




# “Comparative analysis of internal and external national debt of Ukraine taking into account the impact factors”

<b>AUTHORS</b>	Viktoriia Obravyt Viktoriia Koilo  <a href="https://orcid.org/0000-0001-7953-9970">https://orcid.org/0000-0001-7953-9970</a>  <a href="https://publons.com/researcher/1939207/viktoriia-koilo/">https://publons.com/researcher/1939207/viktoriia-koilo/</a>
<b>ARTICLE INFO</b>	Viktoriia Obravyt and Viktoriia Koilo (2017). Comparative analysis of internal and external national debt of Ukraine taking into account the impact factors . <i>Public and Municipal Finance</i> , 6(1), 46-56. doi: <a href="https://doi.org/10.21511/pmf.06(1).2017.05">10.21511/pmf.06(1).2017.05</a>
<b>DOI</b>	<a href="http://dx.doi.org/10.21511/pmf.06(1).2017.05">http://dx.doi.org/10.21511/pmf.06(1).2017.05</a>
<b>RELEASED ON</b>	Wednesday, 05 April 2017
<b>LICENSE</b>	 This work is licensed under a <a href="https://creativecommons.org/licenses/by/4.0/">Creative Commons Attribution 4.0 International License</a>
<b>JOURNAL</b>	"Public and Municipal Finance"
<b>ISSN PRINT</b>	2222-1867
<b>ISSN ONLINE</b>	2222-1875
<b>PUBLISHER</b>	LLC “Consulting Publishing Company “Business Perspectives”
<b>FOUNDER</b>	LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

**35**



NUMBER OF FIGURES

**8**



NUMBER OF TABLES

**6**

© The author(s) 2024. This publication is an open access article.

Viktoriia Obravyt (Ukraine), Viktoriia Koilo (Ukraine)

## Comparative analysis of internal and external national debt of Ukraine taking into account the impact factors

### Abstract

In this paper, scientific and methodological approaches as for interpreting the notion “national debt of the country” as a whole are systematized, the essence of “internal national debt” and “external national debt” in particular is clarified. Critical analysis of the state and dynamics of the national debt of Ukraine during 2006-2015 was performed. Dynamics of the extent of internal and external national debt of the country was studied and their comparative analysis was performed. Detailed structure of both internal part of the debt and its external part is presented. With the help of correlation analysis, strength of correlation and directions of influence of different types of debts on the national budget of Ukraine in 2006-2015 was determined.

**Keywords:** national debt, internal national debt, external national debt, government securities.

**JEL Classification:** H63.

### The description of the main material of the research

In modern conditions, significant attention of the scientists is devoted to the problem of national debt. Mainly, it is due to the need to support the financial capability of the state, authorities, economic actors, which are connected through the aggregate of financial and economic relationship. Theoretical aspects concerning the research on the essence of the notion “national debt” are being constantly studied by both national and world scientists (Vorobiov, Hrytsenko, 2009). In the economic literature on the issues of state finance, we can find absolutely different viewpoints concerning the interpretation of this notion.

According to the Budget Code of Ukraine, state budget is divided into internal (IND) and external (END).

Any state widely uses its own possibilities for attracting additional financial resources with the aim of timely financing of budgetary expenditures, which, as a result, leads to accumulation of both internal and external debt. i.e., there takes place growth of internal and external national debt, to which the greatest attention must be paid, as all other types of the state debt are, to some extent, derivative (Pavlovskia, 2013).

Interrelationship and interdependence of END and IND are characterized by a total of loans performed by the state. It is necessary to add that the experience of Western countries proves that, every year, division of the national debt to the internal and

external is of lesser importance. It goes with the stable convertibility of the national currency, and drawing together of basic conditions at the national debt markets with state and dynamics of world financial markets. Thus, the conditions of general approach to management of IND and END are provided, which also speeds up the process of promptly making necessary decisions (Vovk, Mazur, 2015).

But different countries hold onto different approaches to regulation of the ratio between these debts. The Government, which has refused from external loans, becomes the biggest borrower at the internal financial market. It is considered that with this, the liquidity of government bonds increases and expenditures for debt servicing decrease. Let us note that the meaning of the interrelationship of END and IND for the economy of the country is that the capital inflow promotes the displacement of private investment due to increase of external debt, which pretty often leads to tax reform of stimulating type (Plets, 2011).

The issue of internal national debt was studied by Western economists: Barro, R., Buchanan, J., Braunryg, M., Ricardo, D., Lerner, A., Musgrave, R., Stiglitz, J., Smit, A., Friedman, M. et al. Theoretical and practical aspects of formation and peculiarities of IND, its development, analysis and management are highlighted in the works of Ukrainian scientists (see Table 1), such as Andruschenko, V., Baranovskyi, O., Zaverukha, I., Bashnianyn, G., Vakhnenko, T., Vasylyk, O., Koziuka, V., Korneeva, V., Novosad, L., Oparin, V., Fedosov, V., Yurii, S., Kucher, G., Shkolnyk, I., Korniiichuk, O., Vakhnenko, T., Stetskyi, V., Koziuk, V., Marchenko, S. et al.

While analyzing the stock market in modern conditions, we can talk about lack of interest from its participants to the financial instruments of the

state. In this case, there arises a need to solve the problem concerning the increase of trust from stock market actors participants to the state and

development of new types of government securities to satisfy the needs of different group of investors.

Table 1. Scientific and methodical approaches to interpretation of the notion “internal national debt”

No.	Source	Interpretation
1.	Krush, P.V., Klymenko, O.V. (2010)	Internal debt is a debt of country's Government to its citizens. It is a situation when everybody “owes to himself”. When debt is not very big, it does not have significant negative impact on economy, as it is not accompanied by taking the material values abroad.
2.	Verkholaz, V.V. (2001)	Internal national debt is a complex of accepted and institutionalized debt obligations (market and non-market) of state and regional public administration to economic actors, which are serviced by way of payment of interests or repayment of main debt sum.
3.	Artus, M.M., Khyzha, N.M. (2005)	Internal national debt is a total of state's obligations to the residents, i.e., the state's debt to all citizens, which hold internal government bonds.
4.	Plets, I.I. (2012)	Internal national debt is a sum of financial debt as a result of national credit and financial operations through the state, where the state is a borrower of idle funds of legal entities and natural persons with the aim of financing the countrywide needs and collective goods to carry out its functions and tasks with regard to improvement of the social and economic development.
5.	Prutska, O.O. (2010)	Internal national debt is an internal debt of the state to enterprises and population, which emerged as a result of involvement of their funds for execution of state programs and state orders by way of putting government bonds and other government securities into circulation.
6.	Pavlovska, E.O. (2013)	Internal national debt is considered as a “loan of nation to itself” and does not influence the overall amount of total wealth of the nation. Some negative consequences in the process of management are offset by the positive effects of the mobilization of additional financial resources into investment or development of country's economy.
7.	Law of Ukraine “On national internal debt of Ukraine” (1992)	Term debt obligations of the Government of Ukraine in cash are the internal national debt of Ukraine.
8.	Vovk, O.M. (2015)	Internal national debt is connected with financing country's budget expenditures by the residents of the country in national currency and does not have such significant negative impact on country's economy, as, during the debt payment by internal loans, foreign capital transfers do not take place.
9.	Eremeichuk, R.A. (2014)	Internal national debt is a total of state's obligations to the residents (state's debt to all the citizens, which hold internal government bonds). Internal national debt consists of debt, which arises annually according to new debt obligations of the Government.
10.	Fedorov, V.A. (2011)	Internal national debt of Ukraine is term debt obligations of the Government of Ukraine in cash. Internal national debt consists of the loans of the Government of Ukraine and loans given with unconditional guarantees for financing of national programs.

Today, the most popular among issued government securities are internal national loan bonds (INLB). According to the law of Ukraine “On securities and stock market” (2006), INLB are government bonds, which are placed exceptionally at the internal stock market and confirm obligations of Ukraine concerning refund of nominal value of these bonds to holders with payment of income according to conditions of placement of bonds.

The issues of external national debt is described in the works of such famous national scientists as

Barrow, R., Elmendorf, D., Kassel, G., Marshall, A., Mill, J., Eucken, W., Stiglitz, J., Friedman, M. et al. In national literature, these issues were studied by Diakonova, I. I., Makarenko, M. I., Zhuravka, F. O., Krush, P. V., Klymenko, V. O., Govorushko, T. A., Ospischeva, V. I., Plotnytskyi, M. I., Yurii, S. I., Fedosov, V. M., Plets, I. I., Matveeva, Yu. M., Mochernyi, S. V. et al.

At the same time, problems connected with formation of the optimal definition of this category still remain unsolved in the economic area (Table 2).

Table 2. Scientific and methodical approaches to interpretation of the notion “external national debt”

№	Source	Interpretation
1.	Diakonova, I.I., Makarenko, M.I., Zhuravka, F.O. (2013)	External debt is a sum of obligations of the country to external creditors on outstanding foreign loans and outstanding interests on them. External debt is a part of national debt, which is subject to payment in a currency other than hryvnia and is determined to a certain date as a difference in sum of external national loans (commitment) and sum of payments for repayment of external national debt as of certain date, including operations as of this date. Also, external debt is viewed as sum of country's financial obligations to foreign lenders.
2.	Krush, P.V., Klymenko, V.O. (2010)	External national debt is a debt to natural persons and legal entities abroad and foreign states.
3.	Budget Code of Ukraine (2010)	External debt is a debt on loans obtained from international organizations for economic development, authorities of foreign states, foreign commercial banks, and suppliers.
4.	Ospischeva, V.I. (2008)	External national debt is a country's debt to foreign citizens, states, banks and international financial organizations.
5.	Govorushko, T.A. (2014).	External debt is a total of state authorities' obligations to international financial organizations, other countries and non-residents.
6.	Plotnytskyi, M.I. (2003)	External national debt is a country's debt to states, natural persons and legal entities of other countries. External debt is a sum which the state has borrowed to cover the deficit of the balance of payment. External debt leads to loss of the part of domestic product and fall in country's prestige.
7.	Yurii, S.I., Fedosov, V.M. (2008)	External debt, in general and as a whole, is defined as a debt, which is owned by non-residents, foreign lenders or states.

Table 2 (cont.). Scientific and methodical approaches to interpretation of the notion “external national debt”

№	Source	Interpretation
8.	Plets, I.I. (2011)	External national debt is country's debt obligations to non-residents concerning return of the money loaned (main sum of debt) and interests on them.
9.	Matveeva, Yu.M. (2008).	External national debt is a state's debt to foreign lenders, i.e., citizens and organizations of other countries.
10.	Mochernyi, S.V. (2000).	External debt is state's financial obligations (foreign loans and unpaid interests on them to foreign lenders as of certain date). External debt defines national debt to international monetary and financial organizations, official government institutions (central banks and governments), private banks, which is subject to payment as scheduled.

Thus, as a result of systematization of scientific and methodical approaches to understanding of internal and external debt, we offer our own interpretation of these notions (Fig. 1).

National debt	
Internal national debt is a total of obligations of local and regional authorities to residents (enterprises and population), which arise as a result of raising their funds for financing of national programs, orders, development of country's economy, and is accompanied by putting government bonds and other government securities into circulation.	External national debt is a total of financial obligations on loans to foreign citizens, states, banks and international financial organizations as for return of money loaned and interests on them in a currency other than hryvnia and as scheduled. Such a loan poses a threat of loss of part of national product and loss of state's credibility.

Fig. 1. The essence of national debt and its main components

We offer to give a comparative characteristics of internal and external national debt according to main features (Table 3).

Table 3. Comparative characteristics of approaches to understanding of external and internal national debt from the viewpoint of its main features (Klymash, Bahatska, Demianenko, 2014)

Comparative feature	END	IND
Instrument of government policy	Financial and political instrument – material benefits are created, which are directed towards “strengthening of the state” as a participant in economic processes	Financial instrument - material benefits are created, which are directed towards social protection provision, declared by the Constitution of Ukraine
Return conditions	Must be obligatorily paid off	Obligation to pay off is only declared. Debt is subject to restructuring and prolongation for indefinite period of time
Borrowing entities	International financial organizations, foreign banks, IMF, foreign states	Population of the country, non-residents as individuals, subjects of entrepreneurial activity, financial and credit institutions
Contractual terms	To obtain credit, the state undertakes to observe the corresponding terms of lenders. Debtor state is limited in possibility to dictate terms of debt management	Debtor state solely dictates the conditions of getting and repaying the debt. The state manages the internal debt independently, thereby restricting the influence of lenders to IND. There takes place incomes redistribution inside the state
Form of lending	Monetized, commodity	Monetized
Currency of borrowing	Foreign currency of borrowing – dollar, euro. When transferring the debt sum into national currency, the state risks to increase the debt servicing sum (exchange rate fluctuations), therewith, to increase debt burden	National currency of the state. No currency rate risk
Regulation factors	Regulation of external debt obligations depends on political arrangements, motivations (political decisions with certain economic nature)	Real repayment of these loans takes place if there is a need from the state (when there emerges “some” interest of political or financial nature in repayment of these debts) and according to court's decision
With regard to influence on behavioral model of debtor state	Lobbying of borrowing entities Certain limitations in political and economic decisions at the global market.	Does not influence the independence of the state at the global market (in the context of country's business reputation)
Consequences and risks	Risk of social and armed conflicts, economical and political sanctions	Risk of armed conflicts is minimum, social tension
Type of collateral	State guarantee	Income and state property
Lending direction	Use of money loaned by the state is of social or national nature and satisfies the public interest	Directed to cover the budget deficit, to replenish target funds, to repay state and municipal obligations
Regulation of loan amount	Sum of external lending is defined by the program	The sum of internal state lending is regulated by the state in legislative order according to budget deficit
Level of competence	National level of competence	Local level of competence
With regard to influence on social and economic development	The more is the amount of END, the less is the economic sustainability of the state. Use of external national loan for social measures, and for consumption leads to increase of inflation, increase of vulnerability of country's financial system to sudden exchange rate devaluation	Maximum market of internal lending decreases the dependence of state on external lenders (non-residents), increasing the economic sustainability. Decreases inflationary pressure and risk of financial crisis

Table 3 (cont.). Comparative characteristics of approaches to understanding of external and internal national debt from the viewpoint of its main features (Klymash, Bahatska, Demianenko, 2014)

Comparative feature	END	IND
Raising criterion	Money comes to state accounts	Emission of national securities, investment into government bonds (money raising) is directly proportional to the level of solvency and state image

Also we think it is necessary to present main factors, which define the tendency towards change of loans amount (Fig. 2).

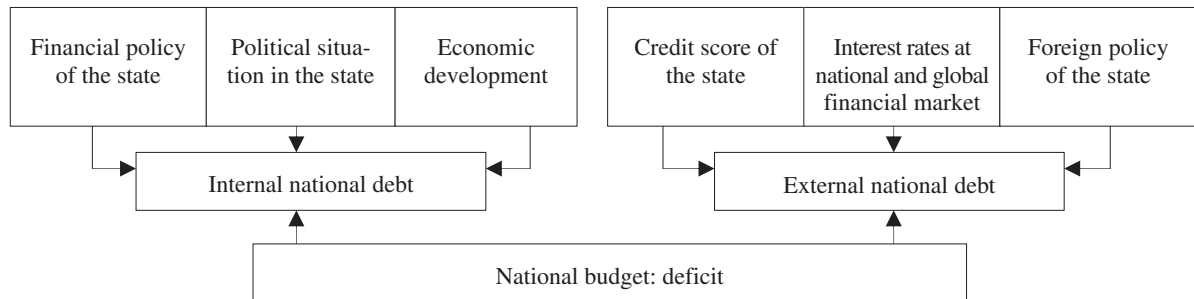


Fig. 2. Main factors of influence on external and internal national debts

According to reports of the Ministry of Finance of Ukraine (<http://www.minfin.gov.ua/>), during last ten years, national debt of Ukraine increased in more than 23 times. As of 01.01.2016, it was equal to UAH 1 333 860.71 mln, which is equivalent to USD 55 575.99 mln.

Thus, so called “fluctuation changes” structures of general national debt of Ukraine during researched years were taken place. Thus, in the structure of general national debt from 2006 till 2015 the part of national debt rose, and guaranteed one – lessened in 2.8%. One may say

about the debt situation in the country on the basis of rate of debt to GDP. It is widely recognized, this index should not be higher than 60%. Let us pay your attention the substantial excess of this index is observed in 2014-2015.

It is worth mentioning the size of national debt of the country is directly influenced by the changes of volumes of both internal and external debt of the country. That is why with the aim of more effective comparison we propose to make an analysis of dynamics of internal and external national debt of Ukraine during 2006-2015 (Fig. 3).

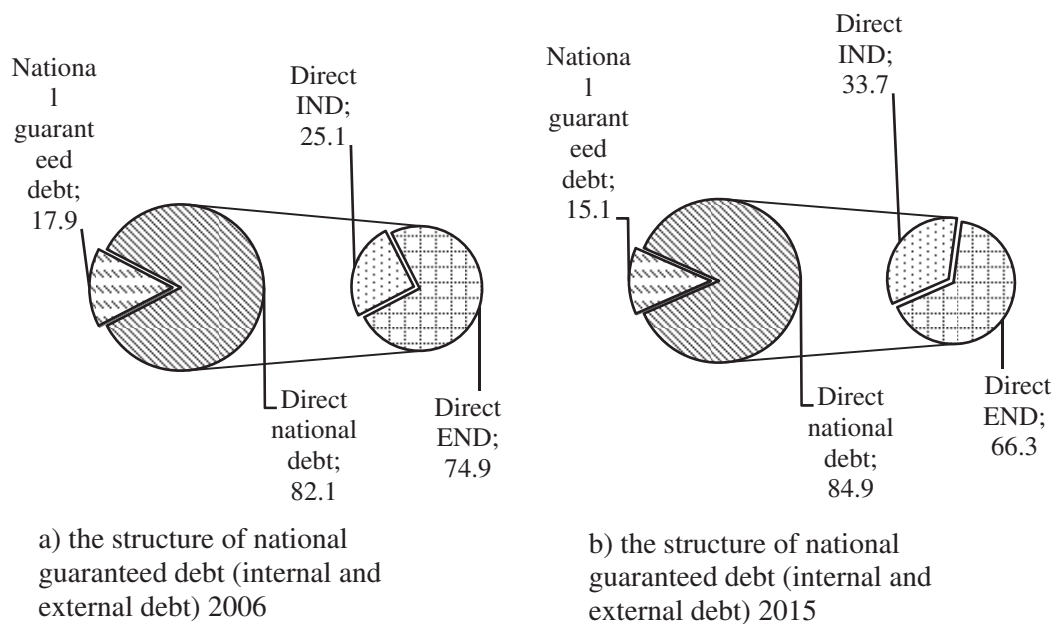


Fig. 3. The structure of national guaranteed debt (internal and external debt) as of end of 2006 and 2015

Thus, making comparative analysis, we found in 2006 internal and external debt comprised 25.1% and 74.9% accordingly in the structure of national debt of Ukraine. During ten years there took place

a subtle change: the part of internal component of debt grew by 8.6%, and of external one – lessened accordingly and comprised 66.3% as of 01.01.2016.



It should be added that in the structure of debt in the above presented figure guaranteed debt is also presented. At the end of 2015 guaranteed national debt comprised 237.9 mln hrn or 15.1% of total sum of national debt. It is proved such substantial volume of guaranteed debt in Ukraine is negatively reflected on the debt situation and may be the enforcement factor of crisis phenomena in the system of national debt.

It is worth mentioning during the researched period the constant growth of both kinds of debt is observed. Let us pay your attention that during all researched years the external debt was constantly larger than internal, except 2013. Only this year the internal debt was larger than external over 33.7 mlrd hrn. It is vividly shown in Figure 4, where the enlargement comprises 4.22 mlrd US dol.

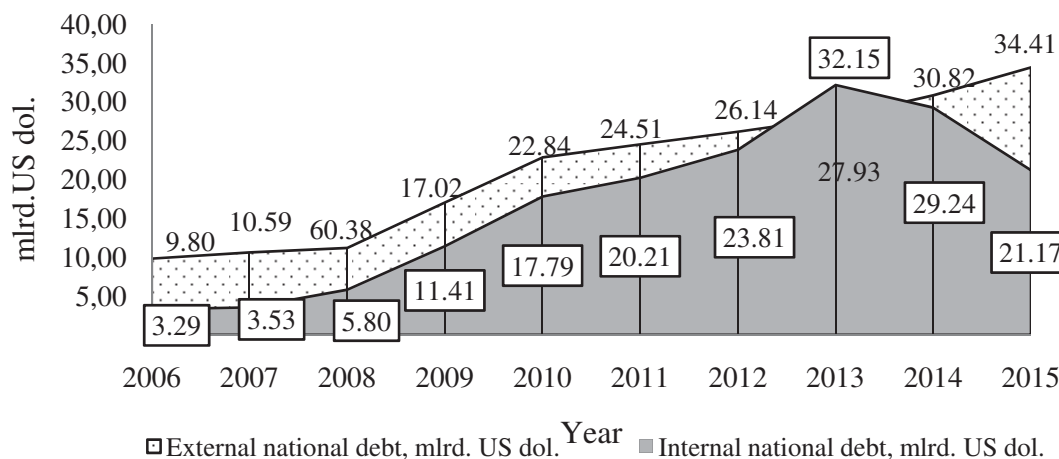


Fig. 4. Dynamics of national debt of Ukraine and its components during 2006-2015, mln US dol

It is not surprising, but such tendency is positive, as the growth of external debt is more unsafe for economy against the growth of its internal debt. It is explained by the fact, the internal debt leads to real negative economic outcomes: with the interest payment and basic sum of debt the influence of foreign currency is connected, which leads to the lessening of external reserves and shortage of import (so called "exchange risk"). As a supplement to figure 6, we should add the crediting of economy of Ukraine is executed in different currencies, which is firstly connected with creditors. As the experience of most of the countries shows, for operations in world financial market US dollars are used.

In terms of this it should be said in most countries of the world, even in developed ones, in the structure of debt of the country the existence of great part of external component is documented.

But to our mind in debt policy of the country the priority should be given to internal loans. As external loans, especially those received from international organizations, are often accompanied by imposing additional external requirements, including political context, which destroys economic and political sovereignty of the country.

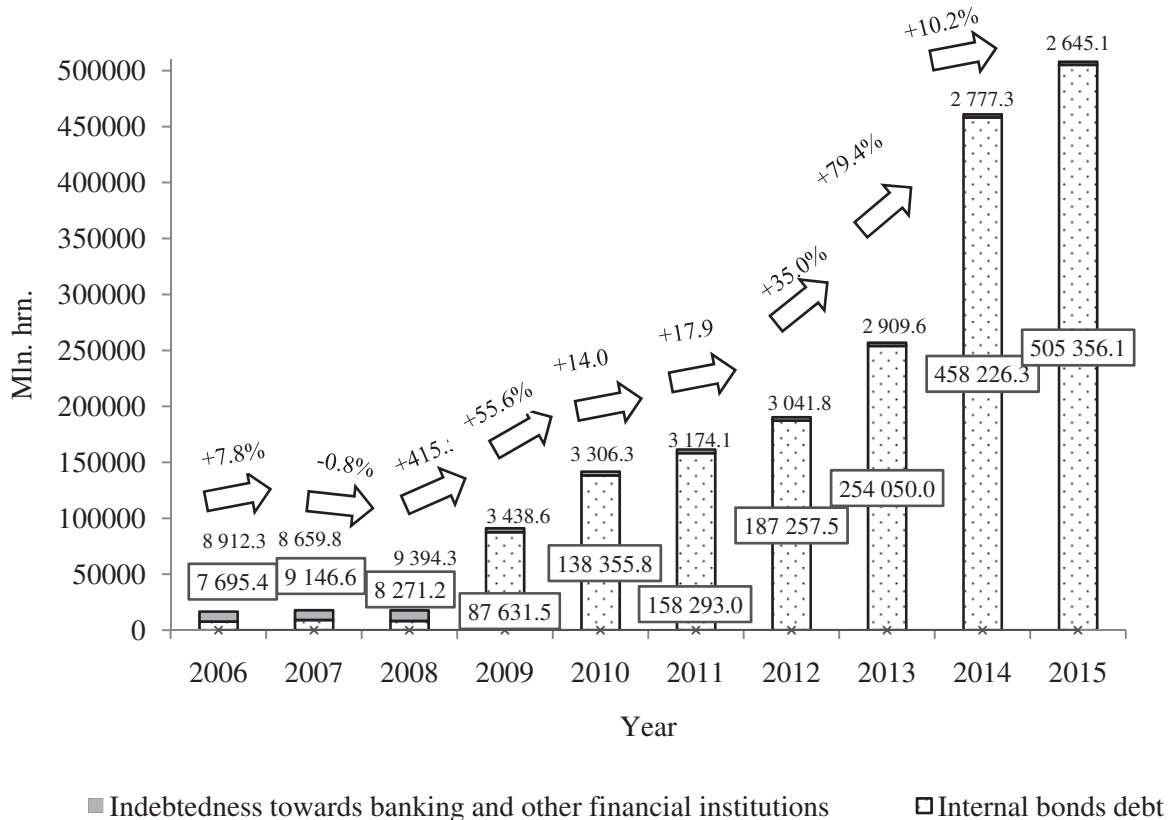
We believe it is necessary to analyze the structure of internal and external debt according to classification, presented in the reports of the Ministry of Finance of Ukraine. Thus, by the conventional index, IND is divided into two components: 1) debt in issued securities in internal market; 2) debt in banking and other financial enterprises.

The first is presented by the treasury obligations and bonds of internal state loan, which in its turn are divided according to the maturity of bonds. In terms of indebtedness towards banking and other financial institutions, it is presented by the indebtedness towards National bank of Ukraine (further - NBU).

It should be said, there is clearly expressed tendency towards growing indebtedness of the state in issued securities on domestic market. Compared to 2006 for today this component of internal national debt grew by 65.67 times (or about 497 660.68 mln hrn) and by the end of 2015 reached the measure of 505 356.07 mln hrn.

In the dynamics of attracting costs in banking establishments the opposite (negative) tendency is observed. The growing of this index was taken place till 2008, which is explained by the financial crisis under which Ukraine attracted financial resources in great amounts. In 2008 the sum of this indebtedness reached the maximum measure of 9394.31 mln hrn. Since 2008 the lessening of indebtedness to the banks is taken place and as of 01.01.2016 this measure reached 2645.05 mln hrn.

It should be said, the part of last component of IND is very subtle, compared to the volume of indebtedness of the state bonds (Fig. 5). As of 01.01.2016 the indebtedness is on the level of 2645.1 mln hrn and 505356.1 mln hrn respectively. We should admit the increases of changes in volume of IND over 2006-2015 demonstrate the increase of internal debt annually (except 2007, when there was subtle lessening by 0.8%).



**Fig. 5. The dynamics of changes of structure of internal debt over 2006-2015, mln грн**

Internal bonds debt takes a special place in the structure of state debt, as it includes rather wide range of components.

At the end of 2015 the greatest part of indebtedness to legal bodies comprised internal national bonds for a period of 5 years (32%), 10 years (12%) and 7 years (10%). Short-term INB were characterized by low attractiveness, particularly INB maturing from 1 to 3 years, comprising 5% in the structure.

On the basis of conducted analysis of internal national debt of Ukraine we may say about the disinterest of participants of stock exchange towards financial interests of the state. That is why one of the top priority tasks is the restoration of trust of stock exchange participants towards financial instruments of the state and development of new kinds of state securities for satisfaction of needs of different groups of investors.

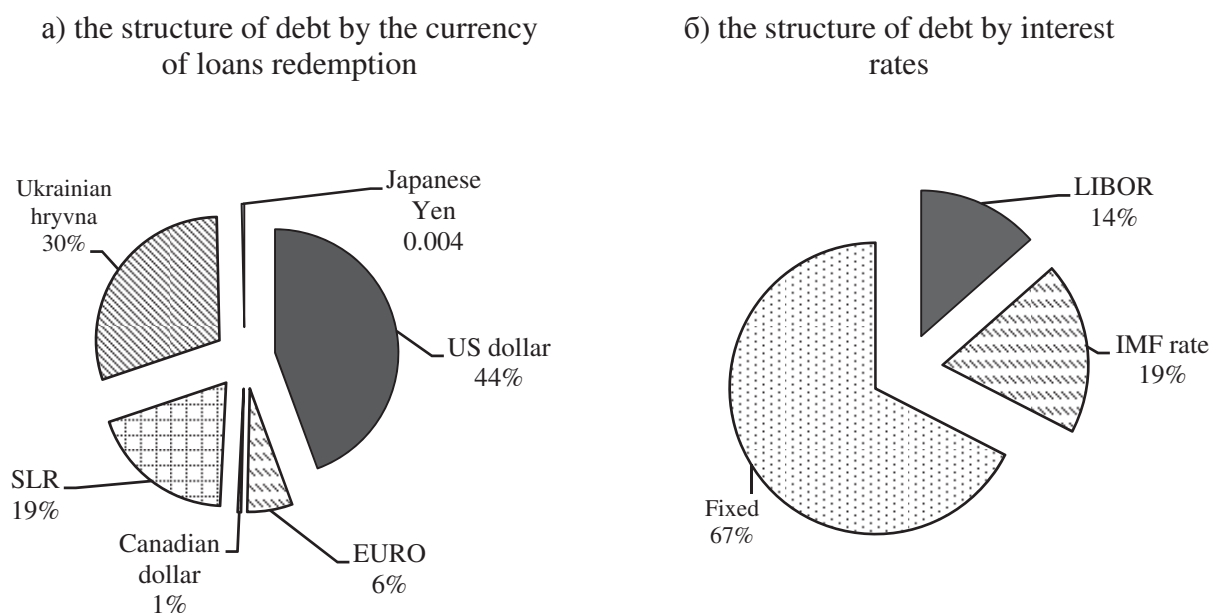
Not least important component of debt compared to internal is the external indebtedness of the state. During researched 2006-2015 there took place the growth of received external loans (Fig. 6, see Appendix).

From the presented Fig. 6 (see Appendix) it is clearly seen as of 01.01.2016 the most substantial part comprises the article "External bonds debt". The next position is taken by "Indebtedness by

loans, received from international financial organizations (further - IFO)". For today the largest external creditor in size of provided credit is the International Monetary Fund, then International Bank for Reconstruction and Development and European Commonwealth.

It is worth paying attention the allocation of END each year to corresponding components differs. For example, in 2006 END was presented only by two articles, particularly: indebtedness by loans, received from international financial organizations and indebtedness by loans, received from the government authorities of foreign countries.

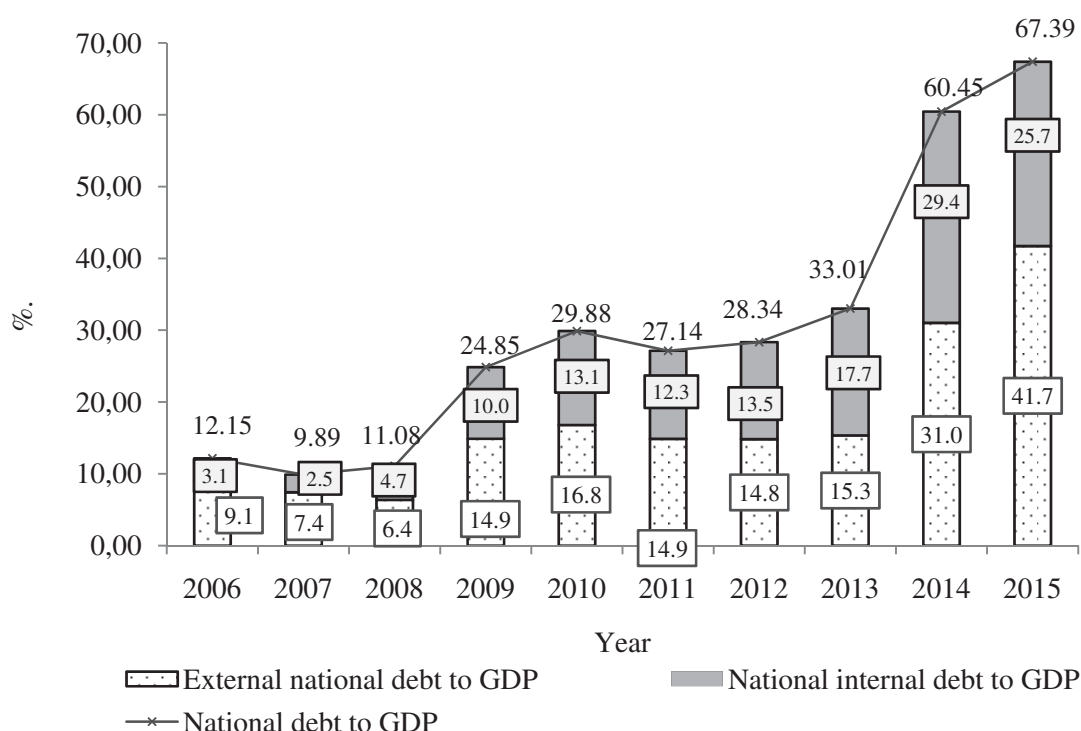
Fig. 7 provides the structure of national debt in terms of acting classifications: by loans currency and interest rate. On the basis of analysis of national debt structure in terms of currency redemption it was found the relation of the financial state of the country from the situation with exchange rate. It is worth mentioning, in Ukraine the greater part of national debt (70% as of the end of 2015) is nominated in foreign currency, which enlarges exchange risks. At the same time one may say about positive tendency on growth of indebtedness part with the fixed rate. Loans attracted by the fixed rate are less risky, as expenditures for their service remain unchanged.



**Fig. 7. The structure of external national debt of Ukraine in 2015**

Source: constructed by the data of the Ministry of Finance of Ukraine (Vasylyk, Pavluk, 2002).

In terms of research of this issue it is worth to add the basic quality feature of national debt burden on the country budget is the internal debt to GDP ratio (Fig. 8).



**Fig. 8. The dynamics of change of national debt volume to GDP ratio in 2006-2015, %**

Source: compiled by authors (see <http://www.minfin.gov.ua/>; <http://index.minfin.com.ua/>).

It is worth paying your attention in 2004-2015 national debt to GDP ratio exceeded normative meaning. Basically it happened due to END (by 41.7%) and due to IND (by 25.7%) in 2015. In terms of debt research it should be admitted the Ukrainian national debt is “expensive” in service.

First, we should admit the service of national debt includes overall payments of national obligations to creditors in terms of interest rates payments, charges and penalty charges. These payments are transmitted from the national budget of Ukraine as expenditures, which are made due to costs of



general budget fund (Voloshanuk, Mavdryk, 2016). The sum of costs of national budget necessary for redemption and service of national debt per year, is determined and confirmed by the Law of Ukraine on National budget of Ukraine for the corresponding year (Voloshanuk, Mavdryk, 2016; Ruda, 2015).

Thus, we may confirm, both service expenditures and redemption payments during 2006-2015 demonstrated a negative tendency to growth. On lowering level of debt safety of the country says the rise of up to 50.3% of payments of national debt in budget expenditures.

Table 4. The dynamics of national payments for redemption, expenditures and service of IND and END, mln hrn

Index	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
National debt redemption payments	9.8	6.5	6	31.3	26.7	45.6	68.1	79.8	120.8	416.6
internal	4.1	2.4	3.6	17.9	19.7	32.1	38	41.8	68	91.2
external	5.7	4.1	2.4	13.4	7	13.5	30.1	38	52.8	325.4
National debt services expenditures	3.1	3.3	3.8	9.1	15.5	23.1	24.2	34.4	51	86.8
internal	0.9	0.7	0.9	4.7	10.9	15.5	-	23.9	34.7	60.1
external	2.2	2.6	2.9	4.4	4.7	7.6	-	10.5	16.3	26.7

As can be seen from Table 4, during this period the essential exceed of sum of national loans over the redemption sum of national debt is observed. Total payments on national debt redemption include 21.89% of payments in IND, and 78.11% – in external debt. In 2015 the volume of service debt expenditures comprised: 62.94% – internal debt expenditures and 30.76% – in external debt.

We should admit the main sources of redemption and service of national debt serve: costs budgeted for redemption and service of national debt according to the Law on national budget of Ukraine for a current year; costs that came from the privatization of state property; internal and external state borrowings, gold and foreign exchange reserves of the country and so on. To tackle the

problem of national debt growth of Ukraine and overcome caused by this negative outcomes, it is necessary to coordinate national debt policy, lessen the volumes of national budget expenditures, while attracting costs to use them for economy development. The shortening of budget deficit volume is also important.

The final stage of conduct of this research is the disclosure of neighboring relationship and the influence directions of different kinds of indebtedness on national budget.

Thus, the value of internal national budget is influenced by the following indexes: internal bonds debt and indebtedness to banking and other financial institutions (Table 5).

Table 5. The factors of correlation analysis of internal national debt dynamics for the 2006-2015 period

Index	Internal national debt	
1. Internal bonds debt	0.999 (0.00001)	-
2. Indebtedness to banking and other financial institutions	-	-0.673 (0.034)
R <sup>2</sup>	1.000	0.453
DW	1.282	0.094
Quantity	10	10

Evaluation results, presented in Table 5, give the possibility to confirm that negative coefficient at the variable that determines indebtedness to banking and other financial institutions appeared to be not enough statistically significant. The analysis showed the influence on internal national debt of the index has the lessening tendency, which witnesses about the shortage of the sum of this indebtedness article for the 2006-2015 period, which confirms the calculation meaning of correlation coefficient.

In terms of internal bonds debt, the situation is vivid here – the index is statistically significant and positive, as the volumes of this indebtedness always

had the growing tendency, and thus the internal debt sum was constantly growing.

Let us go to the evaluation of influence factors on the general value of external national debt.

The results of research presented in Table 6, give the possibility to confirm that among the provided indexes only indebtedness by loans, received from foreign commercial banks, other foreign financial institutions influenced the external national debt on lessening side, about which witnesses calculated correlation meaning (-0.123). It means the dynamics of this indebtedness for the analyzed period is characterized by shortage.

Table 6. The factors of correlation analysis of external national debt dynamics for the 2006-2015 period

Index	External national debt				
1. Indebtedness by loans, received from IFO	0.989 (0.001)	-	-	-	-
2. Indebtedness by loans received from government authorities of foreign states	-	0.989 (0.013)	-	-	-
3. Indebtedness by loans received from foreign commercial banks, other foreign financial institutions	-	-	-0.123 (0.062)	-	-
4. External bonds debt	-	-	-	0.994 (0.001)	-
5. Indebtedness not included to other categories	-	-	-	-	0.101 (0.062)
R <sup>2</sup>	0.979	0.787	0.015	0.988	0.010
DW	1.120	0.186	0.189	0.214	0.226
Quantity	10	10	10	10	10

The analysis showed the influence of indebtedness by loans received from international financial organizations and indebtedness by loans, received from government authorities of foreign states of total amount of external indebtedness appeared to be the most statistically significant.

### Conclusions and perspective of further researches

Conducted analysis gives the possibility to confirm for today the existence of national debt is the common thing for the countries with emerging economy, where there is urgent need for additional financial resources.

In Ukraine the growing dynamics of national debt is further observed, both internal and external,

respectively, grows the burden on economy, which witnesses about inefficient policy in the country in the sphere of attracting credit means. An important issue is the keeping to optimal levels of internal and external debts. Thus, as we can see, there is a need in conducting important steps in terms of lessening national debt and its optimization.

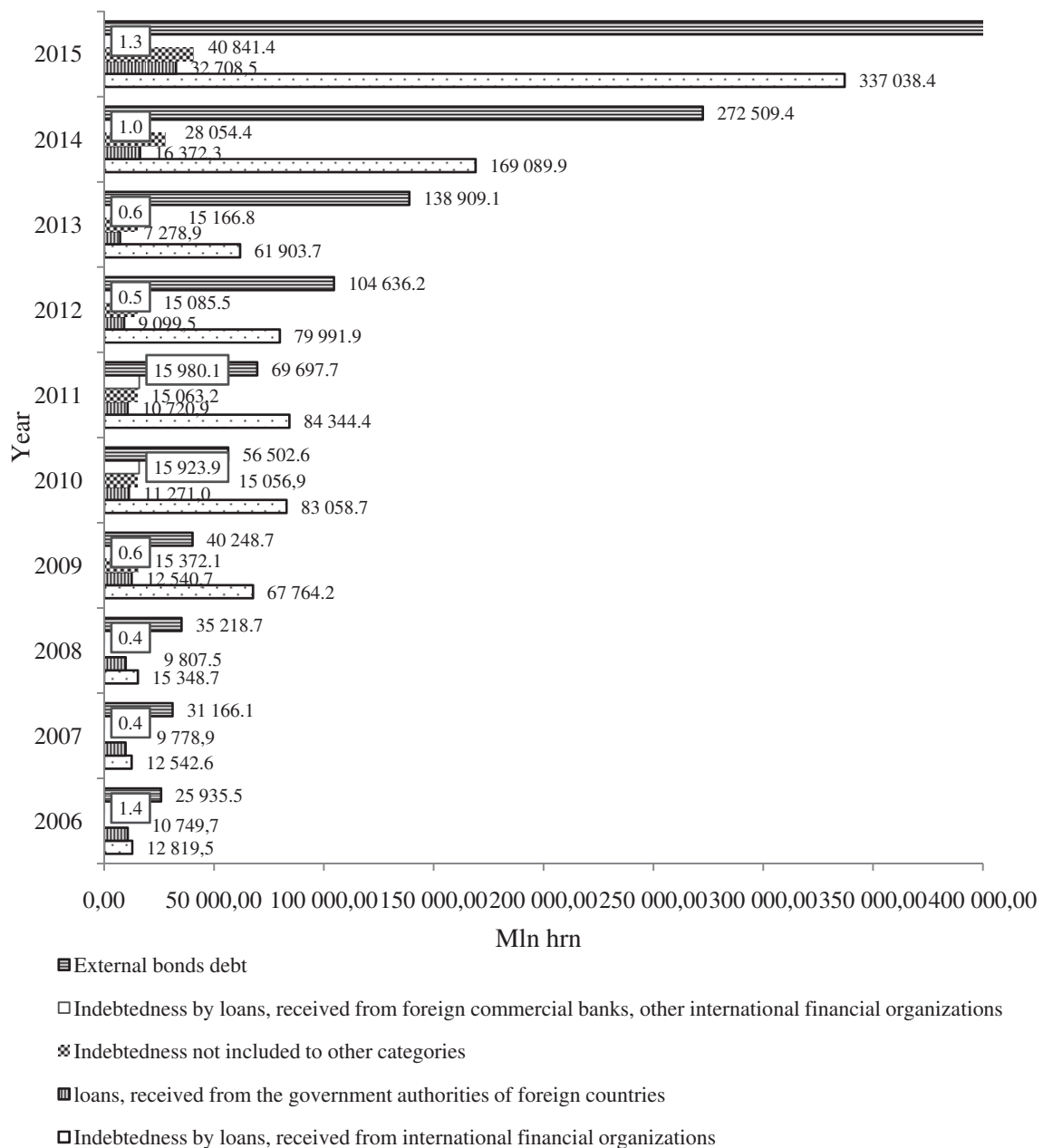
These measures are urgent and need immediate actions, as the prevail of external debt in the structure of national debt bears exchange risks. Recently Ukraine is in the state of great dependence from external financing. With the optimization aim of the national debt level it is essential to make its restructure and concentration on internal credit resources and long term loans with fixed interest rates.

### References

1. Artus, M. M., Khyzha, N. M. (2005). *Budzhetna systema Ukrainy: navch. posib.*, Kyiv: Vyd-vo Evrop. un-tu, 220 s.
2. Borynets, C. Ya., Mohylko, L. V. (2011). Ekonomichna pryroda ta pryznachennia derzhavnykh tsinnykh paperiv. *Investytsii: praktyka ta dosvid*, 13, 29-31.
3. Budzetnyi kodeks Ukrainy [Elektronnyi resurs]: Kodeks Ukrainy vid 08.07.2010 No. 2456-VI. / Verkhovna Rada Ukrainy. Rezhym dostupu: [http://zakon2.rada.gov.ua/laws/show/2456-17\\_20.10.2016](http://zakon2.rada.gov.ua/laws/show/2456-17_20.10.2016). Nazva z ekrana.
4. Diakonova, I. I., Makarenko, M. I., Zhuravka, F. O. et al. (2013). *Mizhnarodni finansy: navch. posib.*, Makarenko, M.I., Diakonova, I.I. (Ed.), Kyiv: "Tsentr uchbovoi literatury", 548 s.
5. Eremeichuk, R. A. (2014). Formuvannia i struktura derzhavnogo borhu Ukrainy ta osoblyvosti upravlinnia nym, *Ekonomika i upravlinnia. Finansy, hroshovi obih i kredyt*, Issue 3, 110-114.
6. Fedorov, V. A. (2011). Vydy derzhavnogo borhu Ukrainy. *Aktualny problemy derzhavy i prava*, Issue 57, 563-573. Rezhym dostupu: [http://nbuv.gov.ua/UJRN/apdp\\_2011\\_57\\_84](http://nbuv.gov.ua/UJRN/apdp_2011_57_84).
7. Hovorushko, T. A. (2014). *Budzhetna systema Ukrainy: navch. posibnyk*, Lviv: Mahnollia, 296 s.
8. Karlin, M. I. (2008). Derzhavni finansy Ukrainy: navch. posib., Kyiv: Znannia, 348 s.
9. Klymash, N. I., Bahatska, K. V., Demianenko, N. I. (2014). *Budzhetna systema: navch. posib.*, Hovorushko, T. A. (Ed.), Lviv "Mahnoliia 2006", 296 s.
10. Kovalchuk, S. V., Forkun, I. V. (2006). *Finansy: navch. posib.*, Lviv: "Novyi Svit – 2000", 568 s.
11. Krush, P. V., Klymenko, V. O. (2010). *Hroshi ta kredyt: navch. posib.*, Kyiv: TSUL, 215 s.
12. Matveeva, Yu. M. (2008). Metodychni pidkhody do upravlinnia derzhavnym borhom. *Ekonomiko-matematychni modeluvannia sotsialno-ekonomichnykh system*, Issue 13, 199-205.
13. Mochernyi, S. V. et al. (2000). *Ekonomichna entsyklopediia*, Kyiv: Vydavnychiy tsentr "Akademiia", 864 s.
14. Oparin, V. M. (2004). *Finansy (zahalna teoriia)*, 2-he vyd., dop. i pererob., Kyiv: KNEU, 240 s.
15. Ospischeva, V. I. (Ed.). (2008). *Finansy: navch. posib.*, Kyiv, 567 s.
16. Pavlovska, E. O. (2013). Skladovi vnutrishnikh ta zovnishnikh zapozychen Ukrain. *Ekonomichnyi analiz: zb. nauk. prats*, Ternopil: Vydavnycho-polihrafichnyi tsentr Ternopilskoho natsionalnoho ekonomichnoho universytetu "Ekonomichna dumka", 14(1), 308-313.
17. Plets, I. I. (2011). Teoretychni aspekty doslidzhennia formuvannia derzhavnogo borhu. *Aktualni problemy rozvytku ekonomiki rehionu*, 7(2), 417-426.

18. Plets, I. I. (2012). Teoretyko-kontseptualini zasady formuvannia vnutrishnioho derzhavnoho borhu. *Aktualni problemy rozvytku ekonomiki rehionu*, 8(2), 76-80.
19. Plotnytskyi, M. I., Lobkovych, E. I., Mutalimov, M. H. (2003). *Kurs ekonomichnoi teorii: navch. posib.*, Minsk: Musanta, 496 s.
20. Polyvana, M. A. (2010). Analiz stanu derzhavnoho borhu Ukrainy [Elektronnyi resurs]: ofitsiinyi sait Rusnauky. Rezhym dostupu: [http://www.rusnauka.com/11\\_EISN\\_2010/Economics/61546.doc.htm](http://www.rusnauka.com/11_EISN_2010/Economics/61546.doc.htm). Nazva z ekrana.
21. Pro derzhavnyi vnutrishnii borh Ukrainy [Elektronnyi resurs]: Zakon Ukrainy vid 16.09.1992 No. 2604-XII. / Verkhovna Rada Ukrainy. Rezhym dostupu: <http://zakon4.rada.gov.ua/laws/show/2604-12>. Nazva z ekrana
22. Pro tsinni papery ta fondovy rynok [Elektronnyi resurs]: Zakon Ukrainy vid 23.02.2006 No. 3480-IV. / Verkhovna Rada Ukrainy. Rezhym dostupu: <http://zakon3.rada.gov.ua/laws/show/3480-15>. Nazva z ekrana.
23. Prutska, O. O., Siomchenkov, O. A., Harbar, Zh. V., Hubanova, L. I., Rudenko, V. V. (2010). *Upravlinnia derzhavnym borhom: navch. posibn.*, Prutska, O. O. [Ed.], Kyiv: Tsentri navch. lit-ry, 216 s., 2012. 8(2), 76-81.
24. Rohatenuk, E. V., Pozharitskaia, I. M. (2007). *Finansy: ucheb. posob.*, Symferopol: Natsionalnaia akademiia pryrodohrannoho i kurortnoho stroitelstva, 280 s.
25. Romanenko, O. R. (2004). *Finansy: pidruchnyk*, Kyiv: Tsentri navchalnoi literatury, 312 s.
26. Ruda, O. L. (2015). Derzhavnyi borh Ukrainy na suchasnomu etapi rozvytku. *Ekonomika ta derzhava, Issue 3*, 64-67.
27. Statystychna informatsiia schodo borhu [Elektronnyi resurs]: Ofitsiinyi web-portal Ministerstva finansiv Ukrainy. Rezhym dostupu: <http://www.minfin.gov.ua/news/borg/statistichna-informaciia-schodo-borgu>. Nazva z ekrana.
28. Valovoi vnutrennii produkt Ukrainy [Elektronnyi resurs]: Finansovyi portal MinFin. Rezhym dostupu: <http://index.minfin.com.ua/index/gdp/?2016>. Nazva z ekrana.
29. Vasylyk, O. D., Pavluk, K. V. (2002). *Derzhavni finansy Ukrainy: pidruchnyk*, Kyiv: NIOS, 608 s.
30. Vasylyk, O. D. (2000). *Teoriia finansiv: pidruchnyk*, Kyiv: NIOS, 416 s.
31. Verkholaz, V. V. (2001). Formirovanie sovremennykh mekhanizmov upravleniia hosudarstvennym dolhom. *Extended abstract of candidate's thesis*. Moscow, 26 s.
32. Voloshanuk, N. V., Mavdryk, O. O. (2016). Derzhavnyi borh Ukrainy ta ioho pohashennia. *Naukovyi visnyk Khersonskoho derzhavnoho universytetu*, Seriia: Ekonomichni nauky, Vypusk 18, Chastyna 1, 50-53.
33. Vorobiov, Yu. M., Hrytsenko, O. I. (2009). Derzhavnyi borh ta ioho vplyv na sotsialno-ekonomichni stan Ukrainy v umovah svitovoi finansovoi kryzy. *Naukovyi visnyk: finansy, banky, investytsii*, Simferopol, Issue 1, 22-34.
34. Vovk, O. M., Mazur, A. M. (2015). Analiz zdiisnennia derzhavnykh zapozychen v Ukraini. *Ekonomichniy analiz: zb. nauk. prats*, Ternopil: Vydavnycho-polihrafichnyi tsentr Ternopilskoho natsionalnoho ekonomichnoho universytetu "Ekonomichna dumka", 21(1), 231-238.
35. Yurii, S. I. et al. (2008). *Finansy, pidruchnyk*, Yurii, S. I., Fedosov, V. M. (Eds.), Kyiv: Znannia, 611 s.

## Appendix



**Fig. 6. The dynamics of change of external debt structure during 2006-2015, mln hrn**