on 26th November 2008 follow a similar logic. They aim especially at developing Europe towards a knowledge society by increasing investments in research and education, as was outlined in the Lisbon Agenda in 2000. Cf. Barroso (2008).

extremely complex and difficult political challenge concerning the instruments to be used. In the upper part of the corridor, politicians have to watch out for signals and possible developments included in the supply-oriented Schumpeterian theory which can be systematically analyzed and cured in that context. In the lower part, the demand-oriented Keynesian theory and policy certainly have a higher value, especially when it comes to alleviating and curing the deflationary consequences of serious crises in their intensity in a short- and medium-term perspective. Schumpeter and his theoretical work offer in that respect the first part of a "boom-bust"-story, which concerns the core explanation of capitalistic development processes in the real economy. Keynes and his politico-economic instruments focus more on the subsequent part, which has to deal with the financial repercussions concerning the demand for investment and consumption. Therefore, it should only be implemented at the end of such a "boom-bust"-cycle, when it is all about hoisting the broken economy back into the corridor and balancing and animating the appearing demand deficits through stimulating, debt-financed fiscal measures. This therapy can take the edge off the sickness of a market economy in very grave and delicate situations, and if not heal, at least bring some short-term, temporary relief and improvement.

Concluding remarks

From the four postulates, we can address the interdependencies between the financial sector, the real sector and the public sector as well as the co-evolutionary development path that exists between the three sectors, which are linked together in a non-deterministic way and which cannot be separated from each other. This requires a holistic and future-oriented problem-solving strategy,[43] and certainly does not include ad-hoc-measures which are solely short-termed and unilaterally designed and which try to single out a certain field within the overall framework of an economy in a positive or negative way, resulting in the potential destruction of the evolutionary structure. The responsible bodies should rather take care to find the appropriate mix between Schumpeter and Keynes.[44] In that sense, we endorse, on the one hand, a policy of long-term oriented promotion of education, research, innovation, technology, entrepreneurship, and a revitalized readiness to assume risks; all of which may have been impaired by an ongoing crisis. Those elements are today, just as they will be tomorrow, the decisive factors for real success of an economic system. On the other hand, we approve of temporary, short-termed and quickly effective fiscal measures to boost demand in times of deflatio-

[43] cf. Hanusch and Pyka (2007c).
[44] cf. Bertocco (2007).

nary tendencies. Since the current financial crisis has arisen in a way comparable to recent crises, both the scientific and the political world should be able to learn from the past developments and be up to developing efficient, problem-solving strategies for the present situation. Evolutionary or Neo-Schumpeterian Economics offer in this respect an approach which stands out from other concepts due to its ability to offer a holistic view of the capitalistic market system in which we can recognize and analyze the truly relevant factors and elements for growth and development. This is true for the full cycle of an economy, from the rapid success to the decline and the crisis of a capitalistic system. For it is between those two extremes that the development process of economies in a capitalistic environment undulates if it is allowed to unroll in an uncontrolled way. Following this analysis, the main problem of an innovative, modern and successful market economy as well as the most prominent task for the government and economic policymakers is to recognize threats which accompany an extraordinary success in a timely manner in order to apply accurately-timed effective cures. If economic policy manages to accomplish this supply oriented part in a satisfying manner, they do not need to resort to Keynes and his demand oriented set of instruments. Keynes' theory is only relevant when the capitalistic system has fallen out of its own success into a self-inflicted, politically unrecognized and therefore not countered crisis.

Everybody who wants to attain a sustainable and stable development of the capitalistic system, which represents after all the most successful economic order which humankind has ever devised, should always be aware of the ambivalence that is characteristic for its development opportunities. As we have argued, those opportunities do not materialize in a linear and balancing way but oscillate between extreme ups and downs if the driving forces that stand behind the system are left to adjust freely. Once this basic conclusion is understood, we are ready and prepared to think about new measures and add them to the political debate, which in fact may not be capable of bringing a capitalistic economy into a neoclassical equilibrium but which may be vital to help it live and prosper in a Neo-Schumpeterian Corridor.

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