time; T^0_{pi} is the the minimum possible period of the innovation project implementation, $T^0_{pi} = (Q_c - FR) / V_{cn.}$

Considering the finish period T^0 of the project development, it should be noted that by increase of T^0 there is a likelihood that new products' market advantages may be lost under the influence of external factors (moral aging of products, competitors' actions, political and economic changes in the country, etc.).

Therefore it is expedient to fix the value T* in the form of a scheduled term, which determines the maximum allowable finish period of the innovations introduction, while $T^0_{pi} \leq T^* \leq T$.

In this context, the anti-crisis study of innovative transformations of business structures is connected with the need for anti-crisis management arising not only during the sustainable economic development of integrated groups, but also during the implementation of innovative transformations.

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Marta LYVDAR
PhD in Economics, Associate Professor ,
Department of Finance
Lviv Polytechnic National University, Ukraine
ORCID ID:0000-0003-1925-7781

MILITARY BONDS AS A TOOL FOR INVESTMENTS

Under the conditions of wartime, the existence and development of the market system has grown significantly more and is gaining the demand; that is why the development of securities has become a special type of investment to finance the needs of the Armed Forces of Ukraine and the state under the conditions of wartime. Respectively, the purchase of military bonds helps to strengthen the financial front of Ukraine and further resist the enemy in the full-scale armed aggression.

Many scientists studied the prospects for the development of the war bond market and the role of war bonds in financing the state budget during the war, in particular, L.A. Vasiutynska, N.M. Vnukova, I.O. Dehtiariova, V.S. Kuibida, P.M. Petrovskyi, O.I. Nykyforuk. However, this issue needs further study and research.[1]

The military bonds are targeted public debt securities intended for borrowing on the market to finance the needs of the Armed Forces of Ukraine and the state un-

1 Vasiutynska, L.A. (2021).«Infrastructure bonds in project financing: world experience and opportunities for Ukraine.» Skhidna Yevropa: ekonomika, biznes ta upravlinnia, 3 (30): p. 79–84.; Vnukova, N.M. (2014). Development of financial services markets in the context of European integration: a monograph. Kharkiv, TO Ekskliuzyv. P.218.

der conditions of wartime. The payments under such bonds are 100 % guaranteed by the state and serviced by the Ministry of Finance of Ukraine. By purchasing Military Domestic Government Loan Bonds (OVDPs), the individuals and legal entities help strengthen the financial front of Ukraine. The funds from the bonds are used to uninterruptedly ensure financial needs of the state in the conditions of martial law: social and defense ones.[2]

The bonds are a special type of loan, that is, theoretically, any investor in war bonds will get back the principal amount and also earn some interest. However, during wartime, this is not a way to make money, but to support the army and preserve other assets. First, the money that an investor spends on the army strengthens the security of the banking institutions, real estate and realty sector, where the investor's other assets are invested. Second, most likely, the costs of the defensive war that Ukraine is waging will lead to a significant devaluation of the hryvnia. Third, the purchase of the bonds is a way to support Ukraine in larger volumes than a charitable contribution to a special account of the National Bank of Ukraine or the accounts of charity foundations. In addition, the state-issued securities can be included in the capital of banking institutions and portfolios of investment companies, so in terms of regulation and taxation, they serve as a hidden financing of the state budget deficit. At the same time, the Ministry of Finance trades such bonds (domestic state loans, i.e. OVDPs) at an auction and receives the lowest possible rate, compared, for example, to the bilateral or syndicated loan.[3]

The military bonds differ from others, because they are issued by the state exclusively for the domestic capital market. In other words, the state undertakes to return the money to you within a certain period. The specialty of military bonds is that the funds you lend will be used for military purposes. However, Ukrainian legislation does not establish what exactly this money should be used for. Therefore, the funds received from the military bonds go directly to the state budget, and after that they are distributed to various financial needs under the conditions of martial law. It turns out that your money can be used to purchase new weapons, equipment for the army or social benefits for the people in need. In peacetime, the government also issues bonds: they actually work the same way. The budget deficit is covered by selling the bonds.

Under the conditions of martial law, the economy of each country needs significant amounts of financial resources. During such a period, the government should focus its efforts on finding alternative ways of financing not only the social

2 Invest in Ukraine: how Ukrainians can buy military bonds and help the Armed Forces. Mind.ua. URL : mind.ua/openmind/20238787-investuj-v-ukrayinu-yak-ukrayinci-mozhut-kupiti-vijskovi-obligaciyi-i-dopomogti-zsu.

3 A special type of lending and advantages of buying bonds for the economy of Ukraine. News article. URL: https://biz.nv.ua/ukr/experts/yak-i-navishcho-kupuvati-viyskovi-obligaciji-yak-ce-pracyuye-50232073.html.

(payment of pensions, wages, etc.), but also the military needs of the state. Taking into consideration the situation in Ukraine at the moment, one of the ways to fill the state budget is the accumulation of funds of various economic entities using the domestic government loan bonds, in particular, the military bonds.

Such an investment instrument as the military bonds appeared more than 200 years ago. In 1812–1815, during the War of 1812, the United States authorized five issues of the war bonds for the financial elite. At the beginning of the 19th century the country lacked the income to conduct the military operations, so such a step turned out to be extremely successful. The government raised $11 million selling the bonds with a denomination of up to $100. Those who bought securities could transfer and receive them to pay duties, taxes and public needs.

For the first time, all interested parties could purchase the war bonds during the American Civil War in 1861–1865. This tool especially helped «the North», which in this way financed more than 60 % of its military expenses. Jay Cooke, a financier, used mass advertising campaigns to sell the securities to ordinary citizens.

During the First World War, there were so-called «children's bonds», the buyers of which were schoolchildren. The specialty of such financial instruments was that each child could purchase this bond at a lower price (the difference between the nominal value was covered by the banks). During the Second World War, the purchase of military bonds was compulsory. As a result, 10% of the state budget revenues consisted of the domestic government loan. The domestic government loan bonds of Ukraine (OVDPs) are government securities that are placed exclusively on the domestic stock market and confirm the obligations of Ukraine to reimburse the bearers of these bonds their nominal value with the payment of income in accordance with the terms of placement of such bonds.

The military bonds, in turn, are a type of targeted OVDPs, the funds raised from which are directed to cover the financial needs of a country under the conditions of martial law. Such bonds can be short-term (less than a year) and medium-term (more than a year). Thus, the shorter the term of circulation of this security is, the lower the rate of return on it. It is worth noting that the military bonds function only in electronic form, and their nominal value is UAH 1,000 or USD 1,000. The buyers of this security can be individuals and legal entities, residents and non-residents.

Since the beginning of the full-scale invasion of the russian federation on the territory of Ukraine, more than 29 billion UAH and 12 million US dollars have been involved (as of the beginning of April 2022). In general, with the help of these instruments, it is planned to attract UAH 400 billion to the state budget, the main buyer of which will be the National Bank of Ukraine. In modern conditions, the procedure for buying the military bonds is maximally simplified. Many financial institutions have reduced or eliminated their own commissions for transactions involving these securities, as well as removed the obligation to confirm the source of income. Many brokers and banks of the primary dealers have started working even with the small investors (who buy bonds in the amount from UAH 1,000 to UAH 50,000).

The Ministry of Finance of Ukraine issued the military bonds specifically to finance the needs of the Armed Forces of Ukraine and the needs of the country under the wartime conditions. Both citizens of Ukraine and foreign investors can purchase military bonds (OVDPs) at the banks which are primary dealers. When buying bonds, the owner receives a fixed yield until the end of its term.[4]

The easiest way to buy the bonds is from the banks and brokers: there are currently 11 of them. The banks acting as primary dealers include: PrivatBank, OTP Bank, Oschadbank, Ukrgasbank, Ukreximbank, Raiffeisen Bank, PUMB, Citibank, Kredobank, Alfa-bank.

Each bank imposes its own conditions for the sale of the bonds. For example, it is possible to buy from 100 bonds in PrivatBank, from 50 in Oschadbank , from 500 in Raiffeisen and OTP Bank. However, there are also those banks where you can buy from one bond: for example, in Monobank, Ukrgasbank and PUMB. The commission in different institutions will also be different, as well as the procedure for signing the agreement. Sometimes you will have to come to the branch, in other cases, it is possible to arrange everything online. For example, in the Monobank application, in the Savings section, there is an opportunity to purchase bonds as well.[5]

The auctions for the sale of the military bonds are held every Tuesday. The banks that are primary dealers take part in them. Instead, citizens and businesses can purchase OVDPs military bonds at any time at primary dealer banks or through licensed investment firms. Such transactions are classified as the transactions on the secondary market of OVDPs. When choosing a financial partner for operations with the military bonds, you need to pay attention to all possible commissions and the cost of other related services provided by these institutions.

The nominal value of a military bond is 1,000 hryvnias. However, the real price can be both less and more. The shorter the investment term, the cheaper the bond. For example, a bond, the money for which the state promises to return in six months, will cost approximately 962.91 hryvnias. And a bond with a maturity date in a year is around 1,052.53 hryvnias. The income depends on the

4 The purpose of the Ministry of Finance of Ukraine to issue military bonds. News article: Ibox bank. URL: https://iboxbank.online/ua/news/investitsii_u_viyskovi_obligatsii_.html.

5 The market for the purchase of military bonds and primary dealers in the domestic securities market. News article: «Ban Media» - Polina Vernyhor. URL : https://zaborona.com/tysyacha-na-potreby-derzhavy-shho-take-vijskovi-obligacziyi-ta-de-yih.

term. The longer the period, the higher the interest. The short-term bonds for two months will yield 9.5%, and one-and-a-half-year bonds will yield 11.5 %. Those who buy the bonds in dollars and euros will receive the lowest interest: from 2.5 % to 3.7 %.

The demand for the military bonds has changed from March 1, 2022. At the first auction, the Ministry of Finance sold the military bonds for UAH 8.1 billion. After that the amounts ranged from a maximum of UAH 13 billion on April 26 and May 24 to the auction on June 7, where the bonds were bought for UAH 810 million. The demand fell after the National Bank raised the discount rate from 10% to 25% on June 2. The discount rate is a reference point for the financial institutions. When it increases, the interest on people's deposits also increases. The National Bank expected that after raising the discount rate, the government would increase the interest on the government bonds. But the Ministry of Finance did not do this. It explained this with the fact that the securities are primarily a charitable tool for supporting the budget.

The banks purchase most of the bonds. This gives banks the opportunity to diversify their portfolio: to have more reliable, at least in the opinion of the National Bank, tools such as government bonds. Banks are also looking at the opportunity to make money. When the discount rate was 10%, and the military bonds yielded 11% a year, it was profitable for the banks. They took a refinancing loan from the National Bank and invested this money in the bonds. It gave an opportunity to earn. Now this opportunity is lower.[6]

The issue of the military bonds which took place this year, unfortunately, is not a unique case in the history of Ukraine. The government already issued these securities in April 2014, at the beginning of the war in eastern Ukraine. Then UAH 1 billion was raised, and now the Ministry of Finance expects UAH 400 billion.

Every month, Ukraine spends about UAH 130 billion on the maintenance of the army, so today's auction provided at most 0.1% of the monthly need for the war. On Tuesday, July 5, the Ministry of Finance managed to attract only UAH 128 million from the military bonds to the state budget. This is the worst result of the auction since

the beginning of their holding.

The table 1 shows the accumulation to the state budget from the military bonds for the period from March 1, 2022 to August 23, 2022.[7]

6 Interest rates and nominal value of military bonds in domestic markets. News article: « Social news». URL : https://suspilne.media/252788-investicia-u-porazku-rosii-ak-kupiti-vijskovi-obligacii-i-ci-mozna-na-nih-zarobiti/.

7 Ministry of Finance of Ukraine and statistics of auctions held for the period 1.03.2022-23.08.2022. URL : https://mof.gov.ua/uk.

Table 1

Raising funds from military bonds
(01.03.2022–23.08.2022)

**Source: compiled by the author on the basis of data*

Date	Amount of bonds million hryvnias	Date	Amount of bonds million hryvnias
March 1	8143	June 14	5456
March 22	6037	July 5	128
April 19	3598	July 12	2869
April 26	4393	July 26	9871
May 17	7456	August 2	3112
May 24	12608	August 9	3453
May 31	3098	August 16	71,5
June 7	810	August 23	280

The issue of military bonds, unfortunately, is not a unique case in the history of Ukraine. The government already issued these securities in April 2014, at the beginning of the war in eastern Ukraine. Then UAH 1 billion was raised, and now the Ministry of Finance expects UAH 400 billion.

Judging by the information published by the Ministry of Finance of Ukraine, the role of war bonds in meeting our needs is considerable. (Table 2.).

It is worth noting that these military bonds differ from others, because they are issued by the state exclusively for the domestic capital market and on the conditions of returning the funds within the specified period.

Table 2

Financing of Ukraine's needs in wartime conditions, million dollars[8]

**Source: compiled by the author on the basis of data*

Name	million dollars
1	2
National Bank of Ukraine	9332
USA	6990
Military bonds	4786
European Union	2426
Canada	1521

8 Do investments in military bonds really help Ukraine win? Let's look at the example of other countries. URL : https://forbes.ua/money/chi-diysno-investitsii-u-viyskovi-obligatsii-dopomagayut-ukraini-peremagati-rozbiraemosya-na-prikladi-inshikh-krain-15092022-8337.

Continuation of the table. 2

1	2
International Monetary Fund	1410
Germany	1373
The Worid Bank	929
Other European national governments	894,5
The European Investment Bank	720
Japan	581
Great Britain	577

By purchasing the military bonds at the mentioned auctions from the Ministry of Finance of Ukraine, the investors and residents of Ukraine thereby strengthen the security of the banking institutions and financially support the army of Ukraine.

During the war, the military bonds gained an enormous volume and demand on the domestic securities market. Most of the bonds are bought by the banks themselves or by the foreign investors in order to help and support Ukraine. According to the information provided above, the easiest way to buy the bonds is from primary dealers (banks), each of which sets its own conditions for the sale of the bonds. It is also worth noting that the military bonds have a number of advantages, because income from them is not taxed, unlike deposits, and it is not necessary to confirm the origin of the funds with which they were purchased. According to the statistics of the auctions which is available on the main website of the Ministry of Finance of Ukraine, the National Bank of Ukraine remains the largest owner of the military bonds, which, in turn, are a type of targeted OVDPs, and according to the indicators as of July 22, 2022, the portfolio of the domestic government loan bonds amounts to UAH 15 billion, thereby directing funds to cover the financial needs of the country during the wartime.

Therefore, today the military OVDPs play an extremely important role in the economy of our country and in providing the state budget with the financial resources. Since the country is under the conditions of martial law, the funds raised with their help are directed to support the army and the financial needs of the state. As for the profitability of the military bonds for the investors, this instrument will act more as an object of saving funds from inflation, as well as a way to support the economy of the country.

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