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GLOBAL FINANCIAL CRISES IMPACT ON THE ACCESS OF TRANSITIONAL ECONOMIES TO INTERNATIONAL BOND MARKET

Resume *The relevance of the material stated in article, is caused by the necessity of understanding the difference in borrowing conditions during the course of and after the crises, and their impact on the access of borrowers from transitional economies to bond markets. In the article the role of debt financing in the economic growth is reviewed, current trends in the international economy are determined, the comparative analysis of borrowing conditions is conducted and the econometric analysis to determine factors that influenced the borrowers' behavior is made. The conducted research may be broadened by analyzing the changes in the access of Ukrainian companies to other sectors of financial market.*

Key words: global financial crises, Eurobond market, transitional economies.

Анотація *Актуальність обраної теми пов'язана із необхідністю визначення змін в умовах залучення боргових фінансових ресурсів у зв'язку із кризовими явищами у світовій економіці з метою оцінки їх впливу на доступність до боргового капіталу позичальників із транзитивних економік. В статті визначена роль боргового фінансування в економічному зростанні країн із транзитивною економікою, виділені сучасні тенденцій розвитку світової економіки, проведений порівняльний аналіз умов залучення боргових фінансових ресурсів та економетричний аналіз факторів, що впливають на поведіку позичальників на ринку єврооблігацій. Проведений аналіз може бути розширений через розгляд впливу кризи на доступність позичальників до інших секторів фінансового ринку.*

Ключові слова: світова фінансова криза, ринок єврооблігацій, транзитивні економіки

Аннотация *Актуальность выбранной темы обусловлена необходимостью определения изменений в условиях привлечения долговых финансовых ресурсов во время мирового кризиса с целью оценки их влияния на доступ к долговому капиталу заемщиков из транзитивных экономик. В статье раскрыта роль долгового финасирования в экономическом росте стран с транзитивной экономикой, выделены современные тенденции развития мировой экономики, проведен сравнительный анализ условий привлечения долговых финансовых ресурсов и эконометрический анализ факторов, которые влияют на поведение заемщиков на рынке еврооблигаций. Проведенный анализ может быть расширен путем изучения влияния кризиса на доступ заемщиков к другим секторам финансового рынка.*

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Ключевые слова: мировой финансовы кризис, рынок еврооблигаций, транзитивные экономики

Growing interdependence between different countries and their markets allowed the US economy's liquidity problems to spread over the world, which finally resulted in the global financial crises in 2008. The liquidity problems felt by US banks and financial institution have overtaken the world debt market and greatly influenced the behavior of market participants and borrowing conditions. Such hazardous effects were most dangerous for transitional countries because their economic growth depended extensively on external finance and trends in commodities markets. The global downturn caused the fall of industrial production and export revenues, which led to budget deficit and an increase in the demand for external finance.

The fundamentals of bond issues and the basics of market functioning are presented in the works of well-known corporate finance scientists Ross A., Westerfield W., Mishkin F., Sharpe W., Brealey R. and Myers S. Among the national economists who pay attention to financial markets are Blank Y., Sutormina V., Vahnenko T. and others. Research concerning reasons and consequences of the global financial crisis are proposed by Sharov O., Burakovskyy I., Galchinskyy A., Geec V., Doroshenko I, but unfortunately their studies are mainly directed to the crisis impact on the whole economy of Ukraine or its domestic financial sector. Market analysis of debt conditions is also presented in research, published by the Bank for International Settlement, the European Central Bank, Deutsche bank, etc. Unfortunately, all these studies are devoted to the observation of global financial market changes and rarely concern Ukraine. So the crisis influence on the Ukrainian companies' access to the international bond markets hasn't been analyzed yet. Therefore the research aimed on understanding the financial crisis impact on the debt market conditions is essential.

The main goal of this research is to trace how conditions in the international debt market are changing throughout and after the current financial crises as well as determine main factors and outcomes of such changes.

In order to reach this goal, different research methods are used, such as comparative analysis to evaluate the changes in underwriting volumes, interest rates and institutional structure of debt issues. An econometric analysis has been applied to determine factors that influenced the borrowers' behavior, systemic methods - to define market conditions and borrowers' drivers. In order to conduct the comparative analysis data and statistics from ECB, IMF, BIS, Cbonds and Global Financial Data are applied.

A global financial crisis has influenced the borrowing conditions for companies all over the world, but the deepest effect it has on borrowers from transitional economies. Such negative effect can be explained using several factors, peculiar to the transitional economies development.

A high growth rate of the Ukraine in pre-crisis period (about 8% in 2007) was mainly spurred by 3 main factors, which had an international source [10]. These are: vast amounts of credit resources obtained in the international financial markets, foreign direct investments, and positive dynamics in the commodity markets, which are the main sales outlet for Ukrainian industrial companies.

In 2007 the commodity prices reached their peak and further economic growth of those countries which production is oriented on international market. Among these countries is Ukraine, as Ukrainian export in 2007 equaled to more than 45% of GDP and the share of materials in export of Ukraine was 62.6% [9, 10].

Favorable conditions in the financial markets (moderate interest rates, high incentives of international investors in securities from the emerging economies) were used by the large domestic industrial corporations in order to expand their productive capacities and satisfy growing demand, domestic and international. Financial institutions have used raised external finance primarily to provide consumer credits, which stimulated domestic consumer demand and therefore economic development. On the other hand, consumer demand was also spurred by the foreign direct investments flowing into the country.

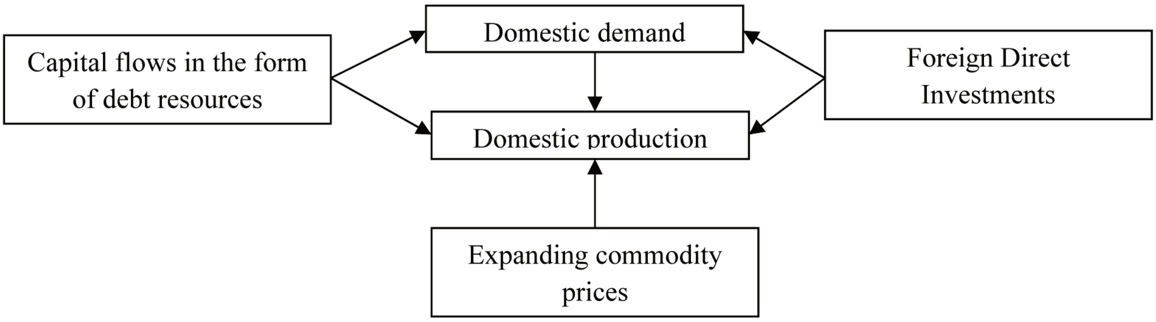

Figure 1. External factors of GDP growth in Ukraine, 2007.

Hence, Ukrainian economic growth was mainly due to the flow of international capital resources. Consumption, financed by debt capital, greatly exceeded production capacities, and therefore the problems with debt repayments were inevitable. In the Ukraine these problems appear in 2008 both on the corporate and national level.

As we can see, debt financing was the main source of economic growth for emerging countries and simultaneously the main cause of fast financial crisis spread. But it is necessary to understand that fully-fledged economic recovery is impossible without revival of debt relations. The improvement of such relations should be performed in the following ways. First of all, Ukrainian companies have to establish an effective plan of repaying existing debt. Second, in the case of an inability to perform their liabilities companies have to make an agreement with investors about the restructuring conditions of debt. And finally, Ukrainian borrowers have to search new possibilities for raising money in order to foster country's recovery and consequently innovation-based development.

So a comparative analysis of conditions in the international debt market is important for future economic development.

Research of the debt market conditions for borrowers has to be started with a provision for some knowledge about current trends in the international economy, which give groundings for debt market conditions. Among such trends are: declining rates of economic development in most countries in 2008 – 2009; large-scale liquidity injections into the economy and stimulus plans launched by governments in order to stimulate economic growth; low interest rates set by regulators; a cautious attitude of investors to risky assets; the loss of confidence to credit rating agencies; reevaluation of most securities and a large scale writing-down of assets by financial institutions.

1) Declining rates of economic development in most countries in 2008 – 2009. According to IMF data, in 2009 most developed countries suffered from economic recession. The GDP decline in the USA equaled - 2.4%, in the Eurozone -4%, in Great Britain -5%. The economic decline was most intense in the first half of 2009. Moreover debt problems in certain countries in Euro area, such as Greece, Portugal and Spain, also threaten the stability of the Euro currency and the pace of economic recovery in Euro area [8].

2) Large-scale liquidity injections into the economy. In order to restore confidence in the financial system, in October 2008 the governments of the UK and the USA announced a Rescue plan for banks. The UK government has introduced a package of measures aimed at rescu-

ing the banking system that makes available 400 billion pounds (692 billion USD) of fresh money. The US government has implemented a 250 billion USD (143 billion pounds) plan to purchase stakes in a wide variety of banks, such as Citigroup, JP Morgan Chase, Goldman Sachs, Morgan Stanley, Bank of America, Merrill Lynch, State Street and Bank of New York Mellon, etc. Governments of Germany, France, Italy, Spain, Holland and Austria have also launched the bank bail-out plans, offering over 1.5 trillion euro in guarantees and fresh capital into the banking system [4].

Table 1 Overview of the World Economic Development

	2008	2009
Advanced economies	0.5	-3.2
United States	0.4	-2.5
Euro area	0.6	-3.9
Japan	-1.2	-5.3
United Kingdom	0.5	-4.8

Source: IMF World Economic Outlook Update, January 2010, p.2

3) Low interest rates set by regulators. The interest rates in developed countries have been reduced to unprecedented values in order to stimulate credit activities. See table 2

Table 2 Interest rates of the main market regulators.

	Current value	Change	Last date
FRS target rate, %	0.25	-0.75	12/16/08
FRS discount rate, %	0.75	0.25	2/18/10
ECB refinancing rate, %	1.00	-0.25	5/7/09
BoJ target rate, %	0.10	-0.2	12/19/08
BoJ discount rate, %	0.30	-0.2	12/19/08

Source: Cbonds

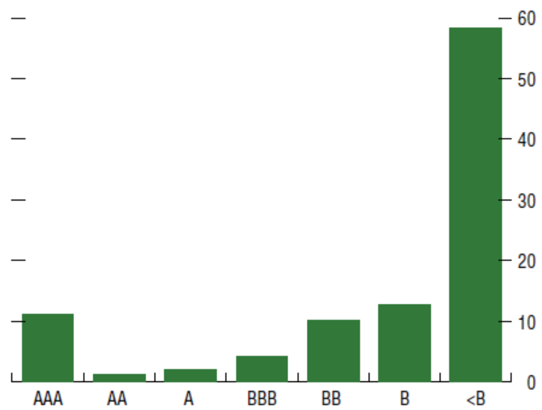

Chart 1. Change in ratings of AAA-bonds (in percent, as of June 30, 2009)

Source: IMF Global Financial Stability Report, October 2009, p. 93

4)A cautious attitude of investors to risky assets and the loss of confidence to credit rating agencies. Most of investors withdrew their capital from the emerging markets, while some financial institutions implemented limits for the amount of credit resources available for borrowers from certain countries.

5)Reevaluation of most securities and a large scale writing-down of assets by financial institutions. According to the Global Financial Stability Report, around 58% of all AAA-bonds in 2007-2009 were changed to a <B category. [7] See Chart1.

Such factors significantly influenced debt market conditions and therefore the access, which borrowers from transitional economies had to global financial markets.

For the analysis of borrowing conditions we have chosen the following indicators: Libor 12-month and Target Fed Funds Rate, as the primary benchmarks for the cost of money in the international financial markets; JPMorgan Emerging Markets Bond Index Global, which depicts sovereign and credit risk by tracking total returns for USD denominated debt instruments issued by emerging market sovereign and quasi-sovereign entities; the Fitch foreign-currency sovereign rating, measuring the country credit risk; and, finally, USD/hryvna exchange rate, reflecting efficiency of debt issuance in foreign currency and price for it in hryvnas. The results of conducted analysis are presented in the Table 3.

Table 3 The comparative analysis of access conditions to Eurobond market by Ukrainian borrowers.

Conditions	**Pre-crisis period (June 2007)**	**Crisis period (December 2008)**	**Post-crisis (December 2009)**	**Current data (March 2010)**
LIBOR 12-month	5.4%	2.38%	0.99 %	0.87 %
Target Fed Funds Rate	5.25 %	1.00%	0.25%	0.25%
EMBI+Ukraine	122	2024	1005	468
The Fitch foreign-currency sovereign rating	BB-/Positive (25.10.2006-14.05.2008)	BB-/Negative (25.09.2008)	B-/Negative (12.11.2009)	B-/Stable (17.03.2010)
Exchange rate	5-май	июл-56	июл-98	июл-92

Source: National bank of Ukraine, Fitch Ratings, IMF Data and Statistics, The Fed (U.S.) Prime Rate Website, Global Financial Data

In spite of lowering the main market benchmarks, such as LIBOR 12-month and Target Fed Funds Rate (from 5.4% and 5.25 % in June 2007 to 0.87% and 0.25% in March 2010 respectively), the cost for debt finance for the last two years has grown significantly for borrowers from transitional economies. This happened because of a liquidity squeeze in the market, high risks associated with transitional economies, and economic downturn, caused by the fall in commodity markets. Such cost increase can be depicted by the dynamics of the JPMorgan Emerging Markets Bond Index Global, which achieved its peak at the end of 2008, amounting 2024. But fortunately for borrowers, during 2009 the yield of government bonds from the emerging markets was declining, signalizing the return of a demand for securities from emerging markets.

The increase in country risk for foreign investors can be traced by analyzing the Fitch foreign-currency sovereign rating. Due to deteriorating economic fundamentals and a rising risk of a currency crisis, in third quarter of 2008 Fitch Ratings Agency cut Ukraine`s sovereign outlook to the lowest measure for the last 10 years – “BB-/Negative”. However, at the end of 2009 - beginning of 2010, the improvement of borrowing conditions can be seen. This is confirmed by Fitch Ratings Agency, which revised Ukraine's sovereign rating outlook in March 2010 from negative to stable, expecting intensification of macroeconomic and financial stability after the presidential elections and a formation of a new government.

The sharp depreciation of Ukrainian national currency towards the US dollar caused an increase in coupon rates calculated in hryvnas. Such a rise in cost was most hazardous for companies and financial institutions, which obtain their profit in national currency. This situation caused an inability of some borrowers to serve their debt.

Worsening debt conditions for borrowers from transitional economies in 2008 lead to:

- a reduction of issues from the Ukraine in 2008 and a tendency of debt restructuring in 2009,

- a price increase of the debt capital (from 5 - 10 to 10-13%),
- changes in the sector structure of borrowers,
- a decrease in the average amount of a single issuance.

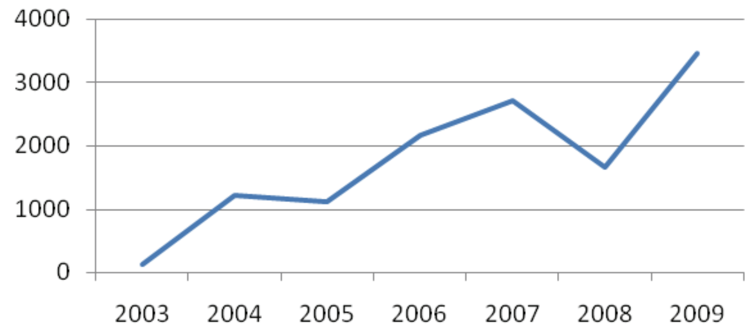

Chart 2. Volumes of the Eurobond underwritings by Ukrainian companies (in mln. USD).

Source: Author's calculations based on the basis of Cbonds data

The first pick of the Eurobond emissions was observed in 2007, and amounted to 2725 million USD or 14 issuances. [See Appendix A] The main issuers in 2007 were banks, which collected about 84% of the total sum. Among the companies from non-financial sector, that entered the Eurobond market in 2007, were Interpipe Ukraine, GNG (Galnaftogaz) Finance and XXI century. The 91% of all resources were attracted in the form of LNP for a period of 3-7 years. The interest rates for those emissions varied from 5 to 10% in USD. At that time the price for bond issuances on the national market amounted to 12-16% in HRN. All emissions were in USD, and according to credit rating agencies, these emissions were speculative. The average amount of a single issuance was about 200 million USD. It should also be noted that almost all emissions in 2007 were carried in the first half of the year.

As a result of tight conditions, in 2008 Ukrainian companies were able to procure only four issuances of Eurobonds with a total raised capital of 1660 million USD, which is a 40% decrease compared to 2007. Only one real estate management company (XXI Century Investments) and three Ukrainian banks, which were owned by large industrial corporations (PrivatBank and AlfaBank) and international bank (Ukrsibbank), were able to enter the Eurobond market in 2008. Two emissions were carried in the form of LNP (by Ukrsibbank and Alfabank), the two others - in the form of ABS (by PrivatBank). All issuers have fixed rates for their bonds emissions, except PrivatBank. The average interest rates were about 10-13% and average sum of single issuance – 184 million USD.

In 2009 the improving conditions in this market gave an opportunity to several banks and companies to restructure their debts. This caused an increase of underwriting volumes of 27% in comparison with 2007 and a 200% increase in comparison with 2008. The underwriting volumes in 2009 amounted to 3466 million USD. The vast amount of money was raised by only five issuers, of which 76% fall on two issuers: "Alfa-bank" and "Naftogaz of Ukraine". The large scale bond restructuring conducted by Alfa-bank exchanged 3 issuances, amounting to 1045 million USD with the maturity in 2009-2010 on 3 tranches with the maturity in 2012 and an increased interest rate from 9.75 to 13%. Moreover the largest Ukrainian public company, which controls whole cycle of oil and gas operations in the Ukraine (extraction, refining and sales) restructured its Eurobonds 2009 and other loans by issuing new securities with a maturity in 2014 amounting to 1595 million USD. The repayment of these new securities is guaranteed by the Ukrainian government at a value of 500 million USD. The interest rates rose from 8.125% to 9.5%. The other three restructurings were conducted by "First Ukrainian International Bank", "XXI Century Investments" and "Finance and Credit bank". In spite of Fitch Ratings enhancement and EMBI+Ukraine decrease, the price for Eurobond remained at the same level as in 2008. The average amount of single issuance rose significantly due to large scale restructuring and amounted to 578 million USD.

Hence, an increase in Eurobond emissions in the Ukraine was caused by an inability of companies and banks to pay their obligations. One half of attracted finance was raised with the help of the government. So positive figures of Eurobond net emissions doesn't mean return of investor's interest to Ukrainian securities, but just a result of the absence of other ways to pay for old liabilities.

The above analysis has shown that the volumes of Eurobond underwritings depend greatly on external conditions in financial environment. In order to assess such level of interdependence, an econometric model was constructed [See Appendix B]. The model describes the relations between the amount of raised capital by Ukrainian companies through Eurobonds, the lending rate proposed by Ukrainian banks (DLEND_RATE), the 12-month Treasury constant maturity rate (DBOND_YIELD), and the Emerging Markets Bond Index (DEMBI). The 1st or 2nd differences of all variables were used in order to make them[]-stationary. The model was constructed using the quarterly data for 5 years (from 2005 to 2009).

DDBOND = 410.00*DLEND_RATE - 1932.36*DBOND_YIELD - 2.02*DEMBI + 131.49

The model was tested on stability by the Ramsey Reset Test, on the existence of heteroskedasticity by the White test, and autocorrelation by the Breusch-Godfrey serial correlation LM test. [See Appendix C]

The model illustrates that capital, raised by Ukrainian companies through Eurobonds, is inversely proportional to the 12-month Treasury rate and EMBI, and is directly proportional to the lending rate, proposed by Ukrainian banks.

From the conducted analysis it can be seen that a global financial crisis has a harmful effect on the access of transitional economies to the international bond market. In spite of actions taken by the governments of developed countries, aimed on lowering interest rates, the borrowing conditions for transitional economies have deteriorated. The price for financial resources have risen considerably and therefore influenced the volumes of borrowed funds, types of borrowers and aims of underwritings. According to the constructed model, it can be seen that capital raised by Ukrainian companies is strictly dependent on 12-month Treasury rate, EMBI and a lending rate proposed by Ukrainian banks.

The crisis impact on the access of transitional economies to different financial markets is a vast subject that may be broadened by researching the change in the access of Ukrainian companies to other sectors of financial market, such as syndicated loans and equity market. It also can be deepened by analyzing more factors and their consequences on the access to Eurobond resources.

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Appendix A. Volumes and quantity of Eurobond underwritings by Ukrainian companies in mln.USD, 2003-2009

	2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Volumes	130	1223,92	1125	2170	2725	1660	3 466
Quantity of issues	2	5	8	10	14	4	5

Source: Author's calculations based on the basis of Cbonds data

Appendix B Econometric model. Estimation output.

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
DLEND_RATE	410.0004	100.7059	4.071264	0.0016
DBOND_YIELD	-1932.356	477.4619	-4.047142	0.0016
DEMBI	-2.015803	0.523970	-3.847176	0.0023
C	131.4874	144.0480	0.912803	0.3793
R-squared	0.630300	Mean dependent var		-23.43750
Adjusted R-squared	0.537874	S.D. dependent var		817.3977
S.E. of regression	555.6655	Akaike info criterion		15.69053
Sum squared resid	3705169.	Schwarz criterion		15.88368
Log likelihood	-121.5242	F-statistic		6.819572
Durbin-Watson stat	3.138111	Prob(F-statistic)		0.006185

Appendix C. Tests of a model for stability, absence of autocorrelation and heteroskedasticity

Ramsey RESET Test:			
F-statistic	0.080206	Probability	0.923514
Log likelihood ratio	0.254623	Probability	0.880459
White Heteroskedasticity Test:			
F-statistic	0.242499	Probability	0.950668
Obs*R-squared	2.226674	Probability	0.897716
Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	2.683179	Probability	0.116720
Obs*R-squared	5.587644	Probability	0.061187