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Зарицька І. А.

## СОЦІАЛЬНІ ІННОВАЦІЇ В МІЖНАРОДНОМУ БІЗНЕСІ

*Досліджено еволюцію сутності, значення та ролі соціальних інновацій для сталого розвитку суспільства. Проаналізовано інституційне середовище реалізації соціальних інновацій. Визначено основні мотиви корпоративного сектору активного впровадження системи соціальної корпоративної відповідальності.*

**Ключові слова:** соціальні інновації, соціальне підприємництво, соціальна корпоративна відповідальність, сталий розвиток суспільства.

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## THE IMPACT OF FINANCIAL DOLLARIZATION ON THE BANKING SYSTEM OF UKRAINE

*The general purpose of this research is to evaluate how financial dollarization can influence the profitability of Ukrainian banking system and what banks are the main players with highest level of deposit and loan dollarization. So, in this research was used the sample of commercial banks in Ukraine to provide the clustering analysis. In a result, it was separated four groups of banks by three main indicators: profitability, level of deposit and loan dollarization. Also, it was build a regression to figure main drivers of deposit and loan dollarization in Ukraine. To solve the issue of estimating impact of dollarization on bank's profitability was performed the multiple regression analysis of banks for last thirteen years. Additionally, it was explored main risks of the Ukrainian banking industry connect to the dollarization degree.*

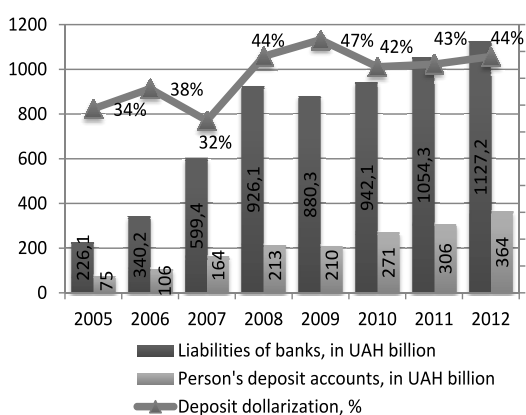
**Keywords:** loan dollarization, deposit dollarization, profitability, bank assets and liabilities, net foreign currency position, net foreign assets, banks' external debt.

Commercial bank is one of the most important economic agents in the financial market. The unique role that banks play in capital formation and channeling funds to those with productive investment opportunities, any change in the banking

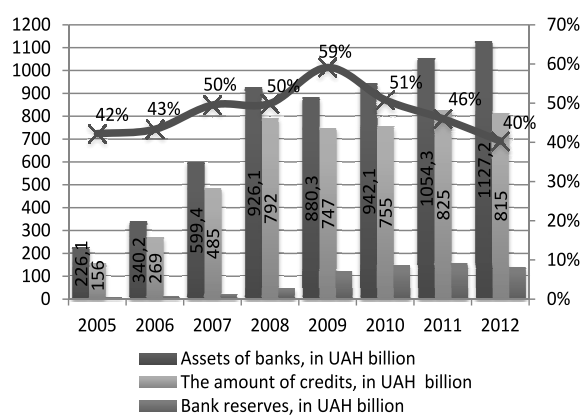
system can lead to declines or increases in financial dollarization.

First of all, we start from liabilities of banks that mainly consist of deposits. The main reasons of deposit dollarization are the lack of monetary credibili-

ty, inflationary expectations and national currency devaluation. That's why banks don't have significant impact on the amount of foreign currency deposits.



It should be mentioned, when banks make dollar loans to domestic firms who earn revenue in hryvnias, however, they do not hedge their foreign



**Graph 1.** Dynamics of loan and deposit dollarization

A potential problem of deposit dollarization that factors leading its increase could result in higher interest rates, lower credit supply and greater vulnerability of the banking system. But it is a contradictory situation if deposit dollarization were not allowed. Because an increase in the perceived risk of a major devaluation would tend to result in deposit outflows presenting each bank with a liquidity problem. From the other side currency switching by depositors is a source of volatility to banks, increasing their need for liquid assets and further reducing the supply of loanable funds. Thus, faced with an abrupt change in the currency composition of its deposits, a bank suddenly finds itself exposed to foreign exchange risk and will need to hedge this, effectively putting pressure on the value of the local currency. The structure of foreign currency deposits in Ukrainian banks by economic agents is predictable. The significant part of foreign currency deposit accounts belongs to individuals, which are more sensitive to the exchange rate and inflation volatility and keep savings in foreign currency to avoid risks.

However, the analysis of bank assets is more complicated. The banks have a direct impact on the level of loan dollarization. As we can see on the Graph 1, the substantial share of bank assets are credits and proximately half of them denominated in foreign currency. As we know, the demand splash on credits started in 2007 led to excessive level of loan dollarization in 2009. Credit crunches, like in 2008, are more likely in a partially dollarized economy, than in an economy with more monetary autonomy. Since exchange rate devaluations lower the dollar value of non-traded collateral and increase the risks of default of dollarized loans, banks reduce their lending.

exchange exposure; they only replace currency risk with dollar loan default risk. In other words, dollar lending to domestic firms creates a source of non-performing loans as large depreciations might leave the firm unable to repay the dollar loan, thus increasing the potential for a banking crisis. Thus both dollar deposits and dollar credit can play a role in emerging market banking crises.

But the main cause of loan dollarization is the increase of bank's external debts. The share of bank debt in total external debt has significantly decreased since 2008 and amounted to 16 %. But it should be noted, that the total amount of external debt is increasing. Ukrainian banks take low interest credits in external market and expand foreign currency contribution on the internal market. Such condition is relevant if these credits use efficiently. But the structure bank's assets affirmed that most of such credits are used on consumer loans and mortgages.

Another risk that could destroy the banking system is a significant amount long-term foreign currency loans (longer than 5 years). But a positive tendency is its decrease in last years by 7 %. The problem lie in mismatch between terms of borrowings and credits gave by banks. Foreign currency consumer loans granted mainly for long term – 5–7 years and 20–30 years for mortgages, however foreign borrowings of bank took on the middle-term of 3–5 years. As a result – most banks have negative short-term liquidity gaps and significant dependence on inflows of new deposits from economic agents. Thus, the policy of “consumer credit” and “dollarization” of the banking sector directly or indirectly affects the growth of credit risk undermining public confidence in the national currency.

For detailed analysis, let's see what players have a significant impact on the banking system. So, we analyze banks with highest level of deposit and loan dollarization. On the Graph 2 all Ukrainian banks placed by the share of foreign currency deposits and loans. The area of circle is bank's net income. So, the most "dollarized" Ukrainian bank is Sberbank: share of foreign currency loans amounted to 80 %, while share of foreign currency deposits – to 72 %. But in comparison with other banks Sberbank's net income is medium. The lowest level of deposit and credit dollarization has Oschadbank and amounted to 21 %. The two most profitable banks Privatbank and Ukrgasbank have the low level of loan dollarization and above-average level of deposit dollarization.

deposit and level dollarization is medium. But the main feature of this group is disproportionate amount of foreign currency loans and deposits. For example, in "TavrikaBank" the level of foreign currency deposits exceeds 28 times foreign currency loans. The "ProfinBank" doesn't have foreign currency loans at all, while the share of foreign currency deposits in total deposits amounted to 17 %. Another two banks – "BMBank" and "SwedBank" – have the high level of foreign currency loans against foreign currency deposits. We can make an assumption that these two banks finance their active operations by external debt. So, this cluster consists of banks with the highest risks.

And the last cluster is consisted of banks with highest level of dollarization and mean level of

Table 1. Clustering analysis of commercial banks

	Cluster 1	Cluster 2	Cluster 3	Cluster 4
<b>Number of banks</b>	55	69	4	47
<b>Profitability</b>	5,7 %	2,0 %	-102,3 %	3,9 %
<b>Loan dollarization</b>	21,1 %	8,7 %	30,1 %	53,0 %
<b>Deposit dollarization</b>	47,0 %	17,7 %	27,6 %	51,7 %

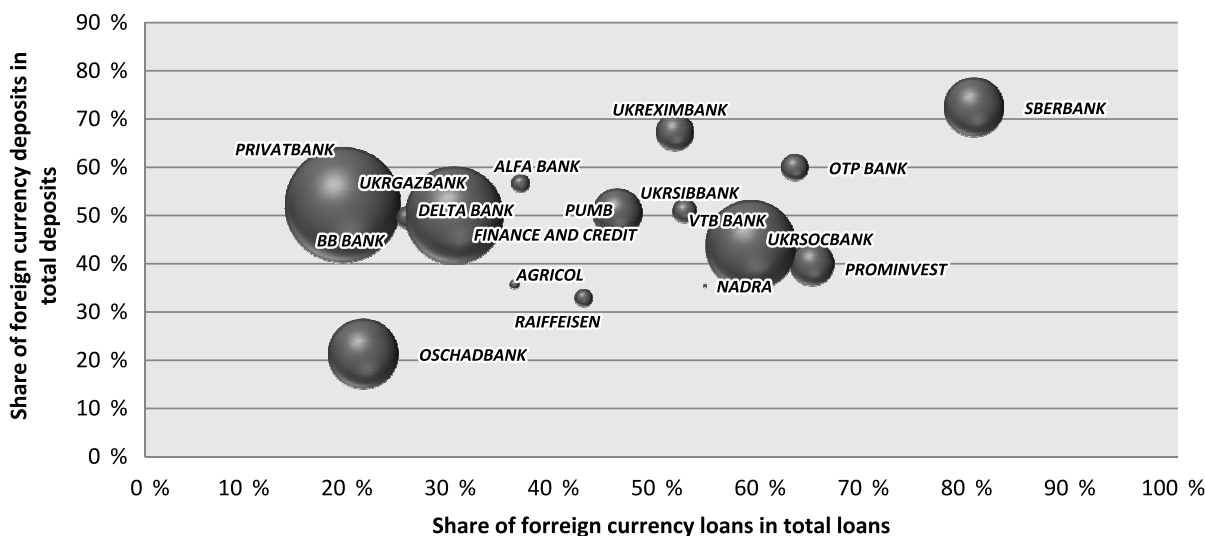
Applying clustering we can separate four clusters (Table 1).

Consequently, the first cluster consists of such commercial banks: "PrivatBank", "DeltaBank", "PravexBank", "CitiBank", "Credit Agricole", "Finance&Credit" etc. In the second cluster the deposit dollarization exceeds loan dollarization as well as first group. This group is composed of "RodovidBank", "OschadnyBank", "Finansovaya Initsiativa" etc.

The third cluster is the most unprofitable, the net losses exceeds total revenues by 2 %. The level of

profitability. But the foreign currency portfolio of these banks is the most optimal: the amount of foreign currency loans is slightly higher than the amount of foreign currency deposits. This cluster include such banks as "Raiffeisen Bank Aval", "UkreximBank", "Sberbank of Russia", "Erste Bank", "Universal Bank".

The significant level of dollarization also has an impact on investment facilities of Ukraine's banking system. During last years in Ukraine is observed a tendency of deep foreign currency deposit-credit gap. So, increased activity of Ukrainian banks'



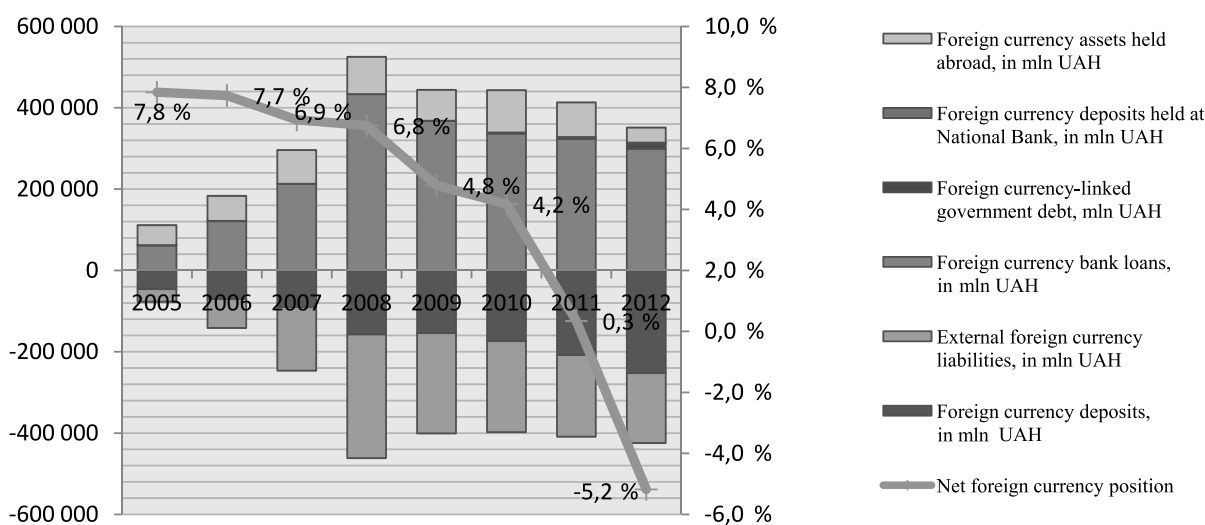
Graph 2. Ukrainian banks with highest level of dollarization

borrowing in foreign markets is an objective consequence of lack of long-term budget resources in the domestic financial market and increased competition in the most profitable segments of the credit market that stimulates banks to search more competitive advantages: external borrowing and additional opportunities of access to resources of banks with foreign capital. Concerning the tendency, we see that foreign currency bank loans and foreign currency bank deposits have decreased since 2009, while foreign deposits have increased.

While in previous years Ukrainian banks were vulnerable to the hryvnia depreciation.

It stands to reason that all these transactional risks could have an influence on bank's profitability. So, we combine the main indicators of the banking system that can affect the level of financial dollarization and evaluate how the deposit and loan dollarization influence the profitability of banking sector.

According the multiple regression analysis was concluded, that there is a significant dependence between deposit and loan dollarization in both



Graph 3. Net foreign currency position

Net foreign currency position was defined as foreign currency assets minus foreign currency liabilities. All foreign currency assets and liabilities are denominated in million UAH, while net foreign currency position is calculated in percentage of GDP. Net foreign currency position can be considered as an indicator of a sector's vulnerability to movements in the exchange rate. In particular, if the net foreign currency position is negative, this means that this sector is vulnerable to exchange rate depreciation.

According to the Graf 3 the net foreign currency position of the banking sector had been positive up to the end of 2011, mainly due to a substantial increase in foreign currency loans. In fact, since a significant part of foreign assets of the banking sector were in the form of loans to the companies, which were likely to become illiquid in the event of a sharp hryvnia depreciation, the net foreign currency position has started to decrease since 2008. As a result in 2012 the banking sector seemed quite vulnerable to exchange rate risk. The short foreign currency position amounted to slightly more than 5 percent of GDP in 2012, thus making the bank sector quite vulnerable to the hryvnia revaluation.

cases. In countries, where the number of bank deposits in foreign currency is large, bank loans are also expected to be heavily dollarized, as the standard regulation requires banks to match the currency denomination of their assets and liabilities in order to avoid currency mismatches.

In Ukraine there is a strong correlation of deposit and loan dollarization. But the level of loan dollarization could be explained by the variable Deposit dollarization only by 38 % and 62 % – by other factors. So, we can approve the hypothesis of correlation between deposit dollarization and loan dollarization. Multiple regression analysis show that if deposit dollarization increases by one point the dependent variable Loan dollarization increases by 0,62 points.

But it should be mentioned, that in economy with controlled inflation it appears that dollarization of deposits in banking system, slows financial development by limiting domestic credit. In Ukraine the level of inflation hasn't changed for last years, while loan default risk that Ukrainian banks face has increased after financial crisis.

**Banks' external debt.** In order to support liquidity Ukrainian banks borrow additional dollars from external service. According to analysis, if bank's

external borrowings increase by 1 point, the level of loan dollarization increase by 0,734 points. The main question is why commercial banks are willing to borrow in a foreign currency when this creates a balance-sheet mismatch that greatly increases their vulnerability to unexpected devaluations. As was mentioned, for last years the government of Ukraine have fixed exchange rate out of proceeds of foreign reserves. Under a fixed exchange rate regime, the interest rate on dollar loans will be lower than the domestic interest rate, the difference reflecting the possibility of devaluation. This condition leads banks to borrow in dollars. In addition, repayment of these debts is provided by state guarantees. So, Ukraine as a guarantor obliged to return debt to the creditor in case of the borrower's insolvency. So, banks face no ex ante incentives to purchase insurance against bad states of the economy. Hence, they do not hedge (sufficiently) against foreign exchange risk. In other words, the guarantee creates a moral hazard problem that leads to a fragile banking system that is overexposed to currency risk.

**Interest rate spread.** According to analysis, if the interest rate spread increases by one point percentage, the level of loan dollarization is also increased by 0.65 points percentage. It could be explained by the bank's profitability. The higher is spread, the more bank earns. So, net interest spread is similar to net interest margin and demonstrate a level of banks' efficiency. The spread is a reward for liquidity risk generated by transforming money into loans and also a reward for the selection and monitoring of the right kind of borrowers. The spread also provides sufficient margins for banks to continue operating in the market. So if the spread is high, banks tend to grow big and become leveraged. As a result, banks' foreign currency credit financing increases.

**Banks' concentration.** The total number of domestic banks, which is the inverse of banking industry concentration, seems to increase credit dollarization in Ukraine. As can be seen from the table, if the variable Banks' concentration increases by unit the dependent variable Loan dollarization increases by 0,597. Coefficient R<sup>2</sup> – coefficient of determination – shows how this model is explained by the variable Banks' concentration – variable Loan dollarization is explained by independent variable by 36 % and 64 % – by other factors. So, the more concentrated the banking sector is, the higher is the

loan facilities. But such indicators as risk taking behavior (-0,166; P-level of 0,64) and foreign capital banks' concentration (0,402; P-level of 0,29) don't affect the level of loan dollarization in Ukraine.

**Financial dollarization and banks' profitability.** In general, having dollar-denominated deposits and loans could not only increase financial fragility and create balance sheet problems, but also affect bank profitability. In particular, this currency mismatch does not only increase banks' currency risk when the proportion of dollar-denominated loans with respect to local-denominated loans increases but also it increases their clients' default risk if depreciation occurs. So, the main goal is to study the way in which financial dollarization affects banks' profitability. We analyze the impact of dollar-denominated deposits in the banking system on the profitability of commercial banks. Deposit dollarization was calculated as the proportion of foreign currency deposits to total deposits. And profitability was measured as the ratio of banks' net profits to total banks' revenues.

Under different econometric specifications we find that this relationship is significant and negative, meaning that dollarization of the banking system has a pervasive effect on banks' profitability. According to the analysis, if deposit dollarization increases by one point percentage, the banks' profit decreases by 0,66 points percentage. It should be noted, that multiple regression results approve the previous analysis of negative mismatch between the amount of foreign currency deposits and foreign currency loans. The more foreign currency depositors want to keep in their bank accounts, the higher risk banks face in terms of currency mismatch or loan defaults.

Summing it up, we should note that the level of deposit dollarization is a reflection of monetary policy efficiency. So, the banks' profitability depends on National Bank policy and reaction of economic agents on financial (in)stability. Moreover, all the evidence presented so far suggests the same conclusion: banks' external debt, concentration of banks, interest rate spread and deposit dollarization in the banking sector drives the dollarization of credit. We have also identified that net foreign assets (foreign currency mismatch) negatively effects the level of loan dollarization. Finally, the analysis show that deposit dollarization has a negative and persistent impact on bank profitability in dollarized economy of Ukraine.

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## ВПЛИВ ФІНАНСОВОЇ ДОЛАРИЗАЦІЇ НА БАНКІВСЬКУ СИСТЕМУ УКРАЇНИ

*Головною метою цього дослідження є оцінка впливу фінансової доларизації на прибутковість банківської системи в Україні, а також виявлення банків з найвищим рівнем кредитної та депозитної доларизації. Для проведення кластерного аналізу використано вибірку з комерційних банків України. У результаті виділено чотири основні групи банків за такими критеріями: прибутковість, рівень кредитної і депозитної доларизації. Також за допомогою побудованої регресії виявлено основні чинники фінансової доларизації в банківській системі. За допомогою багатофакторного регресійного аналізу оцінено вплив доларизації на прибутковість банку за останні тринадцять років. У дослідженні оцінено основні ризики банківського сектору, пов'язані зі зміною рівня доларизації.*

**Ключові слова:** кредитна та депозитна доларизація, прибутковість, банківські активи і пасиви, чиста валютна позиція, чисті валютні активи, зовнішній борг банку.

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## DEVELOPMENT OF INTERNET MARKETING IN UKRAINE

*The article is directed on analyzing the development of Internet marketing in Ukraine. This research paper presents a short overview of the subject's history. The work evaluates basic tendencies of Internet marketing in the world and shows main figures connected to its current condition in Ukraine. The most popular types of Ukrainian Internet marketing are detached and analyzed. The article also provides a discussion section covering future perspective and role of Internet marketing in Ukrainian business and global economy.*

**Keywords:** internet marketing, online advertising, web marketing, Ukrainian advertising market.

**Relevance of research.** The Internet has been spread over different spheres of modern life and plays a big role in it. Marketing is not exclusion in this tendency. Almost all traditional methods of marketing were transferred to the Internet [7, p. 163]. On one hand, it is considered as a special service provided by private companies on promoting web sites for Internet search engines in Ukraine. On the