ENSURING STABILITY OF UKRAINIAN BANKING SYSTEM IN CONTEXT OF INSTITUTIONAL TRANSFORMATION

Urgency of the research. The stability of banks determines the competitiveness of the economy, therefore the issue of optimizing the institutional structure of the Ukrainian banking system, including a result of the foreign capital expansion, is important.

Target setting. Since 2005 in the banking system of Ukraine the share of foreign banking capital has increased significantly, whose impact on the economy is not unambiguous. In turn, the institutional transformations of the banking sector directly affect the capitalization of the banking system and the financial support of national economy.

Actual scientific researches and issues analysis. The analysis of the stability of the banking sector is devoted to the works of such researchers: F. Allen, D. Diamond, O. Dzyublyuk, H. Minsky, I. Lyuty, K. Pavlyuk, L. Pylypenko, T. Smovzhenko, O. Vladymyr and others.

Uninvestigated parts of general matters defining. The problem of identifying the mechanisms and instruments for restoration and ensuring the stability of the national Ukrainian banking system requires further elaboration based on empirical research.

The research objective. Evaluation of the impact of institutional reforms of the Ukrainian banking system on its stability, identification the mechanisms to ensure its sustainability and competitiveness.

The statement of basic materials. Based on the sample of data the influence of structural changes of the banking system on its sustainability was analysed. The indicator of the regulatory capital was used as a proxy for financial sustainability of the banking system.

Conclusions. The increasing number of banks with foreign capital has a positive effect on the adequacy of regulatory capital of the banking system, the increasing the number of banks with national capital is negative. This suggests when performing the certain conditions expansion of foreign banks can be used as a tool for ensuring stability and efficiency of the banking system.

Keywords: banking institutions; expansion of foreign capital; stability of the banking system of Ukraine.


Target setting. By 1 January, 2015 for all the years of independence in Ukraine there had been liquidated 32 commercial banks and there were also 68 which in the process of liquidation and 5 ones
which a temporary administration is introduced in. At the same time for only 2014 – 2015 years 63 commercial banks stopped their activities. The number of commercial banks by 1 January 2016 had reduced to 117 (by 1.01.2009 it was 184, by 01.01.2014 – 180), 41 of which were with foreign capital (including 17 – with 100% foreign capital). By 7 January, 2016 the number of operating commercial banks had amounted to 102. As a result of liquidation of insolvent commercial banks from the Deposit Guarantee Fund of Individuals (DGFI) 65.9 billion UAH were paid to affected investors for all the years of independence, of which 54 billion UAH were paid for 2014-2015. [1]

In the context of these data ensuring sustainable development of the Ukrainian banking system is especially actual since firstly commercial banks dominate in the national financial system, which means that its operation determines primarily the stability of banking institutions and, secondly, the stability of the banking system determines the dynamics of socio-economic development of the country as a whole.

**Actual scientific researches and issues analysis.** Various aspects of development of the Ukrainian banking system and ensuring its sustainability are researched in a number of scientific studies. Significant contribution to the study of this problem was made by such foreign economists as F. Allen, D. Diamond, K.-Dzh. Lindgren, F. Mishkin, H. Minsky, J. Tobin, J. Fischer, M. Friedman, L. Schumacher and others.

A number of scientist of the country pay attention to the conceptual osnovy of formation and development of the banking system (A. Galchinskiy, L. Gritsenko, O. Dzyublyuk, A. Yepifanov, I. Ivasiv, V. Mishchenko, A. Frost, J. Salo, S. Tsyganov, S. Yuri, etc.). Other authors devote more attention in their work to improvement of methodical aspects of analysis and estimate of the stability of the Ukrainian banking system. (I. Dyakonov, A. Klimova, L. Klyusko., A. Kuznetsova, A. Litvinyuk, S. Smerichevsky etc.). There is also a sufficient number of basic works devoted to the maintenance financial stability of banking institutions and the banking system of Ukraine, including in conditions of instability (A. Baranovskiy, J. Dougan, V. Geys, V. Zinchenko, V. Kovalenko, A. Kolodeznev, V. Krotyuk, A. Lubich, I. Lyuty, L. Primostka, M. Savluk, R. Tyrkalo, etc.). It should be noted that the works of these authors deeply reveal theoretical and practical aspects of the evolution and development of modern banking systems, ensuring their sustainability.

At the same time, the problem of ensuring stability of the Ukrainian banking system in the context of present-day conditions of its operation requires further investigation. The matter of finding tools and mechanisms to restore stability and competitiveness of the domestic banking system as a basis for sustainable growth of the Ukrainian economy requires a special attention. It is especially urgent in the context of liberalization of the banking system and the active expansion of foreign capital in the banking sector.

Such foreign researchers as G. Caprio, P. Honohan [2] have revealed a positive correlation between the presence of foreign banks and the financial stability of the banking system in general on the grounds of the comprehensive empirical studies.

D. Mathieson, J. Roldos [3] claim that foreign banking institutions are a source of stable credit resources, contribute to the stability of the banking system of the host country.

Claessens et al. [4] noted some positive effects of entry of foreign banks in the banking system the domestic banking market, such as credit growth and the population and legal entities in underdeveloped financial markets, stimulate the contests with banks and domestic banks helps in the reduction of costs, diversification of financial services, to weaken the influence of the banking crisis in the country due to the presence of more sources which make it possible to attract funds from international markets.

The presence of foreign capital in the domestic banking market and its impact on the economy of Ukraine arouse an active discussion among the Ukrainian scientists for a long time. While studying the motives and risks of foreign capital in the banking market of Ukraine, the positive and negative consequences for the economy, a number of Ukrainian scientists (O. O. Dzyublyuk [5] etc.) recognize the positive role of foreign banks to increase capitalization of the banking system in the period of economic growth, but warned against the high risks in a period of instability in the financial system. In addition, V. Pavlyuk [6] etc. note that the foreign banking capital contributes to improving the efficiency
of Ukrainian banks, attraction of advanced technologies in the banking sector and extending the range of financial services.

S. Smovzhenko, O. Duhov, O. Kireev [7] suggested limiting the influx and operation of foreign Bank capital in Ukraine and argued that liberalization can bring positive effects only after improving the competitiveness of the banking system of Ukraine, that the benefits of foreign capital in the banking system and to prevent the manifestation of threats of financial security determined by the balanced state policy in the context of creating enabling environment and specific regulatory measures for the banking activities.

On the basis of the results of research of influence of foreign capital on the financial security of the state L. Pilipenko proves that the benefits of foreign capital in the banking system and preventing the manifestation of threats to financial security are determined by the balanced state policy in the context of creating favourable conditions and specific regulatory measures for the banking activities [8].

At the beginning of the liberalization of financial markets of the countries of Central and Eastern Europe, the IMF convinced that the presence of foreign banks has a positive effect on transition economies, at the same time, the IMF experts recognize that the presence of foreign banks can create additional problems for the host countries. At the present stage the restriction on the access of foreign capital on the domestic banking market in varying degrees is present in more than 100 countries.

**The research objective.** The purpose of this work is an analysis of the impact of the institutional transformation of the Ukrainian banking system in terms of expansion of foreign bank capital on its stability on its stability, explanation of mechanisms of rise in its sustainability and competitiveness in the context of the current conditions of functioning.

**The statement of basic materials.** By 1 January, 2016, the total assets of the Ukrainian banking system had amounted to 1.2544 trillion UAH, which correspond to US $ 52.3 billion at the rate of NBU. For comparison, assets of commercial banks had amounted to 926.1 billion UAH or $ 121.8 billion by 1 January, 2009, and 1.2781 trillion UAH or US $ 159.9 billion by 01 January, 2014 [1]. Return on assets of solvent banking institutions on the results of 2014 amounted to -5.46%, return on equity was 51.9%, according to the results of 2015, they were respectively -5.46% and -51.91%. And they were the worst performance of the banking system for the years of independence. For comparison, the return on assets on results of the crisis of 2009 was – 4.38%, return on equity was -32.52% [1]. Term funds involved by economic entities and individuals by 01 January, 2016 had decreased to 377.7 billion UAH (that was US $ 15.7 billion), while by 1 January, 2009 they amounted 248.5 billion UAH (that was US $ 32.3 billion), and by 01 January, 2014 they were 455.5 billion UAH (that was US $ 57 billion) [1]. Loans to commercial banks by 01 January, 2016, reached 965.1 billion UAH or $ 40.2 billion at the current rate. Accordingly, by 1 January, 2009, the loans accounted 792.2 billion UAH or US $ 102.9 billion, by 01 January, 2014 – 911.4 billion UAH or US $ 114.0 billion. It should also be noted that the growth rates of public lending for the period of 2002-2010 on average, significantly overtook the growth rate of lending to business (Fig. 1), which did not contribute to the growth of investment activity of domestic enterprises, as well as provoked unsecured increase in household income. At the same time the share of overdue credit indebtedness was 2.3% of the total by 1 January, 2009, it was 7.7% by 01 January, 2014, and it was 22.1% by 01 January, 2016 [1]. Taking into account that that the level of lending to the economy by 01 January, 2016 totaled 57% of GDP, the growth of overdue debt had a strong negative impact on financial stability as the economy on the whole as for each business entity.

Due to the deteriorating quality of loan portfolios of commercial banks in Ukraine had to bear enormous expenses to formation of working balances for overdue payment, and this in turn had a negative impact on the dynamics of the norm of regulatory capital (H2) which is one of the key indicators of solvency and financial stability of the banking system (Fig. 2).
The structural changes associated with the outflow of foreign bank capital and purposeful actions of the NBU on elimination of small insolvent banks with national capital can be called one of the main reasons of reducing capitalization level of the banking system (Fig. 3).

To assess the degree of influence of the above mentioned factors on the activities of the state of the Ukrainian banking system’s financial stability a five-factor econometric model of the following form was built:

$$\ln RCap_i = \alpha + \beta_{Ukrbanks} + \beta_{Forbanks} + \beta_{shareforb} + \beta_{totalb} + \beta_{forban100} + \varepsilon_i$$ (1)

in which $RCap$ (regulatory capital) – natural logarithm of the amount of regulatory capital, units; $Ukrbanks$ (Ukrainian banks) – the number of banks with the Ukrainian capital, units; $Forbanks$ (foreign banks) – the number of banks with a share of foreign capital, including banks with 100% capital, units; $shareforb$ (the share of foreign banks) – the share of foreign capital in the authorized capital of banks, %; $totalb$ (total banks) – the total number of operating banks which have NBU license, units; $forban100$ (banks with 100% foreign capital) – the number of banks with 100% foreign capital, units; $\alpha$ – free
term, which reflects the impact of the variables which are not included in the analysis; $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ – the unknown coefficients of the model; $t$ – temporary variable; $\varepsilon_i$ – the standard error.

Logarithmization of the dependent variable was carried out in order to improve normality of distribution of residuals, and minimization of standard errors in the model which are measured in different units.

The data includes 52 observations, the period of analysis consists from quarterly data from 2004 to 2016. Descriptive statistics of the model variables is available in Table 1.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Median</th>
<th>Stand.dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>ukrbanks</td>
<td>60</td>
<td>142</td>
<td>124.22</td>
<td>130</td>
<td>18.21</td>
</tr>
<tr>
<td>forbanks</td>
<td>18</td>
<td>56</td>
<td>42.94</td>
<td>49</td>
<td>12.27</td>
</tr>
<tr>
<td>shareforb</td>
<td>10</td>
<td>56</td>
<td>32.41</td>
<td>35</td>
<td>10.82</td>
</tr>
<tr>
<td>total</td>
<td>100</td>
<td>187</td>
<td>167.16</td>
<td>175</td>
<td>19.16</td>
</tr>
<tr>
<td>forban100</td>
<td>6</td>
<td>23</td>
<td>16,510</td>
<td>18</td>
<td>4.88</td>
</tr>
</tbody>
</table>

On the basis of use Ordinary least square (1OLS) and software gretl 1.9.6 the following estimates of regression coefficients were obtained (Tab. 2). It should be noted that because of the high correlation between the stated variables, the model (1) is represented in 4 specifications with calculation of inflation coefficient factors.

The findings and statistical indicators of coefficients indicate a sufficient level of quality of the received estimates: the selected set of variables can explain 77-95% the variation of the dependent variable. Evaluation of multicollinearity is acceptable provided that it is lack for values of VIF <10.0 i.e. the received estimates can be considered reliable.

Thus, other things being equal it can be argued that the increase in number of banks with foreign capital has a positive effect on the adequacy of regulatory capital of the banking system, and the increase in number of banks with national capital has a negative impact on the financial stability of the banking sector. It should also be noted that a statistically significant positive influence on the increase in number of banks with 100% foreign capital.

![Fig. 3. The institutional structure of the Ukrainian banking system](source)

*Source*: created by the authors
Table 2

<table>
<thead>
<tr>
<th>Coefficients (1) and statistical estimates</th>
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<tbody>
<tr>
<td><strong>const</strong></td>
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<tr>
<td></td>
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<tr>
<td><strong>forbanks</strong></td>
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<tr>
<td><strong>ukrbanks</strong></td>
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<td><strong>shareforb</strong></td>
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<td><strong>totalb</strong></td>
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<td></td>
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<tr>
<td><strong>forban100</strong></td>
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<td></td>
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<tr>
<td>*<em>VIF</em></td>
</tr>
<tr>
<td><strong>R-square</strong></td>
</tr>
<tr>
<td>**F(2,48)</td>
</tr>
<tr>
<td><strong>DWstat</strong></td>
</tr>
</tbody>
</table>

**VIF** - variance inflation factor. *** denotes significant at 1%, ** at 5%

**Source**: created by the authors

Taking into account the retrospective base of the obtained dependencies the obtained positive correlation between the increase in the number of foreign banks and the increase in the level of capitalization of the banking system in the period of active expansion of foreign capital in Ukraine is considered as natural. It is natural that the consequences of a crisis of 2007–2008, socio-political and financial-economic instability in 2014-2016 unfavourably affected the solvency of the population and companies. Besides the toughening of requirements of the Basel Committee upon capital adequacy of European banks led to the fact that some assets of the foreign banks was derived from Ukraine. However, it should be noted that under the condition when decreasing in the number of banks with foreign capital to 8 banks for the period 01st January, 2014 – 1st January, 2016 years, the share of foreign capital in the authorized capital of banks increased from 34% to 43.3% and continues to grow (by 7th January, 2016 – 54.7%).

Thus, it can be noted that the capital increase and the credit support from the side of parent holding groups indicates the strategic interest of foreign banks in the Ukrainian banking market. Besides, the devaluation of the national currency, numerous bankruptcies and uncertainty of people in the reliability of the Ukrainian banks for the past two years have not only led to an outflow of deposits from the banking system, but also to a redistribution of deposits in favor of financial institutions with a European property. These factors generally confirm the positive effect of the presence of foreign bank capital in Ukraine.

Conclusions. Analysis of the rate of reduction in the number of the banks with Ukrainian capital indicates the policy of active cleaning the national banking system from insolvent, smaller commercial banks. During the period from 1st January 2014 till 01st January, 2016 the number of banks with Ukrainian capital was reduced from 112 to 76 units, and by 07th January, 2016 amounts to 63 banks.

So significant an impact on this reduction of the volume and the adequacy of regulatory capital is also considered logical. However, in our opinion, it was just that the activity of the banks with national capital was the factor contributing to the reaction of the national banking system instability to the global financial market.

Analysis of the features of most banks with Ukrainian capital indicates a problem of excessive insider lending. The practice of hidden credit of individuals associated with the ultimate owners and managers of banks is typical for the majority of Ukrainian financial-industrial groups, which develop their main non-banking business for the money of investors. At the same time if the borrower-insider is in financial difficulties, the bank extends the terms of repayment of credits or refinances debt as long as the borrower will need. This may be accompanied by the provision of new mortgages and securities...
for a bank, the real value of which tends to zero. Among the examples of failed banks with excess levels of insider lending there are such large players as VAB-Bank, "Financial initiative" and "Finance and Credit".

In this context, even the NBU has introduced a new standard (replacing the unrepresentative standard of maximum size of loans and guarantees granted to one insider) from 06 August, 2015 – the maximum amount of credit risk on transactions with related persons (no more than 25%). And until the commercial banks came up with ways of concealing such operations, the dynamics of the standard was very revealing: from 63.72% by 12 January, 2015 to 22% by 7 January, 2016. However, even judging by the current estimates of the NBU, the level of lending to related persons in the whole system is more than 35%, exceeding a utmost value of 10 percentage points. Banks that do not reduce the rate, also leave the market in three years.

So, we can corroborate the extremely negative dynamics of the main indicators of development of the Ukrainian banking system. This is a consequence of the accumulated macroeconomic imbalances, deficiencies in the legal system of regulation of the relations between commercial banks and consumers of banking services, the low level of capitalization of the banking institutions, irrational structure of assets and liabilities of the banking system, the lack of transparency and the low efficiency of their activities, the lack of competition, the presence of system risk, imperfect control and monitoring systems, low levels of corporate governance, the lack of high-quality anti-crisis strategy in development of the banking and financial sector, corruption and unfair competition, etc. Another important factor is the political and social instability.

In this connection, it is actual to improve the quality control of the national banking system, including in the context of the Comprehensive Program of development of the Ukrainian financial sector until 2020 in order to ensure the financial stability of the national economy of Ukraine [9]. This involves the following activities:

- To tighten up the control of minimum standards of equity capital of commercial banks and the adequacy of its assets. By 1 January, 2016, the adequacy of regulatory capital of the Ukrainian banking system (N2) averaged 8.92% [1], which is less than the boundary values of the NBU. Operation of inefficient banking institutions with low capital leads to an increase in costs (as a result of losses), the risks of banking activities. In this regard, it is necessary to increase the capitalization of both individual banks and the banking system as a whole, the further closure of inefficient financial institutions, optimizing and improving the quality of the structure of assets (assets of unsound banks should be only transferred to large healthy banks). Besides limitation is deposit concentration and credit crunch to insiders (owners, managers, employees) is important.

- The introduction of a system for monitoring the quality of risk management with the assistance, first of all, rating the quality of a board of directors, a senior management, employees, the quality of risk measurement and monitoring for them, the adequacy of restrictions on transactions related to high risk; the introduction of the "stress test" system, as well as the development of new appropriate regulatory requirements, the system of stimulating factors to optimize the credit portfolio of banks with their reorientation, primarily to finance the real production sector.

- Increase in the quality (completeness and transparency) information. This involves improving the standards of accounting and financial reporting, the introduction of internationally accepted disclosure standards, corporate reporting on banking, promotion to independent objective ratings, modernization of banking risks insurance.

- Expansion of access of foreign banks. Based on the analysis [10] it is revealed that the expansion of foreign bank capital in Ukraine had a positive impact on the Ukrainian economy in general. But it is just negative that this capital is used for short-term speculative transactions, stimulating demand for imported goods. Therefore, in order to attract foreign bank capital, which will increase the capitalization of the Ukrainian banking sector, the level of asset diversification, its investment activity in the real sector of the economy, competition and quality, a variety of banking products, it is important to create favorable conditions for the expansion of bank capital, first of all, the major European, American, Asian banking groups, reduction of currency risks and stabilization of the national currency, the improvement of the regulatory activity of the national bank, making favorable long-term prospects.
for the development of the real production sector, reduce corruption and increase in the effectiveness of enforcement.

- Improvement of control, which implies deoffshorization of financial flows, reduction of the shadow economy, choice of the optimal level and methods to limit the movement of capital (on the one hand, a strict control is blocking the inflow of capital into the country, on the other, an excessive liberalization of capital movements can contribute to financial instability, including through the "import" of crises, which are typical for emerging markets), optimization of the structure and trends of financial flows (short-term or long-term resources, financial or real economy). Reduction of state influence on the loans is also relevant, firstly, through the state-owned banks to reduce their riskiness and growth efficiency, profitability, and, secondly, through the participation of the state in the financial market, where it involves resources to finance the state budget expenditures and thereby reduces the potential for lending to the real production sector.

- Improvement of the legal and judicial systems, rise in the level and quality of enforcement. The important aspects in this case are creditor protection and protection of consumers of financial services, increasing the responsibility of inefficient banks, development of contract law.

- Further financial liberalization. Without deregulation and liberalization in the contemporary globalized world it is impossible to achieve the potential economic growth. At the same time, this is only possible with sufficient economic potential, as well as the absence of weak financial institutions, an effective bank management, a high level of market discipline and competition, complete and transparent information, an effective legal and judicial system, presence of foreign banking institutions.

- Ensuring macroeconomic stability implies a level of price stability, the effective rate fixing, the growth of foreign exchange reserves. Taking into account the current state of the economy it is very difficult to make the stability without leveling of price and currency expectations. Based on the state of public finances it is also important that the effective control of the external and internal debt.

- Restoring public confidence in the state and the national banking system. This will allow to attract the most powerful source of financial resources of the banking system that is means of population. In the context the offers which are made by the National Institute for Strategic Studies are considered attractive.

We can expect that the further purification of the banking system will continue. Despite of the NBU reforms the banking institutions in Ukraine haven’t started to perform their basic functions, aimed at the transformation of financial flows in order to create conditions for the growth of social and economic welfare. Consequently, the above represented precondition for the stabilization of the national banking system, along with the political and social stability.

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