

## FINANCIAL CYCLES NATURE AND ITS ROLE IN THE CRISIS PROCESSES DEVELOPMENT

The current economic situation is marked by an increase in dynamic operating conditions, high level of uncertainty, a significant complication of business processes. The recent financial crisis has found the failure of the financial sector to resist the negative tendencies.

Characteristics of the present stage of socio-economic development determine the formation of the new requirements in the theoretical understanding of cyclical development problems and financial crises. A wide range of scientific papers on the subject show a steady interest in it by representatives of almost all economic flows. Such interest presupposes a careful study and assessment of the existing research capacity in the context of the stability of the problems increase economic system dynamics and its financial architecture, aggravated under the influence of the recent financial and economic crisis.

Thus, the global financial crisis of 2007-2008 identified the need for financial stability analysis and causes of financial crises. In this context, on the first place macro-prudential policy, the main objective of which is to maintain financial stability. The recent experience of the country's euro zone stress, in the broader context of the global financial crisis, illustrates the systemic risk inherent in the build-up phase and correction ebullient financial cycles. Note that the possibility of imposing cycles different duration, scale and areas existence considerably complicates their differentiation and identification structural interaction mechanisms.

For a long stage of economic thought development financial factors of economic instability only occasionally appeared in the center researchers' attention. It should be noted that financial cycles are less studied than their counterparts of the business cycle, although recent research in this field are expanded. While previous studies on financial cycles have focused on the empirical study of them, there are still many open questions, especially for country characteristics relevant for the application of macroprudential policy at the national level, and the relationship of the financial cycle and crises.

The issues raised in this paper are not given due attention in the domestic literature. As for the foreign researches, the study of financial cycles, their indicators, duration, involved such economists as C. Detken, F. Smets, C. Goodhart, B. Hofman, M. Schularick, A. Taylor, C. Borio, P. Bracke, P. Lowe, M. Drehmann, L. Alessi, T. Ng and others. In their studies, the authors highlight the excessive credit growth is one of the best predictors of crisis. M. Drehmann, C. Borio attempt to

identify the financial cycle for the US and other selected countries [6,7,16]. They propose assessing the financial cycle by combining credit and property prices. C. Borio studies the stylized features of the financial cycle and says that it has a longer duration and wider amplitude than the traditional business cycle [6, 7]. Also C. Borio contends that most banking crises tend to be headed by fast credit expansion, going on close to the peak of the financial cycle. A related opinion is shared by V. Schularick and A. Taylor, who determine that credit aggregates provide information about the likelihood of future financial crises and that the latter should be viewed as "credit booms gone wrong" [23, p. 1042].

Overall, special attention is paid to financial cycle's drivers and their determinants in developed countries [6, 14, 19]. Meanwhile, outside the research are often factors influence the depth of financial cycles in emerging economies and their ability to adjust to new functioning conditions and transformation of resources under cyclic economic development. For further expansion of knowledge about financial cycles occurring as globalization and integration is impossible without building capacity adaptability of the national economy to cycling.

The purpose and objectives of the study is to summarize the information about financial cycle and find out it relationship with the economic crisis.

The financial crisis has encouraged a new interest in macro-prudential policy as a basis to address the stability of the financial system as a whole, rather than only its individual components. The crisis showed us that while being an objective of global relevance, maintaining financial stability is more central in contexts in which financial relations are strong and deep.

Though there is a lot literature analyzing various aspects of financial market developments, common understanding of financial cycles is still restricted. This shows the simple fact that most of the literature studies only selected aspects of financial cycles. For example, one researches are survey the implications of only booms in asset prices and credit, rather than considering full cycles in these markets. Others ones are focus on financial crises in many respect only the downturn phases of cycles.

In contrast to cyclical movements in the real economy (business cycle), no "natural" cycle measure is available for the financial sector. In comparison to business cycles, financial cycles evolve over the medium term and their analysis goes beyond the shorter term focus of business cycle theory. The cyclical movements of

financial variables may amplify economic fluctuations, trigger imbalances, lead to macroeconomic destabilization and/or threaten financial stability.

In general, in the literature there is no consensus about the nature of the financial cycle - universally accepted definition of a financial cycle does not exist.

The closest definition – “the self-producing relationship of the value of assets, risks, financial constraints led to a boom and then a drop in the markets” [6]. In contrast to business cycles, no obvious “natural” financial cycle measure is available [7].

Recent literature shares a broad description of the financial cycle but struggles to come up with an appropriate indicator [2, 3, 8]. Financial cycles can be distinguished from business cycles through their amplitude and frequency. Financial cycles evolve over the medium term and their analysis should go beyond the shorter term focus of business cycle theory. This means that the completion of full peak to trough cycles may last up to decades [2]. C. Borio defines financial cycles as “self-reinforcing interactions between perceptions of value and risk, attitudes towards risk and financing constraints, which translate into booms followed by busts” [6]. The interactions may amplify economic fluctuations, trigger imbalance and lead to macroeconomic destabilization and/or threaten financial stability. In this study, we follow this definition [7].

One part of literature describes financial cycles indirectly and obtains findings of financial cycles are not their respective analytical goals. Studies relate financial indicators such as asset prices or credit aggregates to economic activities [3, 5, 6, 12, 13]. Others use financial factors as important indicators in primary warning [6, 16, 19].

The direct way of characterizing the financial cycles started in the aftermath of the Global Financial Crisis. For example, D. Aikman investigates credit cycle characteristics across 14 advanced countries over a long period (1870–2008) [2]. Others researches such as S. Claessens analyse cyclical movements of credit, housing and equity prices for 21 advanced countries from 1960 to 2007 [12]. Note, that both analyses offer evidence of high synchronicity of the individual series, in particular between the credit and house price cycle. The investigation provided by M. Drehmann is the first try to build a synthetic financial cycle measure by combining medium term fluctuations of financial variables for seven advanced countries from 1960 to 2011 [16]. The grouping of credit aggregates and house prices works well, whereas equity prices tend to be destructive rather than beneficial. They also show that a financial cycle’s amplitude and duration have increased since the mid-1980s. D. Aikman, M. Drehmann demonstrate tight links between peaks of financial cycles and systemic banking crises [2, 16].

Although the literature employs different metrics, it provides similar conclusions and insights: compared

to business cycles, financial cycles tend to have a higher amplitude and lower frequency.

Closely linked to the literature on financial cycles, research is also related to the macro prudential policy framework. An increasing amount of literature is devoted to examining the effectiveness of the cyclical movement of credit measures (e.g. credit to GDP gap) for defining the countercyclical capital buffer rate [3, 20, 21]. Note that the counter-cyclical buffer is used in the case of more than 1 standard deviation from the trend. If the deviation is greater, should take active measures to reduce this figure.

The cyclical movement of this credit measure is used as an early warning indicator to spot the buildup of financial vulnerabilities, although the predictive power of various credit aggregate measures varies [13, 22].

Observing credit growths is also relevant for the purposes of preserving financial stability: in the Basel III proposed implementing a countercyclical capital buffer in order to protect the banking system and the economy from periods of extra credit growth or slowing. It was also suggested that the credit-to-GDP ratio gap constitute an indicator of excessive credit growth. The credit-to-GDP ratio gap is defined as the deviation of bank loans – expressed as a ratio to GDP – from its long-term trend and thus is itself a measure of the financial cycle, and an indicator of financial leverage [6, 7].

A critical review of literature on the financial cycle, allowing to distinguish the following special features:

- most precisely our position in the financial cycle show property prices and the cost of credit. Lending is particularly important in the construction and purchase of real estate, so that these two components are usually interrelated. Share prices are with the two landmarks much less correlation;
- also important are the interest rates in the study of cycles, volatility, risk premium, bad credit, etc.;
- financial cycles are replaced less frequently than business;
- immediately after the peak of the financial crisis should be a crisis. Usually, as soon as the cycle reaches its highest point, it begins the banking crisis;
- the recession after the financial crisis worse than after the economic. Typically recession 50% deeper than the drop caused by the business cycle;
- the crisis can be predicted. The modern theory of financial cycles can detect signs of crisis in the future. Moreover, the risk can be determined quite precisely and in real time. The most clear guideline - is both a positive indicator of the deviation of the loan to GDP and asset prices, particularly real estate, from historical norms;
- the cycle time depends on the policy of the state: the weaker fiscal policy, the stronger the upward and downward part of the cycle.

The analysis of models dedicated to the issues of the forecast financial crises made it possible to identify three main aspects:

1. Financial booms not only preceded the crisis, they cause them. The crisis is a consequence of vulnerabilities that arise during the boom phase.

2. That credit and debt in general, are the engine of any boom, because the company can afford to spend more and buy. This leads to an incorrect allocation of resources, and, both capital and labor. As soon as the price of assets and cash flows begin to decline in the recession stage, the debts are converted into indicator restraining recovery.

3. According to the theory of financial cycles, inflation may be stable, but the production at the same time will decrease or increase, which is associated with financial imbalances.

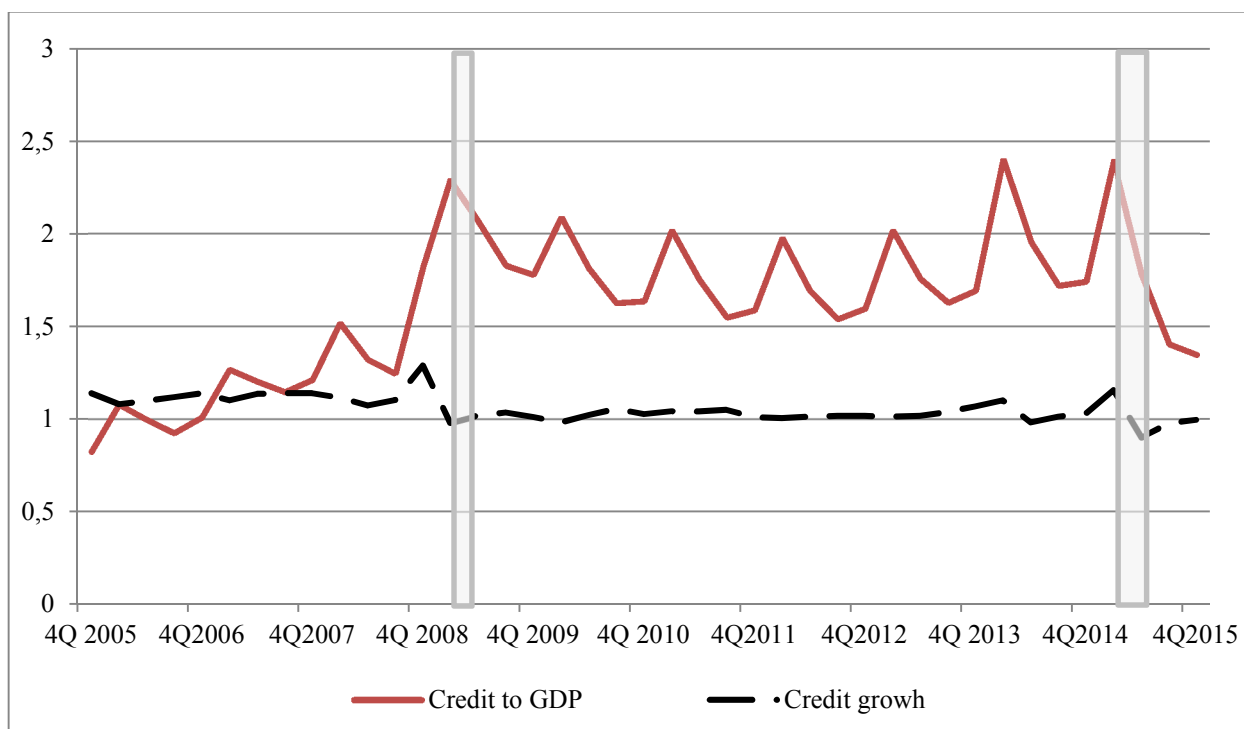
Thus, the importance of financial cycle studying and forecasting is no doubt. Moreover, in the present conditions of Ukrainian economy functioning, caused by the action of external and internal shocks to which the economy was not ready, due to the incompleteness of the important market transformation processes, strong dependence on external conditions, monetization

and dollarization and advancing the growth of the financial sector in isolation from the real, this question is very relevant.

Based on analysis of literature and taking into account the financial cycle indicators, made the analysis of its dynamics in Ukraine. It should be noted that its implementation in our country will have a specific character, particularly in the past years due to financial, economic and political instability.

The domestic financial system on the eve of the financial crisis of 2008-2009 had all the signs of a boom. Recognizing the impact of many factors on the development of crisis processes in Ukraine, including systemic, cyclical role as driver components negative trends in the credit market, taking into account the transfer of cyclical shocks from external financial markets can't be overemphasized.

In order to examine the main stylized features of the Ukrainian financial cycle first of all focused on the credit-to-GDP ratio (figure 1).



**Fig. 1. Cyclical movements of financial indicators in Ukraine**

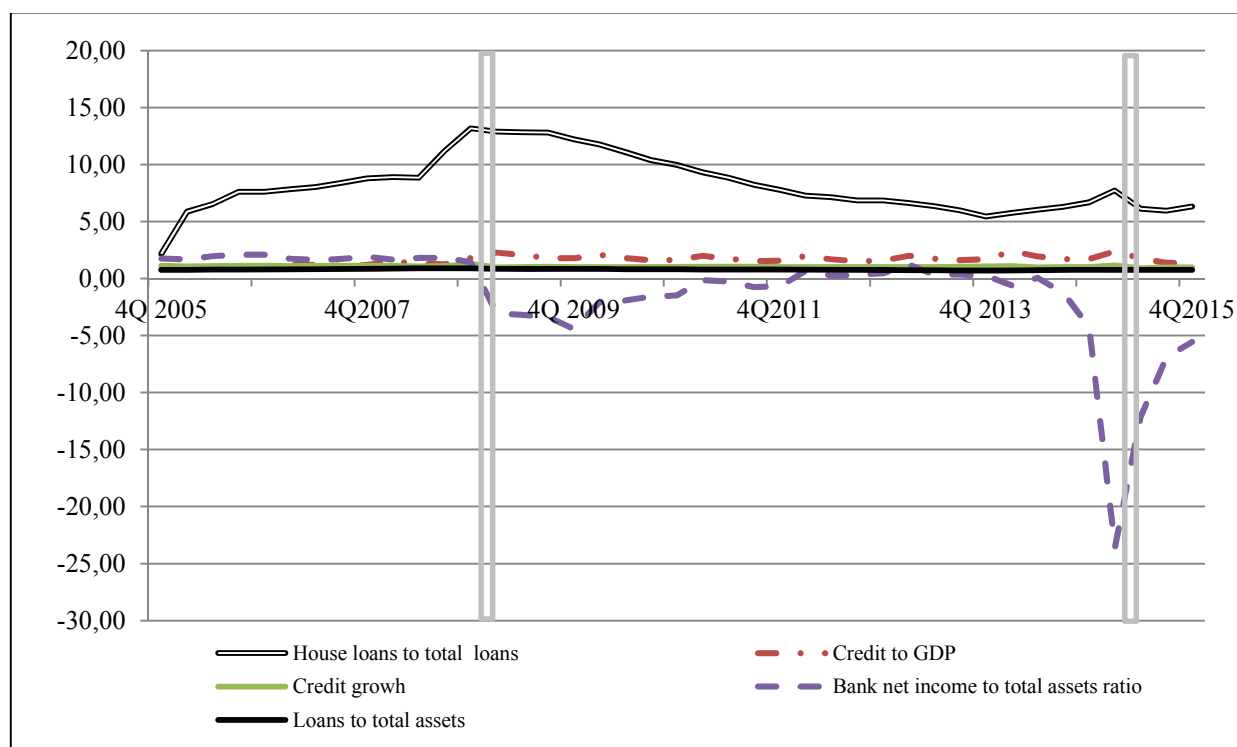
The data in Figure 1 show the significant fluctuations of the main indicators of the financial cycle - the ratio of loans to GDP. This dynamics shows a significant exposure of financial system of Ukraine to crisis. The analysis highlighted that in late 2008, once the financial cycle peak, the crisis occurred in Ukraine. This situation was due to the influence of external factors and the influence of many external factors and unfolding in this period of global financial crisis. The grey shaded areas in the figure 1 reflect financial crisis periods.

The data on Figure 1 shows the cyclical components of the credit to GDP ratio and credit growth. Both panels help us to characterize the underlying indicators

and to make statements about their potential usefulness. An obvious caveat of this investigation is the limited number of full cycles incorporated in this time period.

The graphical investigation of financial cycle measures does not provide a conclusive indication as to which financial cycle measure to choose, but it provides some intuition that banking sector variables seem to be essential to model the financial cycles.

In total, we use five potential financial cycle measures (Figure 2) with different ingredients. All cycle indicators include core component(s) but also vary with regard to additional variables considered in the analysis.



**Fig. 2. Dynamics of financial cycle measures in Ukraine**

Recent macro prudential literature is in favour of using this indicator, arguing that filtered credit to GDP time series is helpful in predicting financial crises and that the explanatory power can only be increased gradually by adding further indicators. It should be noted that not any increase in lending is a form of credit boom. To intensify the credit processes can lead, as gain financial development and a corresponding increase in financial depth, so it "normal" cyclical trends associated with the rise of the economy, its greater demand for credit. However, it is the rapid growth associated with excessive strengthening of financial imbalances and tend to a financial crisis.

Turning points occur at different points in time and the amplitudes of cycle measures tend to differ. All of financial cycle measures (Figures 1-2) share similar dynamics. This similarity is explained by the fact that the measures share some common components. The peaks of the cycle measures seem to be related to periods of financial distress although not every peak is associated with a financial crisis. Figure 2 also confirms the limitation of the data, since not every financial cycle measure is available at Ukraine.

From the analysis, the following conclusions could be made:

- financial system in Ukraine has signs of the financial crisis. During 2006-2007 there was expansion in lending and in this period was laid the foundations for the next severe financial decline and long periods of unstable economic recession repair;

- due to insufficient development of the financial market in terms of the required level of institutional support, lack of proper regulation of these processes by the

central bank was not achieved qualitative distribution of credit and was not introduced macro-prudential regulation principles;

- dynamic of financial cycle indicators suggests a steady increase in the capacity of display is not resilient financial processes from the second quarter of 2006;

- based on the dynamics determined that the peak deviation cyclical components of the trend occur in the end of 2008 and in mid-2015;

- based on the regularities of cyclical financial processes can note the existence of relevant negative effects of unregulated credit expansion in duration and recession amplitude;

- it is necessary to deal with the credit boom with the help of fiscal, monetary and macroeconomic policy. This will constrain the development imbalances, and to quickly deal with the consequences. The government can thus remove what is called "excessive flexibility" of the system.

As one of the effective method is to increase reserve requirements and liquidity of banks, for example, as part of Basel III, but not during the crisis and during the boom. It's also very important to central banks when conducting monetary policy should be guided by not only inflation, but also other indicators of the financial market.

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### **Усик І. О. Природа фінансових циклів та їх роль в розвитку кризових явищ**

Розглянуто сутність фінансових циклів і особливості їх прояву: більш тривалий період порівняно з економічними циклами, проходження фази кризи слідом за піком циклу, більш важкий характер рецесії. Виявлено ключові індикатори фінансового циклу: кредитна складова (відношення кредитів до ВВП, темп зростання кредитних ресурсів, відношення обсягу кредитних ресурсів до активів банківської системи) і динаміка цін на нерухомість. Проаналізовано динаміку прояви даних індикаторів в Україні та запропоновано напрями мінімізації впливу фінансової циклу.

*Ключові слова:* фінансовий цикл, бізнес-цикл, показники фінансового циклу, банківська система, відношення кредитів до ВВП, фінансова криза.

### **Усик І. А. Природа финансовых циклов и их роль в развитии кризисных процессов**

Рассмотрены сущность финансовых циклов и особенности их проявления: более длительный период в сравнении с экономическими циклами, следование фазы кризиса вслед за пиком цикла, более тяжелый характер рецессии. Выявлены ключевые индикаторы финансового цикла: кредитная составляющая (отношение кредитов к ВВП, темп роста кредитных ресурсов, отношение объема кредитных ресурсов к активам банковской системы) и динамика цен на недвижимость. Проанализирована динамика проявления данных индикаторов в Украине и предложены направления минимизации влияния финансового цикла.

*Ключевые слова:* финансовый цикл, бизнес-цикл, показатели финансового цикла, банковская система, отношение кредитов к ВВП, финансовый кризис.

### **Usik I. A. Financial Cycles Nature and its Role in the Crisis Processes Development**

The essence of financial cycles and features of their display: a longer period in comparison with the economic cycles, following the phase of the crisis after the cycle peak, more severe recession. Identified key indicators of the financial cycle: credit composes (the ratio of loans to GDP, the growth rate of credit resources, the ratio of credit to the assets of the banking system) and the dynamics of real estate prices. The dynamics of these manifestations in Ukraine indicators and directions to minimize the impact of the financial cycle.

*Keywords:* financial cycle, business cycle, financial cycle indicators, banking system, credit-to-GDP ratio, financial crisis.

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