THE IMPACT OF STATE DEBT ON THE COUNTRY FINANCIAL SECURITY

The article discusses the theoretical and practical aspects of ensuring the financial security of Ukraine, highlights the main macroeconomic indicators that determine the level of economic security. The public debt and its impact on economic security are analyzed. A practical model has been developed – the effect of GDP, inflation and budget deficits on public debt. Statistical factors are considered to give the main factors (GDP, inflation rate, budget deficit and public debt) that determine the current level of financial security and understanding of the level of their influence.

Key words: financial security, state debt, GDP, state expenses, crises, state budget.

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The goal of this paper is to show how the state debt affects the risk of financial security.

Formulation of the problem. Today the level of financial security is going down and as result in country appeared a lot of problem that must be immediately solved. The economic security is closely connected with national confidence. Ukrainian people will trust government only when they will feel themselves in safety. That’s why factors that stipulate the current situation with economic security should be examined and then trying to improve them to get better result.

Analysis of recent research and publications. The scientist M. Iermoshenko justifies the need to ensure and maintain the financial security of the state, because it concerns not only the state as a whole, but also all branches of the national economy, private entrepreneurs, the whole society. Neglect of the state of financial security can lead to catastrophic consequences: the decline of industries, the bankruptcy of enterprises and, finally, the undermining of the life support system of the state, followed by the loss of its sovereignty [1].

The study of economic security and economic sustainability was examined in the works of H. S. Baranovskaya [2], A. A. Bespalko [3], KH. S. Baranivska [4], O. V. Voronich [5]. In the works of these authors systematically reflect various aspects of ensuring the financial security of the state, comprehensively approaching the solution of this problem. Baranovskaya H. developed the theoretical basis for the formation of the financial security system, defined the methodological basis for assessing the level of financial security and proposed mechanisms for the formation of such a system. Yermoshenko M. paid special attention to the problems of Ukraine’s financial security. However, in the post-crisis period, the ways of overcoming the recession and ensuring financial security have not found their sufficient reflection in the scientific literature, which indicates the relevance of ongoing research in this field of knowledge.

A lot of scientists try to define the main indicators that impact on financial security. According to the table 1.1 we can see the theoretical model that shows the determinates of economic security which was considered by different scientists.

Table 1

| Theoretical model with the main determinates of financial security
|---|---|---|---|---|---|---|
| GDP | Inflation | State Debt | Deficit | Export | Import |
| R. W. Isakov | 1 | – | 1 | – | – | – |
| N. A. Budarina | 1 | – | 1 | – | – | – |
| A. M. Ataev | – | 1 | 1 | 1 | – | – |
| A. Zh. Esembekova | – | – | – | 1 | 1 | 1 |
According to the Table 1 we can say that most of scientist have analyzed the state debt as the main determinates of financial security. The next option is GDP and Deficit. Based on this we will try to explain why the state debt has huge impact on financial security.

**Formulation of research objectives.** The tasks of paper:
- to study the meaning of financial security and its determinates;
- to substantiate the nature and structure of public debt and its role in the financial system to the state;
- to assess the level of debt burden in Ukraine as a factor of its financial security and creation of economic-mathematical model of the relationship between economic growth and the public debt;
- to make a conclusion based on all steps mentioned earlier.

For achieving the main goal of paper there were used such methods: analyses of literatures for examining the previous works of scientist and create theoretic model; economic analysis of the structure and dynamics of public debt; empiric analyses for the construction of an economic-mathematical model and analysis the relationship between quantities; comparative analysis for learning difference in financial situation and state debt based on dates; generalization method for studying the impact of public debt on the financial security of Ukraine.

**Presentation of the main results and their justification.** Virtually there is not one aspect of the country’s national security that does not directly depend on the level of its financial security. At the same time, the level of financial security itself largely depends on the level of other aspects of national security. Consideration of interrelations and interdependencies between different aspects of national security allows finding measures to prevent or overcome threats to the national interests of the country [6].

Financial security is traditionally regarded as the most important qualitative characteristic of the economic system, which determines its ability to maintain normal living conditions of the population, sustainable provision of resources for the development of the national economy, and the consistent realization of national and state interests. As the world experience shows, ensuring economic security is a guarantee of the independence of the country, a condition for stability and effective life of the society, achievement of success. This is explained by the fact that the economy is one of the vital aspects of the activities of society, the state and the individual, and therefore the notion of national security will be an empty word without assessing the viability of the economy, its durability with possible external and internal threats. Therefore, ensuring the economic security is one of the most important national priorities [10].

Before starting the detailed analyze of financial security’s determinates it is need to define the meaning of safety. Financial security (or in other words economic security) means a fundamental component of the state’s economic security, since any economy is based in finance, and finance is the blood of the economic system of the state. It is one of the most important components of economic system, without which it is almost impossible to solve any of the tasks facing the state.

The main threats to the financial security of the state are:
- Imperfection of budgetary policy and misuse of budgetary funds;
- Effectiveness of the tax system, mass evasion from payment of taxes;
- Significant amounts of state and publicly guaranteed debt, problems with its servicing;
- Sharp changes in the level of prices and the exchange rate of the national currency;
- A significant difference in the ratio of income of the most and the least well-off population, and insufficient social protection of certain population groups;

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– Low level of capitalization of the banking system, small volumes of long-term bank lending and a significant level of interest rates on loans;
– Dependence of reforming the country’s economy on receiving foreign loans;
– Low level of investment activity;
– Growth of the “shadow” economy, strengthening of its criminalization, illegal outflow of foreign exchange funds, etc.

According to theoretic model from Table 1 the state debt is the powerful indicator that impact on financial security. The fulfillment by the state and its agents of public functions in a market economy determines the appearing of such a subjective economic phenomenon as a public (state) debt. Usually, the amount of financial resources mobilized by the state is not sufficient to meet the financial needs of social development and this gap between resources and needs leads to public debt. That’s why the state debt must be considered. Additional financial resource can be mobilized in form of state loan. In this case creditor will be internal subjects (population, subjects of entrepreneurial activity that are located in the country) and external (foreign governing bodies, international organizations of economic development); and the state is a borrower. Emergence of loan facilities leads to the formation of a debt and its maintenance (payment of interest).

Based on the fact that the state has a debt from internal or external creditors, public debt is divided into internal and external. The presence of domestic debt is believed to be more favorable factor for the financial difference of the country than an increase in external borrowings. This is due to the fact that it is easier for public authorities to manage internal debt, to carry out its restructuring. In addition, payments of the state on domestic obligations are contributions to the national economy and do not cause capital outflows abroad. At the same time, foreign borrowing allows state authorities to attract additional financial resources to finance programs that can not be provided from domestic sources.

According to the Law of Ukraine “Pro derzhavnyy vnushniy borh Ukrayiny”, the state internal debt is fixed-term promissory notes of the government of Ukraine in cash. State domestic debt is guaranteed by all property in public property [9].

Ukraine’s national internal debt includes loans from the Ukrainian government and loans made with an unconditional government guarantee to ensure the financing of nationwide programs. The public debt consists of debts of past years and debts arising from debt obligations of the government of Ukraine.

External public debt is one of the most important instruments of the state’s economic and fiscal policy. External government loans mitigate the impact of fiscal and fiscal policy changes on consumer spending, savings and investment, but at the same time, the state attracting foreign compensation capital becomes a debtor of other countries.

State external debt consists of loans for financing the state budget and repayment of external state debt; loans in support of the national currency; loans for financing investment and institutional projects; guarantees to foreign counterparties to fulfill contractual obligations in connection with non-commercial risks; state guarantees provided by the Cabinet of Ministers of Ukraine for financing projects financed by the budget of Ukraine [4].

Usually there are two dangers in the state debt: firstly, the possibility of bankruptcy of the nation, and, secondly, the danger of the debt burden being transferred to future generations. Concerning the first “danger”, one can note the following: no one can prohibit the government from fulfilling its obligations to service the public debt. These financial obligations are composed
The growth of public debt entails real negative economic consequences:

First, the payment of interest on public debt increases inequality in incomes, since a significant part of state obligations is concentrated among the wealthiest part of the population. Repayment of the state internal debt leads to the fact that money from the pockets of the less well-off strata of the population goes to the better off, that is, those who own bonds become even richer.

Secondly, the increase in tax rates as a means of paying the state domestic debt or reducing it can undermine the effect of economic incentives for production development, reduce interest in investing in new ventures, and increase social tensions in society.

Thirdly, the existence of an external debt involves the transfer of part of the product created within the country abroad (in the event of payment of interest or principal amounts).

Fourth, the growth of external debt reduces the international reputation.

And finally, as result the financial stability of country go down because of huge debts. State collect a lot amount of money. Because exist indirect connection between this two terms. If in country the level of state debt is low, the financial security will increase. And opposite, if the level of state debt is on the higher level, the financial security is go down. For example, foreign borrowing leads to a revaluation of the exchange rate of the national currency and thus causes a deepening the negative trade balance. With the payment of interest and the principal amount of debt connected with the outflow of foreign currency, which leads to a decrease foreign exchange reserves and reduction of imports. Excessive borrowing abroad makes the country vulnerable to fluctuations in the global commodity and stock markets and periodically leads to debt crises. The inappropriate structure of attracting foreign loans is also a cause currency and exchange crises.

As were earlier mentioned the state debt has huge impact on financial security of country. And for better understanding it is necessary to examine the dynamic of public debt. According
the Table 2 the highest level of state debt was in 2017 and it was the 2199 billion, in national currency. Unfortunately, the level of state debt each year is increased.

| Year | Volume | Changes, % |
|------|--------|------------|
| 2006 | 81     | –          |
| 2007 | 89     | 10,18      |
| 2008 | 195    | 119,52     |
| 2009 | 323    | 65,87      |
| 2010 | 438    | 35,70      |
| 2011 | 479    | 9,32       |
| 2012 | 527    | 10,00      |
| 2013 | 594    | 12,58      |
| 2014 | 1 116  | 87,96      |
| 2015 | 1 578  | 41,37      |
| 2016 | 1 936  | 22,74      |
| 2017 | 2 199  | 13,55      |

Source: The World Bank (2006–2017). The state debt of Ukraine, 2006–2017 years.

Better can be seen on the Fig. 1 the difference between 2006 and 2017 is 2118 bullion UAH. In other words, the debt in 2017 exceeded the debt in 2006 on 27 times. The state debt we can understand better in compare with the state budget. Because in other way it is just numbers that are do not show the reality and current situation.

Fig. 1. The dynamic of Ukrainian state debt, 2006–2017, billions UAH
Source: The World Bank (2006–2017). The state debt of Ukraine, 2006–2017 years.
According Table 3 we can see that the budget of Ukraine has increased each year. From the 2006 till 2017 it has been grossed on 935 bullions UAH. To be exactly the state budget from 2017 exceed the budget in 2006 approximately 5 times.

| Year | Volume | Changes, % |
|------|--------|------------|
| 2006 | 235    | –          |
| 2007 | 302    | 28,23      |
| 2008 | 420    | 39,14      |
| 2009 | 386    | –7,94      |
| 2010 | 468    | 21,19      |
| 2011 | 558    | 19,22      |
| 2012 | 627    | 12,40      |
| 2013 | 635    | 1,18       |
| 2014 | 640    | 0,78       |
| 2015 | 833    | 30,19      |
| 2016 | 914    | 9,75       |
| 2017 | 1 167  | 27,69      |

Source: The World Bank (2006–2017). The state budget of Ukraine, 2006–2017 years.

If the budget increased, so why does Ukraine have so huge debt. The main reason is higher level of expenses of Ukraine. For better understanding, at the Table 4 we can see that the total expenses of country increased but as for balance: in 2006 it was equal 8 billion USD with minus; in other words, it was deficit of budget. And as for 2017 the balance was equal 70 bullions UAH also with minus.

| Year | Volume | Changes, % |
|------|--------|------------|
| 2006 | 243    |            |
| 2007 | 316    | 30,17      |
| 2008 | 450    | 42,35      |
| 2009 | 444    | –1,35      |
| 2010 | 531    | 19,61      |
| 2011 | 594    | 11,99      |
| 2012 | 688    | 15,79      |
| 2013 | 705    | 2,47       |
| 2014 | 711    | 0,80       |
| 2015 | 856    | 20,47      |
| 2016 | 967    | 12,99      |
| 2017 | 1 237  | 27,94      |

Source: The World Bank (2006–2017). The Total expenses of Ukraine, 2006–2017 years.
The constant increasing of state expenses, cyclical fluctuations in the economy (crises, economic recession), and extraordinary circumstances (for example, wars or natural disasters), the imposition of all these options on each other in recent decades, the consequences has been reflected in the growth of the budget deficit and state debt as the volume of accumulated deficits.

Having analyzed the dynamic of state debt it is necessary to understand the main factors that determined the public debt. In our opinion the state debt can be connected with such indicators as the level of GDP, the rate of inflation and the level of state budget (to be exactly the deficit of budget). The first determinate is useful because if we produce more, we can sell it and using this money we can pay off our debts. The next, the rate of inflation because it provides an opportunity to pay state debt in dollars that have a lower purchasing power than those that the state has received. Nominally, the national income and tax collections increase with inflation, and the size of the public debt does not increase. This means that inflation makes it easier for government bear the real burden of public debt. And last one is the budget. If the state has the deficit of budget it cannot cover all expenses that country needs. And government has to take credit for it. Based on this and according the dates of World Bank there will be the economic model of the state debt:

$$Y = 2777,7 - 14,75X1 - 1,39X2 - 0.005X3,$$

Where, $Y$ – level of state debt,
X1 – the level of GDP;
X2 – the rate of inflation;
X3 – the level of state budget (deficit).

Regression statistics, presented in Table. 5, indicates that the model is qualitative that means factors account for almost 94% of the variation of state debt; adequate (the actual value of F is more critical); and the coefficients for the X variables are statistically significant (the values of t-statistics exceed critical ones).

Table 5

| Regression statistics          |   |
|--------------------------------|---|
| Multiple coefficient of correlation | 0.97 |
| $R^2$                          | 0.94 |
| Adjustable $R^2$               | 0.92 |
| Standard error                 | 13.3 |
| Observation                    | 12 |

| Parameter with variables       | Coefficient | Standard error | t-statistic | P-volume |
|--------------------------------|-------------|----------------|-------------|----------|
| Y-intersection                 | 2777,69     | 1743,9         | 1,59        | 0.0019   |
| X1, GDP                        | –14,75      | 7,7            | –1,91       | 0.0119   |
| X2, the level of inflation     | –1,39       | 19,49          | –0,071      | 0.036    |
| X3, the rate of budget         | 0,005       | 0,011          | 0,45        | 0.025    |

Source: The World Bank (2006-2017). Retrieved from.

Results from regression statistic of the model exist some factors show that impact on the state debt on the level 6%. The next position is understanding the maximum level of the state...
The amount of state debt must not be more than 60% of the level GDP. If the debt limit is exceeded, the Cabinet of Ministers is obliged to take urgent measures to reduce the amount of public debt to 60% or lower. So, the next step will be analyzing the GDP and State debt together.

Gross Domestic Product is a macroeconomic indicator that shows the market value of all goods and services produced per year in all sectors of the economy in the state for consumption, exports and accumulation. At the Table 6 we can see the dynamic of GDP.

Table 6

| Year | Volume  | Changes, % |
|------|---------|------------|
| 2006 | 111,89  |            |
| 2007 | 148,73  | 32,93      |
| 2008 | 188,24  | 26,56      |
| 2009 | 121,55  | −35,43     |
| 2010 | 136,01  | 11,90      |
| 2011 | 163,16  | 19,96      |
| 2012 | 175,71  | 7,69       |
| 2013 | 179,57  | 2,20       |
| 2014 | 132,34  | −26,30     |
| 2015 | 90,94   | −31,29     |
| 2016 | 93,26   | 2,56       |
| 2017 | 109,32  | 17,22      |

Source: The World Bank (2006–2017). The dynamic of Ukrainian GDP, 2006–2017 years.

Fig. 2. The dynamic of Ukrainian GDP 2006–2017, in billion USD

Source: The World Bank (2006–2017). The dynamic of Ukrainian GDP, 2006–2017 years.
From Fig. 2, you can see that in the dynamics of GDP for this period there were two significant drops in GDP – in 2009 and in 2015. Accordingly, the global crisis and military-political events in Ukraine became the reasons for these falls. The peak years were 2008 and 2013, when GDP reached its highest level. Such trends demonstrate the cyclical nature of the national economy and its sensitivity to both external and internal factors. A growing economy has a greater ability to meet new needs and solve social and economic problems both domestically and internationally.

At the Table 7 we can see the summary table of GDP and state debt.

**Table 7**

| Year | GDP    | State debt | Share, % |
|------|--------|------------|----------|
| 2006 | 544,153| 81         | 14,88551933 |
| 2007 | 720,731| 89         | 12,34857388 |
| 2008 | 948,056| 195        | 20,56840524 |
| 2009 | 913,345| 323        | 35,36451177 |
| 2010 | 1,082,569| 438   | 40,45931483 |
| 2011 | 1,302,079| 479   | 36,78732243 |
| 2012 | 1,408,889| 527   | 37,40535983 |
| 2013 | 1,451,876| 594   | 40,91258482 |
| 2014 | 1,566,728| 1,116 | 71,23125393 |
| 2015 | 1,979,458| 1,578 | 79,71879171 |
| 2016 | 2,261,886| 1,936 | 85,59228891 |
| 2017 | 2,982,920| 1,989 | 66,523519 |

Source: The World Bank (2006–2017). The summary table of GDP and state debt, 2006–2017 years.

According the rules that state debt must not exceed the 60 % of the volume GDP we can say that from 2006 till 2013 this ration was being followed. Till the 2013 year the bigger volume was at 2010 and 2013. The main reason in the 2010 is that country needed money for become again powerful after huge world crisis. But started from 2014 the state debt was more then 60 %. So, it increased a lot and step by step. Firstly, it was 71 per cent, then increased up to 80 per cent and finally in 2016 reached 85,5 per cent.

Having analyzed the state debt as the indicator that determined by GDP, rate of inflation and deficit of budget we got the adequate model. Results can be used by Cabinet of Ministry. The first reason is the necessity of decreasing the state debt. As it was analyzed the state debt is the main factor of financial security. Based on terms of Eurozone about state debt must not be more than 60 % for providing high level of economic safety. Ukraine is not follow this terms (2016 years was the 85.5 % of GDP). And it means that government must take attention for decreasing it.

The one group that can use it is investors. People who want to invest money in Ukraine need to know what is going on in here. The rate of financial stability can help to investors to make decision about making here his or her business or not. The better the economic safety is, the more investments is pulled.

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Conclusion. Having detailed analyzed financial security and state debt as the main indicator we got such result:

1. Financial security determines its ability to maintain normal living conditions of the population, sustainable provision of resources for the development of the national economy. A lot of scientists make a conclusion that state debt plays main role during examining the financial security.

2. State debt can bring positive and negative consequences for country. Based on it government should create program for keeping on the high level of financial security that had achieved after positive effect of state debt, or opposite, in result of negative effect – programs for making better the situation.

3. Cabinet of Ministers is obliged to take urgent measures to reduce the amount of public debt. Because it was exceeding the normal volume and did not follow the regulated conditions. Based on model (impact of GDP, rate of inflation and deficit of budget on state debt); this model is adequate because T- criteria is more then T- critical (3,11 > 2,44). So, GDP, Inflation and Budget deficit impact on the state debt on the level of 94 %. And it means during the creation of programs, that will help to increase the financial security of country where the state debt will be the main indicator, government should pay attention on these three determinates. Because based on GDP, we can understand whether the state debt locates on within the permissible value (60 % from GDP) or not. The Ukrainian state debt, unfortunately, exceeds this term and it means that government to be exactly the Cabinet of Ministry has to solve this problem immediately. If country has huge credit it means that this country can not implement the financial security in the high level. Because between these 2 notions exist indirect connection. When one of them is increases, the second one will go down.

4. This model can be used by Cabinet of Ministry and Investors. Both group of people can use it for their job. So, Cabinet of Ministry used it fro creating program, and investors for examining situation and making decision for pulling money to country.

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The Impact of State Debt on the Country Financial Security

In the article, theoretical and practical aspects of ensuring financial security of Ukraine are considered, the main macroeconomic indicators determining the level of economic security are highlighted. The state debt and its impact on economic security are analyzed. A practical model is developed – the influence of GDP, inflation rate, and budget deficit on the state debt. The statistical data of the main factors (GDP, inflation rate, budget deficit, and state debt) are considered, and the current level of financial security and the understanding of its impact are discussed.

Key words: financial security, state debt, GDP, state budget.

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