

УДК 336.77.067

S. Glushchenko, K. Vasylieva

INFLUENCE EXTERNAL DEBT COMMERCIAL BANKS ON THE ACTIVITY OF SHORT-TERM LENDING IN UKRAINE

The quantitative relationship between the external borrowing of commercial banks and the short-term loans commercial banks in Ukraine are defined in the article. The dependence of the activity of commercial banks in the domestic market of short-term loans as lenders of their activity on the external debt markets as borrowers are defined in the article.

Keywords: commercial banks, short-term loans, foreign bonds.

The development of Ukrainian economy is accompanied by the development of financial markets and use of their abilities by economic agents to finance their own activities and development. The most developed part of today's financial markets is Ukraine's banking sector. From one side, commercial banks are practicing different types of credit services as lenders. On the other side – they are borrowers at the domestic financial market and outside. They are active participants of international credit cooperation. It is motivated not only by their desire to extend their activities outside borders of one country but also by the limited capitalization of Ukrainian capital market and the high cost of such borrowings at the domestic market.

Such experts as: A. Baranowski, I. Burakovskyy, D. Leonov, V. Mishchenko, I. Peshchanskaya, M. Savluk, S. Shumska [1; 2] and other scientists are dealing with the research of international and national credit cooperation of commercial banks. However, less attention is focused on the areas involved in the use of international credit markets and their impact on the investment (or consumer-oriented) development of Ukrainian economy.

That's why the study of influence of external debt on the activity of certain types of bank lending in Ukraine is important. So, the purpose of this research is to determine the dependence of the commercial banks activity on the domestic short-term loans market as lenders on their activity at the external debt markets as borrowers.

Commercial banks are active borrowers on world financial markets through the use of bonds. In particular:

- during the period 2002–2010, the share of banks' bond borrowers on global markets has increased to 36 % (from zero level in 2001–2002);

- in terms of growth rate of bond indebtedness, during 2002–2010, bond debt of banks increased by 47.6 times: from 103 million dollars. in 2003 to 4908 million. in 2010 [3, p. 17–22].

Since 2010 the dynamics of indicators has been changing. Growth of indebtedness was moving slowly, banks were forced to focus on repaying the international bond and on reduction of their debts. This is due to the effects and stagnation after the global financial crisis, increase of the banks debt burden because of their active external borrowings and increase of banks debts on the internal Ukrainian market (including the effect of fluctuation and growth of exchange rates in Ukraine).

Thus, after 2010 bond debt of commercial banks in Ukraine began to decrease. At the beginning of 2011 its amount was USD 4672 million dollars, at the beginning of 2012 – 3648 USD, and at the beginning of 2013 – 3301 USD. But it should be noticed that during the first 9 months of 2013 there was a significant growth and external bond debt of commercial banks in Ukraine was about 4685 USD as at 01.10 2013 [4].

In any case, we can notice that commercial banks are actively involving credit funds from external markets and it is logical to assume that it must be shown as an increase of the banking services volume (primarily credit) on the domestic market.

Short-term loans (up to 1 year) have the largest share among the commercial banks credit services in Ukraine. In particular, at the end of 2013 the share of loans to non-financial corporations (up to 1 year) accounted 37,6 % of total loans in the economy, and the share of loans to households up to one year amounted to 6,1 %. In other words, we can say that short-term loans cover almost half (43.7 %) of all loan services of banks in Ukraine [5, p. 24].

Also, short-term loans to legal entities and individuals have a stable tendency of permanent growth over the years 2003–2013 not only in terms of volume (figure 1) but also in the numbers of client-borrowers.

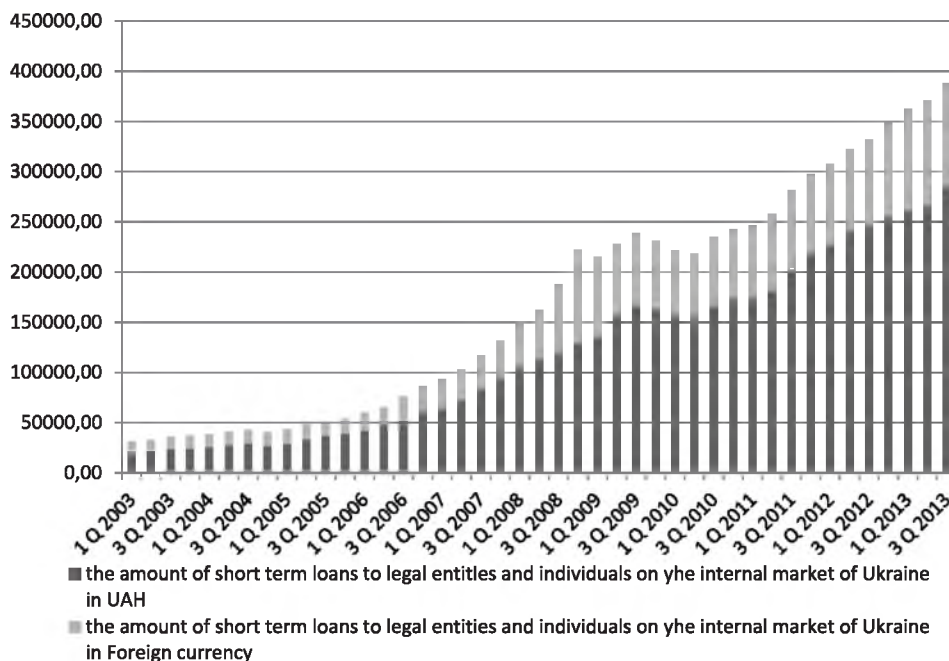


Fig. 1. Dynamics of short-term loans to legal entities and individuals in the internal market of Ukraine in national and foreign currencies during the period from 2003–2013
 Source: The figure is built on statistical bulletins of the National Bank for the years 2003–2013 [6].

In view of multi-currency monetary circulation in the domestic economy, entities borrow in various currencies (figure 2). In particular, since 2003, borrowings were consistently made in Ukrainian national currency, as evidenced by the ratio of short-term

loans in local and foreign currency which was 7:3. But in 2008 the ratio has changed significantly and amounted to 6:4. In the post-crisis times Ukrainian banks have resumed the ratio to 7:3 in 2011 and further extended to borrow mainly in national currency.

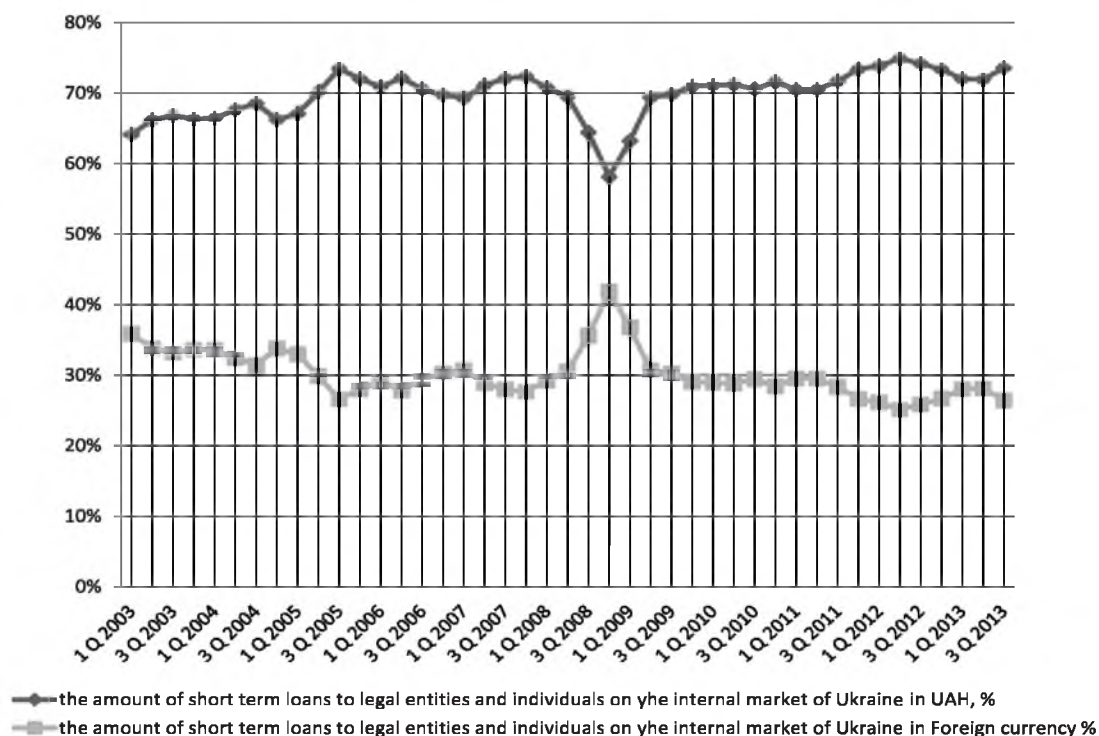


Fig. 2. The structure of short-term loans to legal entities and individuals on the internal market in terms of currencies between 2003–2012 years
 Source: The figure is built on statistical bulletins of the National Bank for the years 2003–2013 [6].

Table 1. Dynamics of short-term bank loans to legal entities and individuals on the domestic market of Ukraine (ShortTerm_Loans_UAH) and foreign bonds and debt securities of banks during 2003-2013 years, in local currency (ForeignDebtPapers_UAH)

	Short term loans to legal entities and individuals on the internal market of Ukraine, mln. UAH	Foreign bonds and debt securities of banks, mln. UAH
1	2	3
1 Q 2003	20274.00	0.00
2 Q 2003	21831.00	26.66
3 Q 2003	24198.00	0.00
4 Q 2003	24737.00	0.00
1 Q 2004	25659.00	548.92
2 Q 2004	27785.00	532.07
3 Q 2004	29331.00	1066.85
4 Q 2004	26864.00	1872.81
1 Q 2005	29273.00	1879.96
2 Q 2005	33465.00	2532.56
3 Q 2005	37346.00	3827.90
4 Q 2005	39474.00	3878.40
1 Q 2006	42666.00	6221.60
2 Q 2006	47000.00	7261.90
3 Q 2006	53943.00	7564.90
4 Q 2006	60101.00	9665.70
1 Q 2007	64658.00	16685.20
2 Q 2007	73349.00	26886.20
3 Q 2007	84223.00	29850.55
4 Q 2007	95155.00	32976.50
1 Q 2008	105368.00	35344.95
2 Q 2008	112931.00	34573.51
3 Q 2008	121206.00	36009.04
4 Q 2008	129048.00	34981.35
1 Q 2009	136223.00	47154.80
2 Q 2009	157988.00	45569.52
3 Q 2009	166659.00	44124.23
4 Q 2009	163952.00	40457.42
1 Q 2010	157487.00	39205.59
2 Q 2010	155548.00	34772.62
3 Q 2010	165732.00	37296.43
4 Q 2010	173845.00	35984.31
1 Q 2011	173643.00	37118.11
2 Q 2011	181967.00	40577.33
3 Q 2011	201791.00	39589.55
4 Q 2011	218240.00	34645.35
1 Q 2012	227439.00	29140.95
2 Q 2012	241649.00	26923.27
3 Q 2012	246134.00	27247.26
4 Q 2012	255556.00	27200.18
1 Q 2013	261134.00	26384.89
2 Q 2013	266682.40	35560.86
3 Q 2013	285342.00	37039.56

Source: The figure is built on statistical bulletins of the National Bank for the years 2003-2013 [6].

We see a sustainable growth and active commercial banks borrowing on global markets by issuing bonds and an active increase of short-term loans in the domestic market and their significant share in the total credit banking (43,7 %). This tendency started over 10 years ago. So, based on correlation and regression analysis we can determine the impact of external debt on the amount of short-term loans to commercial banks on the Ukrainian domestic market in local and foreign currencies.

1. The impact of external debt on the amount of commercial banks' short-term loans in local currency.

Our hypothesis is that short-term bank loans to legal entities and individuals in national currency are largely funded by external sources, such as foreign bonds and debt securities of banks. In order to test the above mentioned hypothesis of our research we'll use the analytical and methodological tools of the program Stata 11.0.

On the basis of statistical data in Table 1 and using the reg function we can build the model "dependence of in short-term bank loans to legal entities and individuals in the domestic market of Ukraine (ShortTerm_Loans_UAH) on te foreign bonds and debt securities of banks in national currency (ForeignDebtPapers_UAH).

The results of the regression equation are shown in figure 3.

```
. reg ShortTermLoans_UAH ForeignDebtPapers_UAH
```

Source	SS	df	MS	Number of obs = 43		
Model	1.7250e+11	1	1.7250e+11	F(1, 41) =	58.28	
Residual	1.2135e+11	41	2.9597e+09	Prob > F =	0.0000	
				R-squared =	0.5870	
				Adj R-squared =	0.5770	
Total	2.9385e+11	42	6.9963e+09	Root MSE =	54403	

Short-ns_UAH	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
ForeignDeb-H	3.892379	.5098586	7.63	0.000	2.862699 4.92206
_cons	31434.07	14279.55	2.20	0.033	2595.93 60272.21

Fig. 3. The results of the regression equation "dependence of the volume of short-term bank loans to legal entities and individuals in the domestic market of Ukraine (ShortTerm_Loans_UAH) on foreign bonds and debt securities of banks in national currency (ForeignDebtPapers_UAH) between the years 2003-2013

According to the results obtained by using Stata 11.0 we get the equation:

$$\text{ShortTerm_Loans_UAH} = 3.892 * \text{ForeignDebtPapers_UAH} + 31434.07$$

Thus, the coefficient of determination (R-squared) 0,587 indicates that 58.7 % of variation of interest changes of bank short-term loans to legal entities and individuals on the domestic market of Ukraine in local currency is explained by the variation of foreign bonds and debt securities of banks in national currency. Factor $\beta_1=3.892$ (statistically significant) means that with an increase in foreign bonds and debt securities of banks on 1 million , the amount of short-term loans to legal entities and individuals on the domestic market of Ukraine increased by 3,892 million.

```
. corr ShortTermLoans_UAH ForeignDebtPapers_UAH
(obs=43)
```

	5--ns_UAH	Foreign-H
Short--ns_UAH	1.0000	
ForeignDeb-H	0.7662	1.0000

Fig. 4. Correlation matrix relationship between the studied parameters

According to the correlation matrix (Figure 4), the linear correlation coefficient in the model is 0.7662. It indicates a high level of relationship between short-term bank loans to legal entities and individuals on the domestic market of Ukraine (ShortTerm_Loans_UAH) and foreign bonds and debt securities of banks in local currency (ForeignDebtPapers_UAH).

According to the first model we can make a conclusion: short-term bank loans to legal entities and individuals in national currency are financed in 76.6 % through foreign bonds and debt securities from commercial banks.

2. The impact of external debt on the amount of short-term loans in foreign currency.

On the market of short-term loans to legal entities and individuals on the domestic market of Ukraine in foreign currency we can observe more revealing trend by building a model “dependence of short-term loans to legal entities and individuals on the domestic market of Ukraine in foreign currency (ShortTerm_Loans_FC) on foreign bonds and debt securities of banks U.S.D (ForeignDebtPapers_FC)” (on the basis of statistical data in table 2).

The results of the regression equation are shown in figure 5.

```
. reg ShortTermLoans_FC ForeignDebtPapers_UAH
```

Source	SS	df	MS	Number of obs = 43
Model	3.0044e+10	1	3.0044e+10	F(1, 41) = 97.43
Residual	1.2617e+10	41	307733080	Prob > F = 0.0000
Total	4.2661e+10	42	1.0157e+09	R-squared = 0.7042
				Adj R-squared = 0.6970
				Root MSE = 17542

ShortT--ns_FC	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
ForeignDeb-H	1.624431	.1644034	9.88	0.000	1.292411 1.95645
_cons	12568.96	4604.428	2.73	0.009	3270.128 21867.79

Fig. 5. The results of the regression equation “dependance of the volume of short-term bank loans to legal entities and individuals in the domestic market of Ukraine in foreign currency (ShortTerm_Loans_FC) on foreign bonds and debt securities of banks (ForeignDebtPapers_UAH) between the years 2003–2013

According to the results obtained by using Stata 11.0 we get the equation:

$$ShortTerm_Loans_FC = 1.62 * ForeignDebtPapers_UAH + 12668.96$$

Thus, the coefficient of determination (R-squared) 0,7042 indicates that 70.42 % of variation of interest changes of bank short-term loans to legal entities and individuals on the domestic market of Ukraine in foreign currency is explained by the var-

Table 2. Dynamics of short-term bank loans to legal entities and individuals on the domestic market of Ukraine (ShortTerm_Loans_FC) and foreign bonds and debt securities of banks in foreign currency (ForeignDebtPapers_UAH) between the years 2003–2013

	Short term loans to legal entities and individuals on the internal market of Ukraine, mln. UAH	Foreign bonds and debt securities of banks, mln. UAH
1	2	3
1 Q 2003	11349.00	0.00
2 Q 2003	11147.00	26.66
3 Q 2003	12028.00	0.00
4 Q 2003	12545.00	0.00
1 Q 2004	12974.00	548.92
2 Q 2004	13293.00	532.07
3 Q 2004	13464.00	1066.85
4 Q 2004	13711.00	1872.81
1 Q 2005	14374.00	1879.96
2 Q 2005	14233.00	2532.56
3 Q 2005	13506.00	3827.90
4 Q 2005	15346.00	3878.40
1 Q 2006	17528.00	6221.60
2 Q 2006	18167.00	7261.90
3 Q 2006	22508.00	7564.90
4 Q 2006	26092.00	9665.70
1 Q 2007	28700.00	16685.20
2 Q 2007	29786.00	26886.20
3 Q 2007	32639.00	29850.55
4 Q 2007	36346.00	32976.50
1 Q 2008	43507.00	35344.95
2 Q 2008	49665.00	34573.51
3 Q 2008	66914.00	36009.04
4 Q 2008	92985.00	34981.35
1 Q 2009	79267.00	47154.80
2 Q 2009	69846.00	45569.52
3 Q 2009	72163.00	44124.23
4 Q 2009	67022.00	40457.42
1 Q 2010	64053.00	39205.59
2 Q 2010	62907.00	34772.62
3 Q 2010	69160.00	37296.43
4 Q 2010	68927.00	35984.31
1 Q 2011	72766.00	37118.11
2 Q 2011	76208.00	40577.33
3 Q 2011	79705.00	39589.55
4 Q 2011	79182.00	34645.35
1 Q 2012	80566.00	29140.95
2 Q 2012	81055.00	26923.27
3 Q 2012	85700.00	27247.26
4 Q 2012	92935.00	27200.18
1 Q 2013	101554.01	26384.89
2 Q 2013	104253.35	35560.86
3 Q 2013	102623.07	37039.56

Source: The table is built on statistical bulletins of the National Bank for the years 2003-2013 [6]

iation of foreign bonds and debt securities of banks. Factor $\beta_1 = 2.624$ (statistically significant) means that with an increase in foreign bonds and debt securities of banks on 1 million, the amount of short-term loans to legal entities and individuals on the domestic market of Ukraine in foreign currency increase by 1,624 million.

. corr ShortTermLoans_UAH ForeignDebtPapers_UAH
(obs=43)

	ShortTermLoans_UAH	ForeignDebtPapers_UAH
ShortTermLoans_UAH	1.0000	0.7662
ForeignDebtPapers_UAH	0.7662	1.0000

Fig. 6. Correlation matrix relationship between the studied parameters

According to the correlation matrix (figure 6), the linear correlation coefficient in the model is 0.8392. It indicates a high level of relationship between short-term bank loans to legal entities and

individuals on the domestic market of Ukraine in foreign currency (ShortTerm_Loans_FC) and foreign bonds and debt securities of banks (ForeignDebtPapers_UAH).

According to the second model we can make a conclusion: short-term bank loans to legal entities and individuals in foreign currency are financed in 83.92 % through foreign bonds and debt securities from commercial banks.

All in all, according to the theory of external financing there is inefficient use of foreign investment in Ukraine. They are mostly focused on getting short-term profits and meet consumer needs. According the realities of the current state of Ukraine's economy, particularly the banking system, this inefficient use of borrowed resources does not lead to the strengthening of economic Ukrainian economy in facing current challenges of the market economy.

References

1. Burakovskyy I. The Global Financial Crisis : Lessons for Ukraine and the world / I. Burakovskyy, O. Plotnikov. – X. : Folio, 2009. – 299 p.
2. Peshchanskaya I. Short-term loan: theory and practice / I. Peshchanskaya. – M. : Ekzamen, 2003. – 320 p.
3. Glushchenko S. Participation of Ukraine in international financial and credit collaboration / S. Glushchenko // Research papers National University «Kyiv-Mohyla Academy». Economics. – 2011. – Book 120. – P. 17–22.
4. The dynamics of the international investment position of Ukraine [Electronic resource] // Paper NBU. – Mode of access: http://www.bank.gov.ua/control/uk/publish/category?cat_id=44465.
5. Paper NBU №1/2014 (250) [Electronic resource]. – Mode of access: <http://www.bank.gov.ua/doccatalog/document?id=4881597>. – P. 24.
6. Statistical Paper NBU [Electronic resource]. – Mode of access: http://www.bank.gov.ua/control/uk/publish/category?cat_id=71195.

Глуценко С. В., Васильєва К. О.

ВПЛИВ ЗОВНІШНІХ ЗАПОЗИЧЕНЬ НА АКТИВНІСТЬ БАНКІВСЬКОГО КОРОТКОСТРОКОВОГО КРЕДИТУВАННЯ В УКРАЇНІ

У статті визначено кількісний взаємозв'язок між обсягами зовнішніх запозичень комерційних банків в Україні та обсягами надання ними короткострокових кредитів юридичним та фізичним особам в Україні. Також підтверджено залежність активності комерційних банків на вітчизняному ринку короткострокових кредитів як кредиторів від їх активності на зовнішніх боргових ринках як позичальників.

Ключові слова: комерційні банки, короткострокові кредити, зовнішні облігації.

Матеріал надійшов 14.02.2014