

# “Financial market imbalance: reasons and peculiarities of occurrence in Ukraine”

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## Financial market imbalance: reasons and peculiarities of occurrence in Ukraine

### Abstract

Financial imbalance is the reason of a macroeconomic instability. This study aims at identifying the institutional causes of financial markets imbalance. The authors consider that financial intermediaries in Ukraine work in a speculative market segment carrying out high-risk transactions with the purpose of earning a huge profit. In fact, in Ukraine the role of these institutions in the investment process financing is insignificant. The authors show that soundness of banks along with the ease of access to loans and a low level of confidence in national banking system are the main reasons of instability in financial market in Ukraine. Due to scarcity of financial capacity and refusal to carry out transactions in a high-risk market segments, insurance companies are unable to entirely perform functions of risk redistribution. Competitiveness of Ukrainian financial market remains low with a limited financial services nomenclature and it may be considered to be attractive for potential foreign investors.

**Keywords:** financial imbalance, financial institute, role of banks, financial market development, insurance market.

**JEL Classification:** E44, G10, G20.

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### Introduction

During the last several years the financial market in Ukraine was a symbol of instability. Recent years have seen the greatest frequency of bank failures since the beginning of modern financial system in Ukraine. As long as financial markets play a significant role in establishment of financial sources of the economic growth of a country, a scientists' interest toward investigation of market functioning and development peculiarities appear to be non-casual. Particularly, the works of scientists concerning the investigation of reasons and factors of financial markets instability during the financial crisis become more active. The latest financial crisis of 2007-2009 was not an exception, and after the crisis period a large number of studies explaining the reasons of financial instability and proposing ways of solution has appeared.

All these problem-related literature may be divided into 3 parts. First one contains those devoted to investigating the development of certain financial institutions as independent business entity. Diamond (1986) notes that peculiarities of such investigation lie in the fact that ...most references to banks in the microeconomics literature have not looked at banking at the industry level. The bank management literature has considered the management problems faced by individual bankers.

This literature is of pragmatic value to practitioners, but is not flexible enough to evaluate policy changes since it takes as given the existing banking environment'. Thus, Hollander (2016) identifies the credit spread variability that affected the U.S. business cycle during the Great Recession of 2007-09. Bernanke (2012) points out that the causes of the financial instability are the structural, and more fundamental, weaknesses in the financial system and in regulation and supervision that served to propagate and amplify the initial shocks. The same meaning is shared by Shun-Chiao (2016).

Macroeconomic investigations about financial institutions activities belong to second literature devoted to solving the financial instability problems. The banking industry's involvement in the money supply process is obviously an important consideration in financial regulatory policy. Sunderam (2015) avers that the recent financial crisis was due to rising demand for "money-like" claims. Meanwhile, Santos (2011) finds that firms paid higher loan spreads during the subprime crisis. Kozmenko, Savchenko and Piontkovska (2014) indicate that inefficient monetary policy of the Central Bank often is a cause of the financial instability.

The third literature focuses directly on the role of financial institution in economic development (Thakor, 2008). Thakor (2015) notes that position of financial market makes a certain impact on economic growth. Kozmenko and Belova (2015) justify that a failure of systemically important banks cause adverse structural shifts of the entire financial system. Bruhn (2014) points out that access to loans makes the impact of access to finance on poverty. Furthermore, there are several studies showing a split in the relationship between bank lending and economic growth – the so-called "creditless recoveries" (Calvo, 2006; Takáts, 2013).

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Despite the group, which works belong to, researchers suggest that ‘...financial markets facilitate the flow of funds in order to finance investments by corporations, governments and individuals. Better developed financial systems facilitate external financing for firms, illustrating a mechanism through which financial development influences long-run economic growth’. Stiglitz (1998) states that well-functioning financial systems, including banks, enable selecting the most productive recipients for these resources and ensure the use of these resources in high return activities. On the other hand, inadequately functioning financial systems tend to transfer capital to low-productivity investments. The differences in terms of growth can be huge. Crises occur when there is too much liquidity (savings) in the economy with respect to the number of (safe) investment opportunities. In effect, the economy is shown to have a limited liquidity absorption capacity, which depends – inter alia – on the productivity of the real sector, the ultimate borrower (Boissay, 2011).

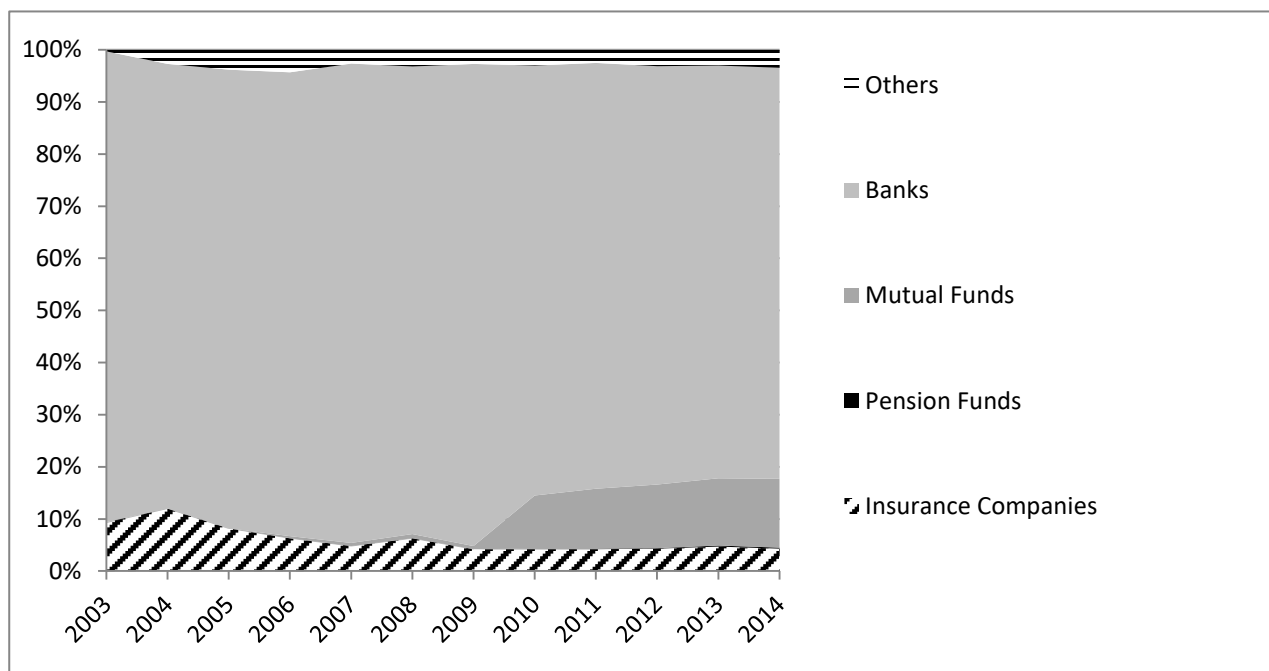
Works of Ukrainian scientists are mainly referred to the first group. Most of them aim at solving the

internal problem of financial institutions functioning, including those concerning loan portfolio building, financial risk evaluation or troubled assets management. At the same time, there is a small amount of works about analysis of financial market functioning and financial imbalance evaluation.

The aim of this paper is to investigate financial imbalances and financial market instability in Ukraine.

### 1. Development of the financial market in Ukraine

Financial market in Ukraine began its development in 1991 and it was formed on a bank centric financial system model. That is, the main role in fostering of economic growth belongs to the banks. This approach was not unique to Ukraine, as most of Eastern European countries followed it. Therefore, when in the early 2000s the initial stage of its development has finished, that was a system with a significant dominant position of banks. Throughout the modern period, the largest part of financial assets in Ukraine belong to banking institutions (Figure 1).



Notes: calculated by authors according to data of National Bank of Ukraine, National Securities and Stock Market Commission and State Statistics Service of Ukraine.

Fig. 1. Distribution of financial assets by the main types of financial institutes in Ukraine

Within the scope of our research we will use data from official statistic sources (data from State Statistics Service of Ukraine) within two periods:

1. 1997-2015 – to assess general trends and regularities of economic development of Ukraine;
2. 2001-2015 – to evaluate the condition of financial market of Ukraine and some of its subjects.

A necessity to use two time periods is due to the presence of a certain lag of the main financial institutions establishment in Ukraine. These institutions, in their majority, started to be created in the second half of the 1990s and only in the early 2000s the period of their becoming was completed. The nature of variation of financial market subjects’

performance could be largely determined by the period of their establishment and adapting to market conditions rather than specific nature of national development. Therefore, to avoid double interpretation of these characteristics, their development, and not establishment should be used.

Occupying a dominant part of the financial market, banks lend money to business entities and individuals. Bank loans to GDP ratio reached to the highest value of 83.57% in 2008 on the eve of the global financial crisis. In subsequent periods, the ratio has gradually decreased, reaching the lowest level in a decade – 51.17% in 2015. This indicates that the financial crisis of 2008-2009 and 2014-2015 has significantly affected the activity of the financial market banking sector in Ukraine.

## 2. The role of banks in the development of the economy of Ukraine

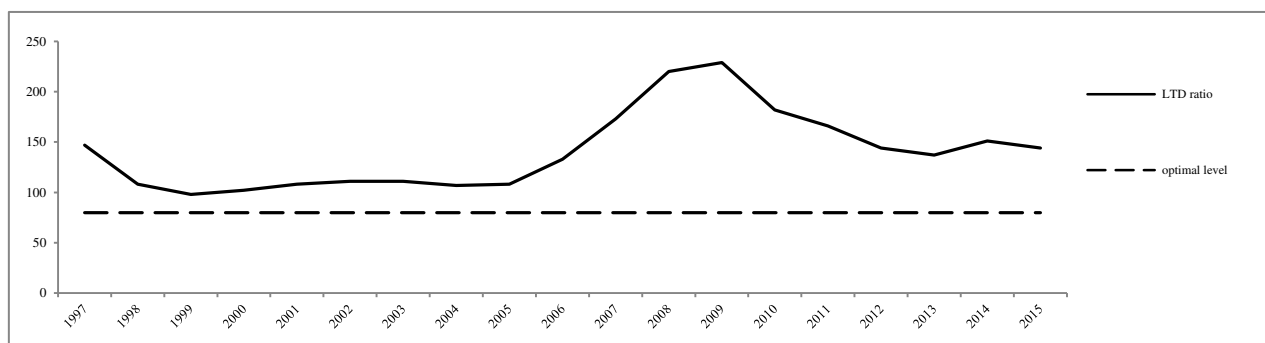
Banks have played a major role in the transformation of savings from the household sector into investments in real assets. How effective do banking institutions in Ukraine perform this function can be evaluated by index numbers of structural and correlation analysis. The structure of the advances portfolio towards borrowers was not uniform over the past 20 years and varied greatly depending on the macroeconomic situation in the country.

By the 2000s, the part of individual loans was insignificant, and was 4.28% or 1.373 billion UAH according to the results of 2001 year. In 2008 the

utmost amount of loans to individuals was 268.857 million UAH (33.94% of general advances). During the period of 2009-2015, total loan amount to individuals has decreased by 116.5 billion UAH (43.32%). Less dynamic is the amount of loans to business entities, which has increased by 28.6 times for the period of 2001-2015, reaching the amount of 785.92 billion USD in early 2016 that is 77.6% of the total advances portfolio.

Within the period from 2008 to 2014, total amount of loans to business entities was increasing all the time and has reached to the maximum value of 802.52 billion USD in 2014 that is nearly by 330 billion more than in 2008. Only in 2015 there was a decrease in amount of loans, granted to business entities by banking institutions by 16.64 billion UAH (2.07%).

Calculating the loan-to-deposit ratio (LTD ratio) in Ukraine (Figure 2) gives the evidence for its rather high level, which exceeds optimal level. It is believed that LTD ratio should not be higher than 80-90%. According to Forbes Banking survey, LTD ratio value varied from 59.6% for JP Morgan Chase to 86.3% for U.S. Bancorp in the second quarter of 2015. Meanwhile, in Ukraine this value was the lowest in 1999 and was 98%, with the highest in 2009 – 229%. For three years in a row, this value has slightly decreased (till 144% in 2015), but still remains rather high. The data provided give ground to argue that the activity of banks in Ukraine is risky enough. This position is being confirmed by data of international experts as well.



Notes: calculated by authors according to data of National Bank of Ukraine.

**Fig. 2. LTD ratio in the banking system of Ukraine in 1997-2015**

The level of financial market development in Ukraine is quite low. Thus, according to this index, calculated according to the methodology of the Global Competitiveness Index (GCI), Ukraine was ranked 121 places in the world with a general 79 place of country in the ranking in 2014. The most problematic factors for doing business, which reduce the Global Competitiveness Index of

Ukraine and prevent conducting the business analyst of the World Economic Forum, refer to the financial markets development. Such group of factors began to be evaluated in 2007 for the first time. Throughout the next investigation period, the indices of financial market development in Ukraine were the lowest. The values of the indices in dynamics are presented in Table 1.

Table 1. Rating of indices of financial market development in Ukraine

Index	2007	2008	2009	2010	2011	2012	2013	2014
Global Competitiveness Index	72	82	89	82	73	84	76	79
Financial market development	85	100	119	116	114	117	107	121
Ease of access to loans	66	87	130	128	107	116	87	87
Soundness of banks	112	133	138	141	142	143	138	140

Notes: Information was taken from The Annual Global Competitiveness Reports published on the official websites of the World Economic Forum.

Throughout the examined period (2007-2014) the rating of financial market in Ukraine was lower than the overall competitiveness rating index. Since the financial market of Ukraine is established on the basis of banking model, the indices of banks development, such as easy access to loans and soundness of banks must be primarily evaluated. The lowest rating of index of easy access to loans was in 2009-2010, which was conditioned by the financial crisis in Ukraine and in the world. The current instability of financial market in Ukraine has not affected this index, whose rating is quite high and has not changed in 2014 in comparison with the previous year. The rating of bank soundness index in Ukraine is consistently one of the lowest indices of the Global Competitiveness Index.

On the basis of the analysis, it can be concluded that banks in Ukraine have low soundness, the amount of loans is significant and its level of riskiness is high. Therefore, we can draw the conclusion that the activities of banks in Ukraine have a speculative nature.

To evaluate the role of banks in promoting economic growth of Ukraine we will use the linear approximation model. As long as savings by resource approach and investments by expenditure approach can be the source of the economy growth in the country, the research will be carried out according to two parameters: the amount of deposits that are being accumulated by the banking system of Ukraine, and the amount of loans that are generated by it. We will use a mathematical dependency interpretation model proposed by Dubinkas et al. (2011), but we will improve for our needs because the objective of our study is to evaluate the total impact of institutions activities on economic development of the country, so such items like sums of total amount of loans (deposits), granted (got) by banks and a growth rate of these factors in previous periods will be applied as independent variables. The dependent variable is

gross domestic product growth rate (GDPG). However, including the Granger approach, calculations will be made in direct relation and correction retraction.

A connection between *GDPG* and banking system activity by resource approach is defined by Eq. (1):

$$GDPG = a_0 + a_1GDPG_{t-1} + a_2DG_{t-1} + e_t, \quad (1)$$

where:  $GDPG_{t-1}$  is lagged (*GDPG*); *DG* is a deposit growth rate in banking system,  $DG_{t-1}$  is lagged *DG*.

A feedback retraction can be defined by Equation (2):

$$DG = b_0 + b_1DG_{t-1} + b_2GDPG_{t-1} + e_t. \quad (2)$$

A connection between *GDPG* and banking system activity by expenditure approach is defined by Equation (3):

$$GDPD = a_0 + a_1GDPG_{t-1} + a_2LG_{t-1} + e_t, \quad (3)$$

where *LG* is a loans growth rate in banking system,  $LG_{t-1}$  is lagged *LG*.

Correction retraction can be evaluated by Equation (4):

$$LG = b_0 + b_1LG_{t-1} + b_2GDPG_{t-1} + e_t. \quad (4)$$

Calculations will be made separately for both above mentioned periods.

*Data analysis over the period 1997-2015.* If we substitute the value, we shall obtain:

$$GDPG = -5.322 - 0.042GDPG_{t-1} + 0.228DG_{t-1}, \quad (5)$$

$$DG = 12.483 + 0.59DG_{t-1} - 0.128GDPG_{t-1}, \quad (6)$$

$$LG = 13.508 + 0.539LG_{t-1} + 0.892GDPG_{t-1}. \quad (7)$$

Checking the dependencies that were conducted using basic statistical dependencies showed the existence of connection between the analyzed variables (Table 2).

Table 2. Pilot parameters of Correlation Regressive Analysis over the period 1997-2015

Indices	Equation 5	Equation 6	Equation 7	Equation 8
Multiple Correlation Coefficient (R)	0.601	0.535	0.421	0.654
Coefficient of Determination (R <sup>2</sup> )	0.360	0.287	0.177	0.427
Standard Error	5.906	17.950	6.696	24.191
F-test (F-Statistic)	4.493	3.216	1.719	5.966
F <sub>crit</sub> (m=2, n=19)	3.59			

Table 2 (cont.). Pilot parameters of Correlation Regressive Analysis over the period 1997-2015

Indices	Equation 5	Equation 6	Equation 7	Equation 8
t-test Y	-1.617	1.247	0.221	1.406
t-test X1	2.154	10838	00236	2.277
t-test X2	-0.144	-0.144	1.403	0.908
$T_{crit}(m=2, n=19)$	2.09			

In two cases (6, 7) the strength of a linear relationship between variables is weak ( $R \leq 0.6$ ) and in two cases (5, 8) is average ( $R > 0.6$ ). Coefficient of Determination ( $R^2$ ) is low as well: it is the lowest for model 3 and the highest for model 4.

Since the period up to 2001 is the period of establishment of the financial market of Ukraine, we can assume that the data from this period can distort the results. To confirm or reject this idea we have carried out calculations of relevant equations for the data of the period from 2001 to 2015, when financial markets began their functioning as completely established (Equations (8-11), Table 3).

Data analysis over the period 2001-2015.

$$GDPG = -5.388 - 0.204GDPG_{t-1} + 0.259DG_{t-1}, \quad (8)$$

$$DG = 14.657 + 0.385DG_{t-1} + 0.572GDPG_{t-1}, \quad (9)$$

$$GDPG = 0.399 + 0.377GDPG_{t-1} + 0.017LG_{t-1}, \quad (10)$$

$$LG = 10.446 + 0.496LG_{t-1} + 1.409GDPG_{t-1}. \quad (11)$$

Table 3. Pilot parameters of Correlation Regressive Analysis over the period 2001-2015

Indices	Equation 8	Equation 9	Equation 10	Equation 11
Multiple Correlation Coefficient (R)	0.584	0.540	0.386	0.699
Coefficient of Determination ( $R^2$ )	0.342	0.129	0.149	0.488
Standard Error	6.667	19.306	7.580	25.656
F-test (F-Statistic)	3.113	2.465	1.051	5.728
$F_{crit}(m = 2, n = 15)$	3.81			
t-test Y	-1.403	1.318	1.859	0.983
t-test X1	1.889	0.969	1.023	1.888
t-test X2	-0.483	0.469	0.215	1.131
$T_{crit}(m = 2, n = 15)$	2.1315			

In general, correlation coefficients have similar characteristics, so it is possible to say that the peculiarities of functioning of financial market in Ukraine is stable during the last 19 years and does not depend on the level of development of its member relationships.

The values can be interpreted in the following ways:

- 1) (GDPG) depends on 36.0% on lagged (GDPG) and the deposit resources of the banking system.
- 2) (DG) depends on 28.7% on lagged (GDPG) and the deposit base of the banking system.

3) (GDPG) depends on 17.7% on lagged (GDPG) and the advances portfolio.

4) (LG) depends on 42.7% on lagged (GDPG) and the advances portfolio.

Thus, it could be argued that formed in Ukraine model of financial market does not function effectively. The banking system does not fully perform its function to stimulate economic development. Accumulating more than  $\frac{3}{4}$  of financial assets of state, banks can slightly affect the rate of economic development of the country.

Increasing the bank deposit resources by 1% leads to the growth of the annual GDP in the amount of 0.228%. Increasing the bank loans by 1% on average leads to the growth of GDP by 0.016%. In 2015, GDP in Ukraine fell by 9.9%, so to achieve planned growth of GDP by 1% in Ukraine should increase the loan portfolio to 261.56%, or increase the deposit resources of the banking system up to 25.90%. This growth cannot be achieved due to the small potential of banking system of Ukraine. Therefore, it is clear that the expected growth will provide other financial market tools.

Significance models test carried, out by F-test (Fisher criterion) and t-test (Student's criterion) has showed that for the model (12) only there is a linear connection between the independent and dependent variables ( $F_{fact} > F_{crit}$ ). Thus, between all independent variables and dependent variable there exists a linear connection ( $|t_{fact}| > t_{crit}$ ), that is all the selected variables are significant for the dependent parameter.

Quite interesting is the interpretation of parameters of Equation (11), which characterizes the activity of lending operations of the banking system of Ukraine. Consequently, along with the GDP growth by 1% advances portfolio increases on 0.892%, but has the bare reverse effect on the GDP. This indicates that the loans provided by the banking system are not investment and have speculative nature. That means that banking system of Ukraine is not fulfilling the assigned functions of providing the entities by financial resources in sufficient quantity. The obtained Equations (8-11) show an insignificant role of the banking system in the economic growth of Ukraine.

### 3. Development of insurance market

The insurance service market is one of the most capitalized non-banking financial markets, but in terms of financial assets is significantly inferior to banking ones (Figure 1). At the end of 2015, the total number of insurance companies was 361, including life insurance companies – 49 units, non-life insurance companies – 312 units. The number of insurance companies is constantly decreasing. In 2015, the number of companies decreased by 21 units in comparing with 2014, and by 46 units in comparing with 2013. Which means, the gradual removing the insolvent companies from insurance market.

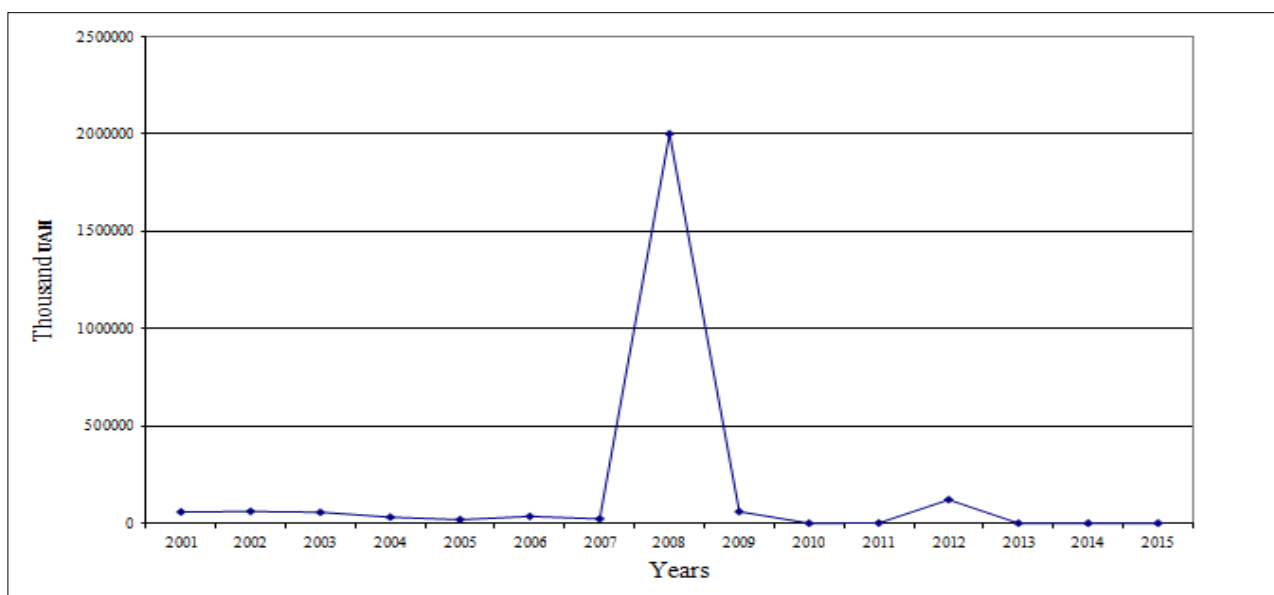
Despite the considerable number of insurance companies, the main part of gross insurance premium (99.9%) actually accumulate 200 non-life insurance companies (64.1% of all non-life insurance companies) and 99.0% – 20 life insurance companies (40.8% of all life insurance companies). In the life insurance market, Herfindahl – Hirschman Index (HHI) was 982.98 (in 2014 – 1042.55), and in the non-life insurance market it was 232.72 (in 2014 – 206.72). In general, Herfindahl – Hirschman Index toward insurance market was 205.07 (in 2014 – 181.49). The data indicate that there is a significant level of competition in the insurance market other than life insurance, while there is available a moderate concentration in the life insurance market. A descending tendency was observed in the insurance

market from the end of 2008 (Kozmenko, Merenkova, Boyko, & Kravchuk, 2009).

Based on results of 2015, after a reduction of consumer activity in 2014 the growth of the main indices of insurer activity has occurred. In particular, the number of insurance agreements has increased to 67,716.1 thousand of items (or 50.3%); the gross insurance premium revenue increased to 2.97 billion UAH (11.1%). However, per capita insurance premium flow (insurance density rate), and the proportion of household income spent on insurance remains low – less than 1%. For the 2015, insurance penetration rate was 1.5%, that is 0.2 of gross products less compared to 2014.

The flow of insurance claims shows that the rate is gradually increasing, reaching to 34% in 2015. In the world practice, such situation in the insurance market is considered unsatisfactory if the level of payments is lower than 70%.

Global climate changes and technological accidents are causing serious damage to households, business entities, and the environment. Due to insignificant property coverage and liability insurance damages caused by natural technological catastrophes are often reimbursed by the state and local budgets. Usually, the financial resources required to overcome the results of uninsured events are provided to local budgets from the State budget of Ukraine in the form of state budget subventions (Figure 3).



Source: Information was taken from The Annual Reports published on the official website of Ukrainian Government.

**Fig. 3. Flow of state budget subventions from State budget of Ukraine to local budgets in order to overcome results of uninsured events over the period of 2001-2015**

During 2000-2004, state budget subventions were allocated to pay off the loans provided in 1999 by Public Joint-Stock Company “State Savings Bank of Ukraine” to regional state administrations in

order to reimburse nature disaster damages. The biggest state budget subvention was provided in 2008. Its amount was about 2 billion UAH. Within the past three years, subventions were not allocated

due to the absence of serious disasters because of favorable climatic conditions. However, adverse weather conditions or serious accidents at the infrastructure entities will lead to a redistribution of budgetary funds required to eliminate the consequences of these events.

In addition, allocating the significant resources from State budget does not guarantee assistance to victims in full. This is evidenced by a significant number of criminal proceedings that have been opened on charges of misuse of these funds. That is, direct budgetary assistance in many cases is counterproductive.

Reimbursement of natural and technological catastrophes in most countries involves a combination of insurance coverage, funding from State reserve funds, and own funds of individuals or business entities. Government intervention may take many forms: a combination of compulsory insurance (e.g. property insurance) and state intervention, which officially is declared as a natural disaster. Government can replace the primary insurer and provide insurance coverage to victims of disasters; the government acts as a reinsurer of last resort and intervenes if the value of the damage exceeds a predefined threshold (Bruggelman et al., 2012).

We believe that the appropriate areas of budgetary funds in Ukraine are:

- ◆ raising awareness of population and business entities about the potential threat and consequences of natural disasters and technological accidents, and methods for their prevention;
- ◆ financing measures to prevent natural disasters and technological accidents.

To determine causal connection between economic growth and growth of the insurance market of Ukraine, Equations (12) and (13) will be used.

A connection between *GDPG* and insurance market activity can be defined by the following Equations:

$$GDPG = a_0 + a_1GDPG_{t-1} + a_2GPG_{t-1} + e_t, \quad (12)$$

$$GPG = b_0 + b_1GPG_{t-1} + b_2GDPG_{t-1}, \quad (13)$$

where: (*GPG*) – gross premiums growth rate;  $GPG_{t-1}$  – lagged gross premiums growth rate.

To determine the direction of causality, the Granger causality test is adopted. The hypotheses for the Granger test are as follows:

H0: (*GDPG*) does not Granger cause *GPG*.

H1: (*GDPG*) does Granger cause *GPG*.

H0: (*GPG*) does not Granger cause (*GDPG*).

H1: (*GPG*) does Granger cause (*GDPG*).

Testing of hypothesis will be made using Eviews 8.0 package. The results of calculations are presented in Table 4.

The results indicate that both null hypotheses (economic growth does not cause insurance premiums growth and growing of insurance market does not cause GDP growth) cannot be rejected. Since P-value is 0.51 and 0.37 for the null hypothesis respectively, so at the 5% significance level these hypotheses are acceptable.

Table 4. Pairwise Granger Causality tests

Null hypothesis	Obs	F-statistic	Probability
GDPG does not Granger Cause GPG	17	0.45421	0.5113
GPG does not Granger Cause GDPG		0.84554	0.3734

Source: Calculations of authors using Eviews 8.0 package.

$F_{crit}(m=2, n=16) = 3.59$ .

Date: 05/23/16 Time: 20:00.

Sample: 1998 2015.

Lags: 1.

That is, there is no evidence to recognize alternative hypothesis that the insurance market is the driving force for economic growth in Ukraine and true, on the contrary.

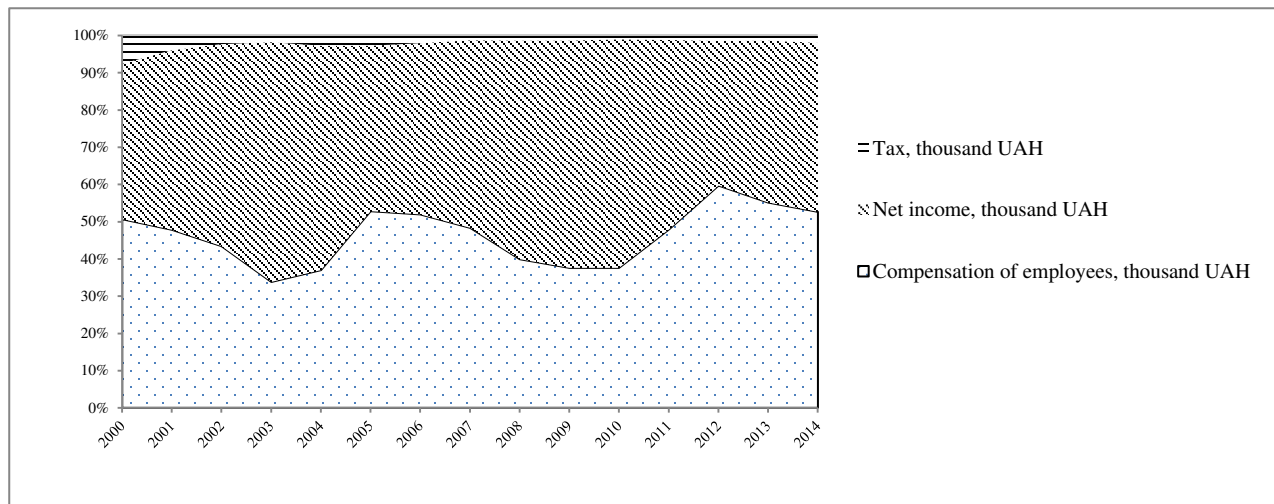
As long as the calculated value of F-test in both cases does not exceed table one, so with corresponding probability confidence (5%) of the model it can be considered as balanced.

Thus, during the period of 1997-2015 insurance companies were not the driving force of economic growth in Ukraine. Their activities were focused mostly on profit than on the functions inherent to the financial market intermediaries. Therefore, we believe that there is not enough reason to expect that the level of insurance penetration will increase up to 7% of GDP due to the increase in net premiums, as Ukrainian Government hopes.

#### 4. Value added of financial institutions

The proportion of value added of financial institutions in Ukraine ranges from 13.01% of GDP in 2008 to 8.53% in 2014. However, there is only 1.89% of the employed population of the country economy in this sector. Banking institutions provide financial services to enterprises of the real economy sector. According to M. Porter's Value Chain theory (1996), their activity refers to support one. The growth of the value added in this area has caused increasing of the products cost of the real sector economy enterprises, which are consumers of financial institutions. As a result, this has a negative impact on GDP growth rate.

The structure of the value added created by financial institutions has a significant profit component (Figure 4) confirming the high level of speculative nature of banking system in Ukraine.

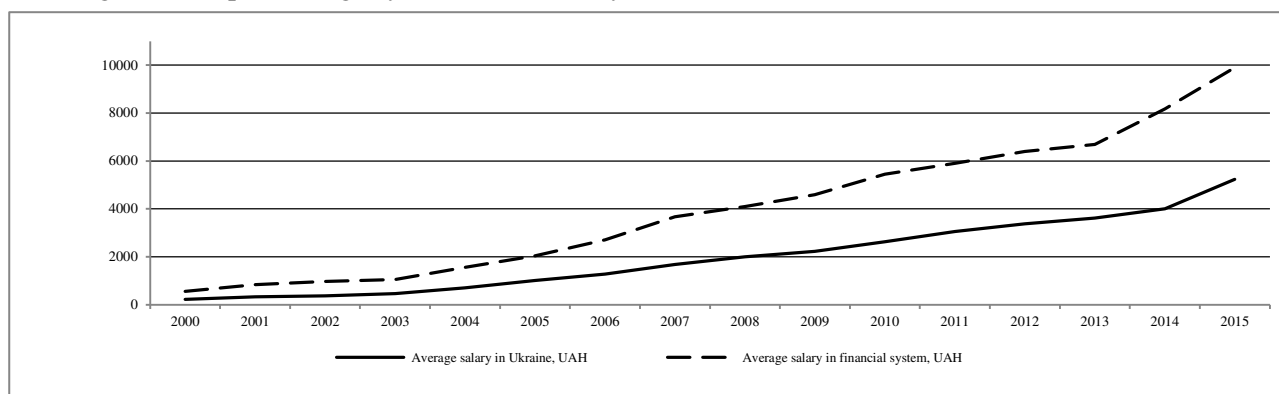


Source: Information was taken from The Annual Reports published on the official websites of the State Statistics Service of Ukraine.

**Fig. 4. The value added structure of financial institutions in Ukraine**

The share of financial institutions employees' salary in the value added structure varies from 31.4% in 2003 to 55.2% in 2012. At the same time, an average salary in the financial sector is the highest in Ukraine during the past ten years (Figure 5). The rate of its growth is rather high and in general depends slightly on the efficiency

of financial institutions. Calculated Correlation Coefficient of growth rate of an average salary in the financial sector and a growth rate of the advances portfolio is quite low ( $R = 0.386$ ), while the same index of dependence of a growth rate of average salary in the country along with a growth rate of GDP is  $R = 0.483$ .



Source: Information was taken from The Annual Reports published on the official websites of the State Statistics Service of Ukraine.

**Fig. 5. Comparing flow of an average salary in the financial sector**

The activities of financial institutions in Ukraine have a low investment component, and therefore financial intermediaries do not fulfil their main function of indirect financing of investment processes.

**Conclusions**

We believe that the main reason of financial market imbalances in Ukraine lies in the fact that financial intermediaries (banks and insurance companies) do not perform their functions of transforming the savings into real investments. Their operations have mainly speculative nature, and a high level of risk, and do not impact significantly on the

dynamics of GDP. Received results make it possible to supplement the existing theory of market instability with new hypothesis. For example, the reason of financial market imbalances may not always be mismatches in the level of supply and demand of financial tools. Quite often these imbalances are caused by an improper performance of functions by financial intermediaries. Therefore, policymakers should focus its attention on the implementing the preventive measures to normalize the financial intermediaries investment role and to restrict their activities to the speculative segment of the financial market.

## References

1. Bernanke, B. S. (2012). Some Reflections on the Crisis and the Policy Response. Speech at the Russell Sage Foundation and the Century Foundation Conference on “*Rethinking Finance*,” New York, April 13.
2. Boissay, F. (2011). *Financial imbalances and financial fragility*. European Central Bank: Working paper series. No 1317 / April 2011: 4.
3. Bruggelman, V., Faure, M., Held, T. (2012). Insurance against catastrophe: government stimulation of insurance markets for catastrophic events. *Duke Environmental law & policy forum*, 23(185).
4. Bruhn, M., Love, I. (2014). The Real Impact of Improved Access to Finance: Evidence from Mexico. *The Journal of Finance*, 69(3), 1347-1376.
5. Calvo, G. A., Izquierdo, A., Talvi, E. (2006). Phoenix miracles in emerging markets: recovering without credit from systemic financial crises. *National Bureau of Economic Research*.
6. Diamond, D. W., Dybvig, Ph. H. (1986). Banking Theory, Deposit Insurance, and Bank Regulation. *The Journal of Business*, 59(1), 55-68.
7. Dubinskas, P., Stunguriene, S. (2011). Alterations in the financial markets of the Baltic countries and Russia in the period of economic downturn. *Technological and Economic Development of Economy*, 16(3), 502-515.
8. Hollander, H., Liu, G. (2016). Credit spread variability in the U.S. business cycle: The Great Moderation versus the Great Recession. *Journal of Banking & Finance*, 67, 37-52.
9. Kozmenko, S. and Belova, I. (2015). Peculiarities of identification of systemically important banks and assessment of their impact of the occurrence of economic crisis. *Banks and Bank Systems*, 10(3), 39-48. Retrieved from <http://businessperspectives.org/journals/banks-and-bank-systems/issue-184/peculiarities-of-identification-of-systemically-important-banks-and-assessment-of-their-impact-of-the-occurrence-of-economic-crisis>
10. Kozmenko, O., Merenkova, O., Boyko, A. and H. Kravchuk. (2009). Forecasting of principal directions of Ukrainian insurance market development based on German insurance market indices. *Innovative Marketing*, 5(4), 51-54. Retrieved from <http://businessperspectives.org/journals/innovative-marketing/issue-123/forecasting-of-principal-directions-of-ukrainian-insurance-market-development-based-on-german-insurance-market-indices>
11. Kozmenko, S., Savchenko, T. and Piontkovska, Y. (2014). Development and application of the monetary rule for the base interest rate of the National Bank of Ukraine. *Banks and Bank Systems*, 9(3), 50-58. Retrieved from <http://businessperspectives.org/journals/banks-and-bank-systems/issue-183/development-and-application-of-the-monetary-rule-for-the-base-interest-rate-of-the-national-bank-of-ukraine>
12. Q2 2015 U.S. Banking Review: Loan-To-Deposit Ratio. *Forbes*, SEP 2, 2015. Retrieved from <http://www.forbes.com/sites/greatspeculations/2015/09/02/q2-2015-u-s-banking-review-loan-to-deposit-ratio/#2c4df84462f5>
13. Santos, J. A. C. (2011). Bank Corporate Loan Pricing Following the Subprime Crisis. *Review Finance Studies*, 24(6), 1916-1943.
14. Shun-Chiao, Ch., Pei-Hsuan T. (2016). A hybrid financial performance evaluation model for wealth management banks following the global financial crisis. *Technological and Economic Development of Economy*, 22(1), 21-46.
15. Stiglitz, J. (1998). *The Role of the Financial System in Development, Fourth Annual Bank Conference on Development in Latin America and the Caribbean*, San Salvador, El Salvador, June 29, 1998.
16. Sunderam, A. (2015). Money Creation and the Shadow Banking System. *Review Finance Studies*, 28(4), 939-977.
17. Takáts, E., Upper, C. (2013). Credit and growth after financial crises. *Bank for International Settlements*, 416.
18. Thakor, A. V. (2015). The Financial Crisis of 2007–2009: Why Did It Happen and What Did We Learn? *Review of Corporate Finance Studies*, 4(2), 155-205.
19. Thakor, A. V., Boot, A. (2008). *Handbook of Financial Intermediation and Banking*. 1st Edition.