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THE LIFE CYCLE OF A CRISIS – A MODEL OF THE COURSE OF AN ECONOMIC COLLAPSE

Summary: An economic crisis is a spontaneous and a very complex phenomenon which generates both quantitative and qualitative processes, causing irreversible changes in the functioning of economies. Its dynamics, however, is more complex than the description in the context of the economic cycle. An economic crisis is not a homogeneous process and can be segmented into specific stages forming the model of a life cycle of a crisis. Application of this model allows to indicate the phase of the crisis and its crisis-factors and to measure its current potential and existing tensions, therefore can be a tool to develop anti-crisis strategies.

Keywords: financial crisis, life cycle of a crisis, economic cycles.

JEL Classification: G01, N20, E37.

Introduction

The economic crisis that started in 2007 can be seen as a complex, comprehensive factor in shaping contemporary reality. Despite the lapse of time since the beginning of this phenomenon, it seems that its impact is still developing and some of the occurrences are identified as being results of the crisis. Moreover, the attempts to neutralize and dilute its impact do not bring the expected results. On the one hand, the macroeconomic data indicates that the effects of the crisis are progressing, transforming and constantly penetrating the new planes of the economy and society and are reflected in the conditions of life of individuals. On the other, the fight against the crisis initiates a series of changes in the real sector and regulatory sphere. We note, therefore, that the process of the development of
the economic crisis from its outbreak to expiry is not homogeneous. It is possible to separate the different stages of its evolution over time which are characterized by specific shapes of initiated changes. In conditions of open economies, where the cyclical processes penetrate in the global scale, the identification of the phase of the crisis, which at the time affects an economy may provide the base to facilitate an effective strategy against the crisis-phenomena.

The aim of the article is to define the particular stages of the development of an economic crisis phenomenon within the model of the crisis lifecycle. The proposed thesis is: The crisis is a complex phenomenon, but its course, due to the distinct dimension of such categories like dynamics of the phenomena, their influence and force, their transmission channels and the range of effects in the territorial sense, allow to distinguish the separate, characteristic stages of its development.

The paper is a result of the previous studies. The research was performed in the field of the economic theory in the area of business cycles and economic crisis. Furthermore, it was supplemented with a thorough analysis of the course of the recent world crisis 2007 – in respect to the fluctuation of economic indices and confronted with the study of the effectiveness of regulations.

1. Crisis as a transition mechanism from the old to the new economic reality

The economic crisis, understood as periodic economic slowdown is a phenomenon characteristic for the world’s development. Moreover, one should argue with the correctness of the thesis that the more developed the economy is, the higher risk of a crisis. For further discussion, it is crucial to define the meaning of the word crisis. The genesis of the term comes from the Greek word *krisis* [Morawski, 2003, p. 9] and means “the turning point, the deciding moment, the period of a breakthrough, the collapse of the previous line of development” [Nowa encyklopedia powszechna, 1995, p. 586]. In the context of the origin of the meaning of the word, the Chinese understanding of its equivalent seems interesting. The word crisis there is a combination of two syllables, of which the first means the danger, and the second can be understood as the starting moment, deciding point or the possibility [Nobis, 2010, p. 111].

The genesis of the word crisis has its origins in the days when the states of the economy were dependent on the cycle of nature, e.g. during periods of good harvest, economic processes were activated which resulted with a growth. During times of natural disasters, epidemics, wars, a slowdown, breakdown, or
a crisis could be observed. Along with the economic development, the exoge-
rous factors were losing their importance in favour of the endogenous processes,
which were the economic processes taking place within the economy. Parallel to
the progress in the economy, the science of economics was being developed.
This discipline aimed to describe the processes broadly understood as economic-
al in a methodical way [Charles, 2009, p. 9 and further].

Along with the expansion of knowledge about the course of the business
cycle, the theory of economic crises was also developed and deepened. In eco-
nomic theory, the crisis is usually recognized as the phase of the business cycle.
The crisis processes however thoroughly differ from the other phases described
in the models of business cyclicality due to the fact, that it is impossible to bring
the complex and heterogeneous processes in the economy to quantitative models
based on a limited number of variables.

Attempts to illustrate the qualitative transformations using concepts such as
rapid changes, imbalances, economic downturns etc. are often presented as
short-term and medium-term time series of macro indicators, e.g. GDP growth,
rate of investment, capital flows, credit activity, growth of output and employ-
ment. In this context, the phenomenon of crisis and the economic recession
should be distinguished, although these terms are often used as synonymous.
Meanwhile, the concept of recession expressing the short-term negative effects
of quantitative nature is sometimes abused to obfuscate qualitative processes of
a crisis, which occur in a longer cycle. From the market perspective, despite the
fact that both the recession and the crisis generate economic impact in the form
of a decrease in valuation of financial instruments etc., the process of crisis af-
facts the rules of the functioning of the market, changes the behaviour of the
investors and changes the structure of the offered products.

Furthermore, in contrast to recession, crisis is a phenomenon that primarily
generates qualitative effects, so those which permanently change the rules of
functioning of the economy. The concept of recession does not include these
changes, therefore fundamentally treats the declines in the markets and indica-
tors in a qualitative context, so as a process which is fully reversible. The crisis,
however, results with effects that are dynamic, spontaneous, deep, fundamental
and, because of their qualitative nature, irreversible. These effects shape a new
reality by overriding the previous mechanisms of functioning of the economy,
which means that even if the pricing a financial instrument will return to pre-
crisis value, the new conditions of the functioning of market are amended [de
Grauwé, 2009, p. 82 and further].
Table 1. An overview of selected views regarding economic crises in the context of the theory of business cycles

<table>
<thead>
<tr>
<th>School</th>
<th>Causes of the crisis</th>
<th>Anti-crisis policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercantilism: T. Mun, D. Hume</td>
<td>The quantity of money affects changes of real product</td>
<td>Supporting foreign trade</td>
</tr>
<tr>
<td>Physiocrats: F. Quesnay</td>
<td>Regulation of trade by the state is an obstacle to economic growth</td>
<td>Laissez faire, as a policy leading especially to the development of agriculture</td>
</tr>
<tr>
<td>Classics: A. Smith, D. Ricardo</td>
<td>State intervention</td>
<td>Free market</td>
</tr>
<tr>
<td>T. Malthus</td>
<td>Insufficient consumption</td>
<td>Increasing consumption by persons not producing (teachers, officials, landowners)</td>
</tr>
<tr>
<td>J. Mill</td>
<td>Oversupply, due to the limitation of credit as a result of pessimistic expectations of economic circles</td>
<td>Wait for prices adjust</td>
</tr>
<tr>
<td>K. Marks</td>
<td>Technological cycle, disproportionality crises, long-term decline in the rate of profit</td>
<td>Moving away from capitalism to socialism, then communism</td>
</tr>
<tr>
<td>Marginalists</td>
<td>Decreasing marginal productivity</td>
<td>Lower wages</td>
</tr>
<tr>
<td>M. Kalecki</td>
<td>Policy of balancing the budget under pressure from “industry leaders” during the boom</td>
<td>Policy of expansion of state spending</td>
</tr>
<tr>
<td>A. Marshall</td>
<td>Excessive credit expansion during the boom</td>
<td>Control of credit during the boom, insurance against the risk during the recession</td>
</tr>
<tr>
<td>J.M. Keynes</td>
<td>Insufficient aggregate demand (demand shock)</td>
<td>Stimulating aggregate demand through expansive monetary and fiscal policy, expenditure growth</td>
</tr>
<tr>
<td>Post-keynesians</td>
<td>Changes in investments</td>
<td>Adjusting the demand (incomes policy)</td>
</tr>
<tr>
<td>Monetarists</td>
<td>Excessive growth in money supply</td>
<td>Passive stabilization policy, development of monetary aggregates</td>
</tr>
<tr>
<td>Neo-classics</td>
<td>Unexpected, too restrictive monetary policy</td>
<td>Stable, credible monetary policy</td>
</tr>
<tr>
<td>School of the political business cycle</td>
<td>Nationwide elections</td>
<td>The introduction of a floating exchange rate</td>
</tr>
<tr>
<td>School of real business cycle</td>
<td>Supply shocks (mainly technological) through investments; slowdown of productivity growth</td>
<td>Lack of stabilization policy</td>
</tr>
<tr>
<td>New Keynesian school</td>
<td>Supply and demand shocks (mainly), recessions are intensified by the stiffness of prices and wages, and risk aversion</td>
<td>Stimulating demand through monetary policy, eliminating stiffness</td>
</tr>
<tr>
<td>Austrian school</td>
<td>State intervention to improve the situation by (excessive) credit expansion (“artificial prosperity”)</td>
<td>No intervention, leaving an economy itself, counteracting the crisis in the boom period</td>
</tr>
</tbody>
</table>

Often in the literature, the crisis is described in the context of its causes and its impact on changes. Moreover, the narration negates the shape of the economic reality. This approach very accurately reflects the nature of the crisis as a phenomenon. Crisis can be understood as a result of the accumulation of irregularities and malfunctions that was leading the economy to self-destruction. It is an end of an economic era that couldn’t exist any longer, and on the other side it is a beginning of a new era of the economy functioning under new rules. Hence in the post-crisis era often it is believed that there is no return to the old order and it is common to think that there is a need to build a new reality by determining adequate regulatory and institutional solutions that will shape a new equilibrium. On the other hand every era has its end, so by simplifying one can say that it is the today’s regulations that lead to the next crisis. This logic, when reversed, would indicate that the crisis is usually generated by faulty regulations that were set in the past, that were inadequate to the real conditions in the economy and that were allowing for the imbalances to cumulate, ending with a crisis [Palley, 2012].

The concept of a crisis has been presented by Hyman Minsky [1982, p. 13-39], and it comprises of 5 stages:
1. Displacement – macroeconomic disturbances, that are triggered by some phenomenon with a huge impact i.e. an end of a war, extremely low / high harvest, the expansion of some invention (car, train etc.), change in monetary policy.
2. Boom – this phase is caused indirectly by the trigger factor which changes the rules in the functioning in a sector of economy, as a result investors focus on the segment that gives the greatest opportunities of earnings. The investments are further driven by the expansion of credit. The increasing demand leads to increase in interest rates and prices.
3. Overtrading – investors overestimate the opportunity of profit.
4. Revulsion – period of financial distress, significant decline in asset prices, numerous bankruptcies of often contribute to deepen the decline of prices.
5. Tranquility – phase of calming in the markets, with particular signs of return to excitement.

The Minsky’s model presents the nature of the changes in valuation of assets, however it does not constitute the context of a crisis as a phenomenon with specific dynamics, the mechanism of the spread geographically, subjectively and objectively.
2. **Interdependence of cyclical processes in the system of open economies**

The current shape of the world economy is the result of ongoing globalization. This process gained special importance in recent years strongly influencing the structure of the economy, its individual sectors, the dynamics of growth and cyclical processes. Globalization can be understood as a process of economic bonding of economies by merging their structures and growing interdependence of the phenomena that take place above the perspective of the national economy [Obstfeld and Taylor, 2002]. Globalization leads to the unification of the world market. The course of globalization is to a large extent accelerated by reducing administrative role of the state in controlling all kinds of international flows, such as movement of goods, services, capital and persons [Consolidated Version of the Treaty on the Functioning of the European Union].

Figuratively a modern economy in relations with the environment could be imagined as a model of a medieval town surrounded by high walls and a moat. These, in conditions of danger were used as a line of defence, allowing to isolate the inside from external threats. In the period of prosperity, through a system of gates the goods could be physically traded and carried in and out. In modern economies, instead of a moat, walls and gates, the internal security or liberty of trade are set by administrative barriers, which are a system of regulations, that determine the restrictions on the flows of capital, goods, factors of production, knowledge and technology.

Nowadays, the global economy is very often described as unified. At the same time the single economies are treated as globalized or open. This view highlights the reduced potential of administrative control over the flows of goods by a single country. This means that in times of prosperity there are no limitations to the expansive exchange processes, and in difficult times it is impossible to isolate the impact of negative external processes. Under these conditions, economic growth is becoming increasingly vulnerable to the interdependencies between economies [Brodzicki, 2006]. As a result, the phenomenon of boom and crisis mainly have international context [Kindleberger, 1999, p. 2009-2013].

Furthermore, the international market and external determinants in an open economy, by the nature of things are primary to internal factors, by having a higher impact on the internal situation. As a result, the interaction between domestic supply and demand and the impact of regulatory tools is severely disrupted. Conducting operations across national borders creates difficulties in controlling and adequate estimation of the risk of such processes.
3. The patterns of the course of the crisis phenomena in the perspective of the concept of the life cycle of crisis

The global economy is a system of connected vessels, consisting of national economies. Under the conditions of this system, any imbalances are moved throughout the whole arrangement. The impulses that affect the equilibrium create particular risks, that spread all through, and as a phenomena are dynamic and spontaneous, therefore difficult to predict. Each impulse may indeed materialize risks in different spheres of the entire global economy, often not related to the initial source causally, functionally or geographically.

Table 2. Reference of phenomena associated with disaster of a break the water dam and the development of the economic crisis

<table>
<thead>
<tr>
<th>Stage</th>
<th>Break in a dam</th>
<th>Economic crisis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cumulation</td>
<td>The weakening of the structure or a small leak</td>
<td>Pumping of economic bubble</td>
</tr>
<tr>
<td>2. Outbreak</td>
<td>Breach in the dam, bursting of water</td>
<td>Bursting of the bubble</td>
</tr>
<tr>
<td>3. Chaos</td>
<td>Dynamic outburst of water the holes and flooding of the environment in a chaotic manner</td>
<td>Contagion of crisis</td>
</tr>
<tr>
<td>4. Equalization</td>
<td>Water loses its dynamics while flooding further areas searching for new balance level</td>
<td>Transmission crisis</td>
</tr>
<tr>
<td>5. Mitigation</td>
<td>Formation of a new static system of land and water reservoirs</td>
<td>The new, post-crisis reality</td>
</tr>
</tbody>
</table>

Source: Author’s concept.

The mechanism of transmission of crisis shocks has more complex dynamics than the traditional course of the business cycle. It can be compared with a break in a dam. Initially, there must be structural weakening of the dam. Once the structure is breached or significantly damaged, minor leaks occur. The pressure bursts the leakages into an explosion of water impounded in the reservoir. This moment is very dynamic and the water is pushed out into the environment forming a dam break wave which often can become a wall of water of over 40 m+ in height moving as fast as 100 km/h with a demolishing power.
The wave, while moving away from the source loses its dynamism and searches for a new level of equilibrium. Therefore, the water flows further, but in a less dynamic manner. During this stage areas located relatively far from the original source can be flooded. Successively during the next phase, the water settles and the situation stabilizes. In the flooded areas, the water slowly backs up, often permanently disappears but in some cases persists longer or creates new reservoirs. The course of the described disaster can be split into several characteristic stages, which are described in Table 2. Similarly, the process of economic crisis consists of individual phases that differ from each other in many respects i.e. by its destabilizing potential, dynamics of the course and scope of the effects.

Due to the distinct course of the phenomena during the various stages of the crisis, when building an effective strategy of neutralization, adaptation and prevention it is crucial to determine the current phase of the crisis. This includes creating a set of specific tools for each phase of the crisis tailored to its potential and dynamics [Chase-Dunn and Kwon, 2012, p. 41 and further]. A similar concept is used in marketing to determine the market potential of a product through its life cycle. The introduction of the life cycle of the crisis allows to indicate initiated changes and phases of this phenomenon and enables the measurement of its potential, existing tensions and crisis-factors at different times.

Chart 1. The stages of the life cycle of crisis
Source: Author’s concept.

The stages of the life cycle of crisis include:

- I – pumping of speculative bubble
- II – burst of speculative bubble
- III – contagion of crisis
- IV – transmission of crisis
- V – the new post-crisis reality

Further deterioration in the of particular segments of the economy
Chart 1 illustrates the life cycle of the economic crisis. During the first stage, the crisis factors dynamically accumulate. It is a process of the so-called pumping of a speculative bubble. The second stage is the explosion of the crisis caused by the bursting of this bubble [Komorowski, 2011].

The burst of the bubble can also be split into phases. A notable model was presented by J.P. Rodrigue, that comprises four phases of a bubble. The first is the stealth phase, when only “smart money” is involved, investments are done by skilled people and the general public keeps out of the markets, believing in high level of risk. In the second stage of awareness investors start to notice the momentum, bringing additional money in and pushing prices higher. The third stage is the stage of mania, when general public jumps in and starts investing trusting it’s a good moment, with no expectations of a failure. The last phase is a moment of blow-off, when a trigger impulse changes the situation and everyone starts to expect price declines. The general investors sell the assets massively, the prices plummet very rapidly [Rodrique, 2006].

Chart 2. The four main phases of a speculative bubble
Source: Rodrigue [2006].

After the burst of a bubble, the effects of the explosion spread throughout an open economy by stimulating the crises factors in an uncontrolled manner. In this phase of the crisis phenomena penetrate the individual national economies with different force. Depending on the internal conditions, different risks are being mate-
rialized causing individual situations. Disaster is always associated with surprise and exceeds the scale of the assessed risk, as the risk evaluation is always a matter of prediction and forecasting. The next phase is the phase of discharge of tensions with enormous power of destruction and is relatively brief timewise.

The transfer mechanism of the crisis shocks often seems to be referred as the transmission mechanism, as well as the contagion effect. Both terms are often used interchangeably to describe the undesirable consequences in the economy. It is however noteworthy that the two concepts accentuate the various relations that can be differentiated by three main criteria [Nosek and Pietrzak, 2009, p. 84-85]:

- relations and links, that allow the transfer of crisis phenomena i.e. channels of transmission or contagion,
- dynamics of the transfer of crisis,
- the size of the phenomenon understood as territorial range.

Contagion mechanism is considered in the context of the spread of crises [Ozkan and Unsal, 2012]. This phenomenon is not dependent on the state of the real economies. It takes place relatively soon after the incident that initiates the crisis (i.e. a burst of a speculative bubble). The transfer of the crisis factors between the national economies occurs dynamically spreading mainly through the financial markets [Desai, 2014]. Within the markets the effect of contagion is stimulated by the modern communications technology that allows immediate flow of information. Infection occurs through the launch of a domino effect. The outbreak of the crisis materializes various risks in many areas of the economy that initiate further, destructive changes in the interrelated and dependent spheres [Kolb, 2011]. Depending on the internal conditions, the course may be more or less severe to the individual economies, but especially to their financial sectors. The degree of destruction and the scale of adverse effects in the phase of contagion are subject to a sort of resistance of the financial system associated with the ability to absorb such shocks supported by safety network institutions [Komorowski, 2015]. This resistance, understood as stability of the system in the situation of a crisis means that the condition of the system, regulations and operation of the safety network would prevent the domino effect from happening, so that materialisation of risk associated with individual entities would not result in the materialisation of the systemic risk.

Transmission of the crisis is the fourth stage of the evolution of the crisis. This process takes place after a certain time interval from the moment of the beginning of crisis, when the transfer of the crisis factors already lost its initial momentum. The transmission takes place through two channels: long-term capital flows and trade links [Dungey et al., 2011]. They can, therefore, be referred
The life cycle of a crisis...

as the direct economic relations between national economies. This mechanism is evident in the evolution of the main macroeconomic indicators. The processes of adaptation to the changing environment are expressed by a decrease in trade dynamics, reduced production, a decrease in investment, rising unemployment, etc. In comparison with the mechanism of contagion, transmission takes much longer time. During this phase, the tensions in the entire system of connected vessels become equalized towards finding a new equilibrium [Obstfeld, Cho and Mason, 2012]. As a consequence, even countries that have proven to be resilient to the crisis in the phase of contagion may be vulnerable to the transmission mechanism. Furthermore, some of the segments of economy deteriorate further during this phase, therefore the new equilibrium point for the post era may be different.

The effects of contagion and transmission can lead to different situations and affect national economies very individually. A stable financial system and certain conditions in the real economy can provide the power to defend from a great part of shocks during the stage of crisis contagion. The next stage of transmission however is slower, but virtually inevitable in the conditions of openness of economies [Komorowski, 2014].

The presented model fits into the idea of a 5-stage collapse of a country [Orlov, 2013, p. 14-15]:

- stage 1: financial collapse: faith in “business as usual” is lost,
- stage 2: commercial collapse: faith that “the market shall provide” is lost,
- stage 3: political collapse: faith that “the government will take care of you” is lost,
- stage 4: social collapse: faith that “your people will take care of you” is lost,
- stage 5: cultural collapse: faith in the goodness of humanity is lost.

According to this idea, the collapse of a country is initiated by a collapse of finance. That leads financial institutions become insolvent, the savings are wiped out and access to capital is lost. Second stage is the commercial collapse that causes money to devalue and / or become scarce. Furthermore, in during this phase commodities become hoarded, import and retail chains break down.

The first two stages of the concept, which are of economic nature, are similar in characteristics to the mechanisms of crisis contagion and transmission presented in this article. This highlights that the economical side of today’s reality is of highest importance in relation to life’s comfort and stability. Economical collapse can lead to further problems of political and sociological nature. The last stage is the collapse of culture, as the ultimate failure. That is why the most important thing is not to start the process of a collapse through maintaining the economies and the financial systems resistant to the crisis factors.
Conclusion

In today’s global economy the flow of streams of capital, people, labor, goods, materials, etc. are controlled in a very small degree by countries and its direction most often depends on exogenous factors. Such conditions allow the free transfer of economic processes within the globalized economy. These circumstances add additional risks to the internal economy during a period of exogenous crisis, as it is difficult to isolate from undesirable processes, however it is crucial to identify particular phase of the crisis to build a set of effective tools to work against the destructive phenomena.

Based on the results of the research the aim of the article has been achieved. Furthermore, the outcomes of the study did not indicate any substantive grounds for rejecting the thesis, therefore proposed sentence: the crisis is a complex phenomenon, but its course, due to the distinct dimension of such categories like dynamics of the phenomena, their influence and force, their transmission channels and the range of effects in the territorial sense, allow to distinguish the separate, characteristic stages of its development, has been validated.

An economic crisis is a spontaneous and very complex phenomenon generating both quantitative and qualitative processes, causing irreversible changes in the functioning of economies. Its dynamics, however, is more complex than the description of processes in the context of the whole economic cycle, is not uniform and allows to extract specific steps which comprise the life cycle of the crisis. In the conditions of global open economy crisis shocks transfer through the channels of economic connections. Even if an economy will repel the initial shock of crisis, this does not mean that the factors of the crisis will not affect it in its later stages. Continuation of research on the channels of transfer of the crisis in its life cycle will help to develop a more effective strategy to strengthen the economy’s resilience to crises.

Literature


**CYKL ŻYCIA KRYZYSU – MODEL PRZEBIEGU ZAŁAMANIA GOSPODARCZEGO**

Streszczenie: Kryzys gospodarczy jest zjawiskiem żywiołowym, wielowymiarowym i bardzo złożonym. Jego skutki można sklasyfikować zarówno jako te o charakterze ilościowym odzwierciedlone spadkiem wycen aktywów, zmniejszeniem ilości transakcji itp., jak i te o charakterze jakościowym, które trwałe i nieodwracalnie zmieniają zasady funkcjonowania mechanizmów ekonomicznych. Dynamika kryzysu nie jest jednolita i pozwala wydzielić charakterystyczne etapy składające się na cykl życia kryzysu. Identyfikacja trwającej fazy kryzysu umożliwi odpowiednią analizę potencjału zjawisk kryzysogennych, a także pozwoli stworzyć efektywne narzędzia służące działaniom adaptacyjnym, neutralizującym i zapobiegawczym.

*Słowa kluczowe*: kryzys finansowy, cykl życia kryzysu, cykle koniunkturalne.