“Financialization of the global economy: Macroeconomic implications and policy challenges for Ukraine”

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FINANCIALIZATION OF THE GLOBAL ECONOMY: MACROECONOMIC IMPLICATIONS AND POLICY CHALLENGES FOR UKRAINE

Abstract

The acceleration of the global economy's financialization with the spread of the COVID-19 pandemic highlights the risks of financial markets volatility, boom and bust cycles, violation of price stability, and debt sustainability. In such conditions, the high degree of Ukraine economy's external openness, significant amounts of external debt, and lack of domestic investment and credit resources raise the issue of external financial threats to the national economy. This study aims to identify the risks of financialization and debt accumulation across the globe, specify protective arrangements and vulnerabilities of Ukraine's credit system to external shocks and develop a set of policy actions for global risks mitigation in Ukraine. To achieve this goal, available theoretical sources and policy studies were reviewed, and international databases of financial indicators have been analyzed. As a result, the underdevelopment of the financial system in Ukraine and insufficient use of the credit levers by the private sector are revealed, which impede economic growth but simultaneously mitigate the impact of external shocks in Ukraine's economy. On the other hand, high external debt reliance is confirmed, which increases the risks of financialization and cross-border capital flows for Ukraine's economy. A set of financial and organizational measures (targeted at eliminating credit and debt distortions in Ukraine and creating a financial basis for sustainable economic growth) are devised; they refer to development of the national capital market, fiscal policy adjustment, acceleration of the foreign direct investments inflows, shifts in the NBU's monetary policy, and the management of foreign exchange reserves.

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INTRODUCTION

In recent decades, the financial sector has increasingly distanced itself from the real economy and has partially reproduced itself within the financial assets generated by the sector itself. This was one of the reasons for the global financial crisis of 2008–2009 and caused a deep economic recession in the world. In 2009–2019, tighter regulation of banking activities and control over the financial instruments driven the slowdown in financialization, which, however, began to intensify again with the spread of the COVID-19 pandemic.

In 2020–2021, the global economic crisis, unprecedented packages of fiscal and monetary stimulus, and unstable investor sentiments again raise the problems of financial market volatility, "boom-bust" cycles, possible violations of price stability, and debt sustainability in various sectors of the economy. At the end of 2020, global debt reached 365% of global GDP, and the leading central banks' financial assets grew by 40-50% over the year. According to reputable experts, the combi-

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nation of high debt and monetary expansions in the future will contribute to the rapid transmission of financial shocks and the more frequent emergence of financial crises.

In such conditions, threats of transmission of external shocks and violation of the economy's external sustainability for countries with a high degree of openness, unfavorable investment climate, and low credit ratings are getting quite real. Ukraine also belongs to the group of such countries. Therefore, important tasks for Ukrainian scholars and policymakers should be identifying external risks and vulnerabilities of the national credit system and developing a toolkit of instruments to enhance Ukraine's domestic credit and investment potential while increasing the resilience of the economy to the impact of negative global factors.

1. LITERATURE REVIEW AND RESEARCH ANALYSIS

In most studies, financialization is viewed as a process or result of the increasing volume and importance of the financial sector (its dominance) compared with other sectors of the economy. Epstein (2001) defined financialization as the enhancing role of the financial markets, financial motives, financial institutions, and financial elites in the operations of the economy and its governing institutions, both at the national and international levels.

Krippner (2005) argues that the key feature of financialization is a radical change in the process of accumulation in which profit-making occurs increasingly through the net financial transactions not related to the real economy rather than through the production of goods and their sales.

The rapid growth of the financial sector in many countries worldwide took place from the 1990s until the onset of the global financial crisis in 2008. For example, the value of financial assets in the world grew from fourfold GDP in 1980 to tenfold GDP in 2007. The share of corporate profits generated by the financial sector in the US economy's total income rose from 10% in the early 1980s to almost 40% in the run-up to the global financial crisis (Crotty, 2009).

Turner (2020) points out that financial markets, the functioning of which is entirely based upon market forces, generate activity beneficial from an individual, private point of view but can be harmful from a public point of view. The too big volume of the financial sector and intensive financial transactions become destructive for the economy.

An integral attribute of financialization has been the accumulation of private debt and the increase in global debt. According to the Institute of International Finance (n.d.), at the end of 2020, global debt amounted to USD 277 trillion or 365% of GDP (Figure 1), while the debt of advanced countries rocketed to 435% of their GDP.

At the end of the third quarter of 2020, the non-financial sector accumulated the largest debt liabilities globally – 104.8% of global GDP. The second-largest was the general government sector, with a debt of 103% of GDP. The financial sector's debt constituted 90.2% of GDP, and the household – 65.3% of GDP. Over the past year, general government debt (by USD 8.5 trillion, or 12.3%) and non-financial corporate debt (by USD 5.9 trillion, or 8%) grew most rapidly.

An alarming phenomenon pointed out by the IMF experts is the possibility of shifting corporate debt to public finances, which will increase the overall level of fiscal risks. For example, since the beginning of the COVID-19 pandemic, governments of different countries have announced guarantee programs equivalent to USD 3.8 trillion (International Monetary Fund, 2020a).

Mbaye, Moreno Badia, and Chae (2018) found that excessive private debts could migrate to the public sector balance sheets through three main channels: (1) direct public support to the corporations or their creditors, (2) calls on state guarantees on private debts, or (3) countercyclical fiscal response to the corporate deleveraging episodes.

Assessing the global debt, the International Monetary Fund (2020b) suggests that currently, the riskiest is the non-financial corporate debt

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Source: Compiled by the authors using the data from the Institute for International Finance (n.d.).

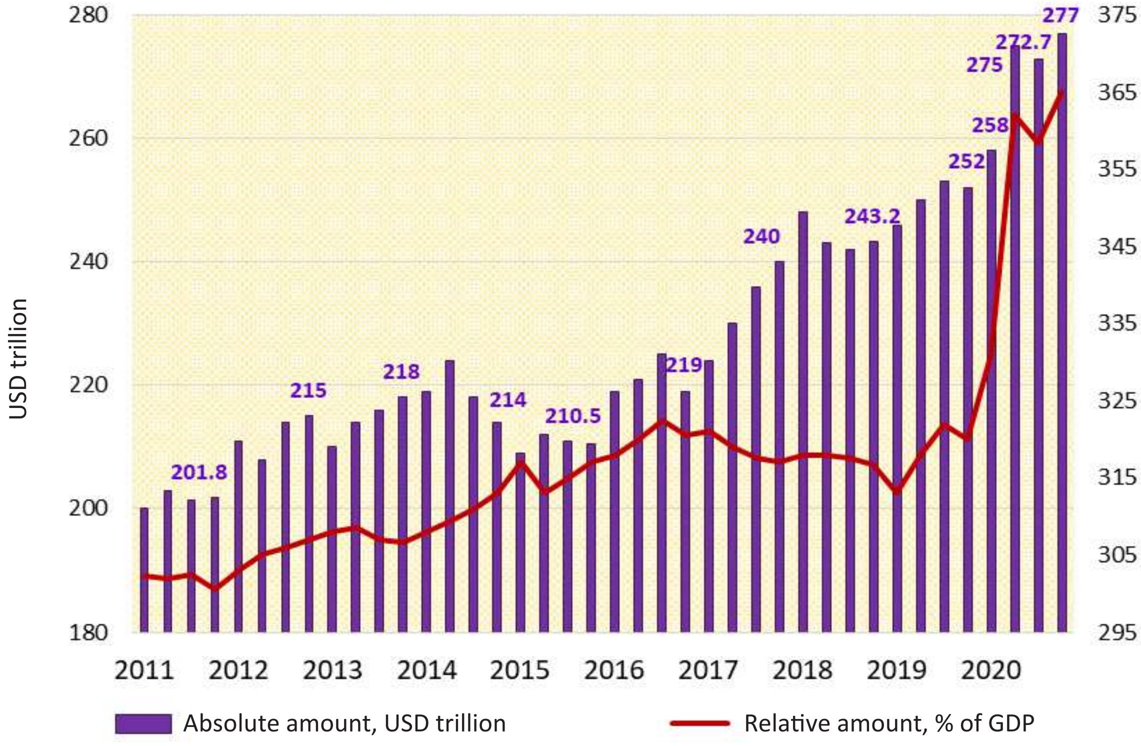

Figure 1. Global debt in relative and absolute terms in 2011–2020

(corporates assume new loans to offset forgone revenues) and the general government debt (which run huge budget deficits to support the economy).

According to Deutsche Bank Research (2020), in the post-pandemic era, economies with higher debt levels will be more vulnerable to financial shocks and more likely to go through financial crises since combinations of high public debts and fiat monetary systems will contribute to the rapid transmissions of financial shocks.

Besides, many researchers pay attention to the specific risks relevant to emerging markets. In the post-COVID world, many emerging market economies will face the challenge of reducing long-term foreign capital inflows. Strong shocks from the global demand, increased trade protectionism, and precautionary demand of the international investors will bring about difficult access to external financing for these countries (Barclays, 2020).

According to the International Monetary Fund (2020b), some emerging market economies face problems related to refinancing existing debts and need significant inflows of new financing. This situation can drive debt stress and lead to macro-financial instability. After all, in the theory and practice of international finance, a phenomenon of a sudden stop of capital is a well-known one, when foreign investors overestimate the credit risks, withdraw their previous investments from the country or refuse to refinance accumulated debts and thus provoke currency devaluation and economic downturn (Calvo & Reinhart, 2000).

At present, according to reputable experts, there are still reasons for concern about stable emerging countries' access to international capital markets. In addition to reducing direct investment flows, remittances from the migrants to these countries continue decreasing. Simultaneously, financing needs have skyrocketed, as an emerging market and developing economies contend with the same economic and humanitarian stresses as advanced economies. Poor countries' borrowing needs will only rise further as the economic damage mounts. With high synchro-

Table 1. Comparison of external debt indicators of low- and middle-income countries and Ukraine as a %

Source: Compiled by the authors based on World Bank (2021), authors' calculations.

Indicators	2000	2005	2010	2015	2016	2017	2018	2020 9 months
Indicators of external debt of low- and middle-income countries								
External debt/export of goods and services	139.5	80.9	71.4	97.8	108.0	105.0	101.0	n/a
External debt/gross national income	36.7	26.9	20.1	25.8	26.0	26.0	26.0	n/a
Indicators of Ukraine's external debt								
External debt/export of goods and services	74.6	80.9	176.7	235.5	216.9	183.0	160.7	212.5
External debt/Gross national income	45.9	41.2	92.5	137.4	124.2	106.0	90.0	84.8

nized external financing needs, debt will have to be restructured for many countries. Amid massive external financing needs across a broad sample of countries, there will be a growing need for debt restructuring. A wave of credit rating will accompany this situation downgrades for borrowers from emerging markets (Bulow, Reinhart, Rogoff, & Trebash, 2020).

External debt refinancing risks are particularly urgent for countries with high gross external debt and large external financing needs. In this context, the fact of a high Ukraine's external debt burden is quite alarming: at the level of 212.5% of exports (Table 1).

According to the World Bank (2021), in 2018, the ratio of external debt to exports of goods and services in Ukraine (160.7%) overran the average level of low- and middle-income countries (101%) in 1.6 times. The ratio of external debt to gross national income (GNI) in Ukraine (90%) was almost 3.5 times higher than the average level. In 2020, the ratio of external debt to exports in Ukraine further worsened (to 212.5%), and the ratio to GNI slightly improved (to 84.8%).

With significant amounts of external debt, the total debt in Ukraine is low, being 3.5 times behind the global average. This situation reflects the low level of lending to financial, non-financial corporations and the household sector in Ukraine.

The researchers showed that new lending to corporations and households could deepen financial growth and accelerate economic growth in a country. The growth of corporate leverage provides avenues to additional investment and increasing consumption and supports financial intermediation (Keshab, 2013).

Greenwood and Jovanovic (1990) showed that there was a positive relationship between financialization and economic growth in the early stage of financial sector development, which was accompanied by worsening income distribution between the rich and poor. Shkolnyk, S. Kozmenko, O. Kozmenko, and Mershchii (2019) revealed the relationships between economic growth and indicators of financialization of the economies in Ukraine, Georgia, and Moldova, based on panel data from 2007 to 2017.

Gruss, Nabar, and Poplawski-Ribeiro (2018) estimated that an increase in the ratio of capital flows to GDP of developing countries of 1 percentage point raises medium-term economic growth by 0.2%. Kozmenko, Korneyev, and Makedon (2014) found a positive impact of financialization on poverty reduction in terms of various poverty indicators in Ukraine's economy.

Garrido, Nadeem, Riad, DeLong, Renda, and Rosha (2020) argue that the impact of corporate leverage on economic growth is likely nonlinear, and the negative effects are manifested only in case of the accumulation of excessive debt. In another paper, Cecchetti, Mohanty, and Zampolli (2011) estimated a "tipping point", or threshold at 85% of GDP for household debt and 90% of GDP for non-financial corporate debt. IMF experts' estimates were slightly lower. According to them, an increase in household debt positively affects economic growth as long as the final household debt-to-GDP ratio is below 36-70% of GDP (International Monetary Fund, 2017).

Establishing a normal credit process in the private sector is impossible without prudent management of the public debt dynamics and overcoming imbalances in public finance. In this context, Gros

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(2020) rightly points out that the growth of economic and financial uncertainty during and after the pandemic means that prudent state policy should maintain a sustainable level of public debt. To adequately respond to future crises, governments should have "a shot in the locker", i.e., manage the growth of debt during crises and reduce its size after the economic situation normalizes.

Krueger (2020) also draws attention to this important aspect: after the end of the acute phase of the crisis, politicians and economists will have to respond to a dangerously high level of public debt in many countries. Otherwise, the nexus of high inflation and financial repression will slow down economic recovery prospects. Concretizing this issue, the International Monetary Fund (2020c) shows that for countries where debts prove unsustainable, and governments cannot service their debts, timely and durable resolution of these problems will be needed, including on external debt restructuring.

Barclays (2020) identifies the following set of tools to address the high debt burden: a) stimulating economic growth to reduce the relative size of debt, b) reducing the budget deficit, c) eroding the real value of debt due to high inflation, d) beginning of financial repression to suppress interest rates and maintaining a moderate cost of debt service, e) attracting cheap official financing or restructuring public debt. However, each of these tools has its spillovers and limited scope. Thus, Barclays (2020) predicts that most governments will take a comprehensive approach based on different tools in different countries in the future.

Toporowski and Calvert (2020) emphasize that the current increase in debt levels and interest payments will widen income inequality and depress economic activity if taxes on those with lower incomes service it. Such negative effects should be avoided by imposing more taxes on wealth and profits.

Experts of the International Monetary Fund (2020d) have a similar opinion, arguing that to ensure that debt remains on a sustainable path, governments may need to increase their taxes' progressivity. Taxes on property, wealth, and capital gains may increase and changes to corporate taxation, reducing tax fraud and ensuring firms pay taxes commensurate with their profitability.

Thus, the above studies lay a theoretical foundation for understanding the causes and implications of financialization and debt accumulation processes across the globe. Applied research explains and predicts developments during and after a pandemic and offers the desired set of tools to regulate financialization. However, the problems of the economy with a low level of development of the national credit system and with high dependence on external financing remain poorly studied. There are no comprehensive, practically oriented studies, which would offer an optimal combination of measures to intensify the domestic credit process in an emerging market economy while ensuring its resilience to global shocks.

2. GENERALIZATION OF THE MAIN STATEMENTS

As a result of the distorted accumulation of financial capital across the globe, the global financial system's instability has intensified, and the normal cycle of savings and investments has been disrupted. Over the medium and long run, the negative effects of financialization are associated with:

- increasing volatility in the financial markets;
- emergence of boom and bust cycles in financial markets;
- unproductive use of a part of savings and shrinking investments in the real sector.

Due to financialization, there has been an increase in volatility in the global financial markets. The calculations show that from 2005 to 2006, the average quarterly VIX index was 12%, in 2011–2015, the VIX index varied from 16 to 29%, in March 2020, it jumped to 82.7%, and in early December 2020, again fell to 22.3% (Volatility Index (VIX) is a measure of the market's expectations of stock-market volatility, captured by prices for a range of options on the S&P 500 index).

During the fight against the COVID-19 pandemic, the following negative processes related to financialization took place:

- expansion of the uncovered money supply and projected increase in inflation;
- inflating of "bubbles" in the financial markets;
- possibility of rapid transmission of the financial shocks and emergence of financial crises in the future.

In particular, expansionary monetary policy mediated the rapid growth of assets of the world's leading central banks. The assets of the balance sheet of the US Federal Reserve from March 4 to December 23, 2020 increased from USD 4.2 trillion to 7.4 trillion, or by 56.7% (Board of Governors of the Federal Reserve System, 2021). The assets of the European Central Bank from March 6 to December 25, 2020 increased from EUR 4.7 trillion to 7.01 trillion, or by 40.0% (European Central Bank, 2021).

As the global economy in 2020 reduced production volumes, such processes meant an increase in uncovered money supply worldwide and further exacerbated the problems associated with the financialization of the economy.

The increase in global debt to USD 277 trillion, or 365% of global GDP, incurred the following risks to the global economy:

- probability of corporate debt unsustainability: most small firms operating in the sectors affected by the pandemic face low liquidity problems that can escalate into mass defaults;
- compounding fiscal risks of corporate debts – the possibility of shifting to budget the debts of systemically important enterprises;
- growing solvency risks of individual countries and a sharp increase in the debt burdens in most countries, which will require the use of unconventional economic policy;
- vulnerability of borrowers' debt positions to the debt refinancing risks, the sensitivity of their financial states to the fluctuations in interest rates and exchange rates;
- crowding out of private investments by public borrowings with a sharp increase in the amount of domestic borrowing and the negative impact of the "crowding out effect" on economic growth.

According to international experts, the inflow of long-term foreign capital into emerging market economies is expected to decrease in the medium term (Deutsche Bank Research, 2020; Barclays, 2020). The main determinants of reducing capital inflows will be:

- reduction of international trade and growth of trade protectionism;
- destruction of global value chains;
- reduction of cross-border labor mobility;
- increase in debt restructuring cases and precautionary investor demand for risky assets;
- slowdown in labor productivity and domestic investment;
- increase in public debts and budget deficits;
- rising inflation, blurred boundaries between fiscal and monetary policy;
- concerns about capital controls;
- domestic socio-political instability in poor countries.

These problems will directly affect Ukraine, whose economy is heavily dependent on external financing, despite the low level of financial services penetration in Ukraine.

Ukraine's credit and debt indicators show a low level of development of the national credit system and insufficient use of credit levers to finance the activities of enterprises, households, and financial institutions. In Ukraine, the total debt of all sectors of the economy as of October 1, 2020 amounted to 97% of GDP, lagging behind 2.5 times the av-

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erage in emerging market economies (Institute for International Finance, n.d.). It is especially noticeable that Ukraine lags behind other countries in terms of national capital market development. The capitalization of the financial market in Ukraine ranges from 5% to 10% of GDP against 153.2% in the United States and 54.3% of GDP in Germany.

If one compares the relative indicators of received loans/accumulated debts in Ukraine with relevant indicators of other countries, one can draw the following conclusions:

- the debt of non-financial corporations in Ukraine (20.1% of GDP) are five times behind the average level in emerging market economies (104.1%) and advanced countries (102.3% of GDP);
- the relative debt of the financial sector in Ukraine (9.9% of GDP) is four times lower than in emerging market economies (40%) and 12 times lower than in advanced countries (120.3% of GDP);
- the debt of the household sector in Ukraine (5.3% of GDP) differs in order of magnitude from that of advanced countries and the world as a whole (65.3% of GDP);
- the volume of public debt in Ukraine (61.8% of GDP) is almost in line with the average for emerging market economies.

Comparing the debt of the main sectors of Ukraine's economy with similar indicators in Poland, the United States, and China again reveals that the national credit system is underdeveloped. For instance, in Ukraine, the debt of non-financial corporations is 20.1% of GDP, and in Poland, it is 44.8%, in the USA – 88.2%, in China – 166.3% of GDP. Household debt in Ukraine barely exceeds 5% of GDP, and in Poland, this figure is 35%, in the United States – 81.2%, in China – 59.8% of GDP (see Table 2).

To reduce the deficit of domestic financial resources, the Government and enterprises of Ukraine borrow heavily from abroad. As a result, according to the World Bank, Ukraine's gross external debt is three times higher than the average level of low- and middle-income countries.

Existing distortions in favor of external financing raise the foreign exchange risks of accumulated debts. Small amounts of lending to the national economy slow down the economic growth in Ukraine. The reasons for this are both inadequate monetary policy (which until 2020 was the tightest among the countries of Central and Eastern Europe) and the lack of effective institutions for securing the fulfillment of contractual obligations related to credit relations.

The significant amount of the external debt burden in Ukraine poses the following threats and challenges to the national economy:

- the projected reduction in the inflow of foreign private capital to Ukraine will widen the external financing deficit;

Table 2. Accumulated debt by sectors and countries (their groups) as a % of GDP at the end of 3rd quarter of 2020

Source: Compiled by the authors based on Institute for International Finance.

	Public sector debt	Debt of non-financial corporations	Debt of the financial sector	Debt of the household sector	Total debt
Advanced economies	131.4	102.3	120.3	78.0	**432.0**
United States	127.2	88.2	87.0	81.2	383.6
Euro Area	115.1	114	126.2	60.5	415.8
Emerging market economies	60.3	104.1	40.0	44.0	**248.0**
China	63	166.3	48.3	59.8	337.1
Poland	57.5	44.8	25.6	35	162.8
Ukraine	61.8	20.1	9.9	5.3	97
World	104.8	103	90.2	65.3	**358.4**

- a lack of guaranteed access to external financing can transform into problems of macro-financial instability;
- existing distortions in favor of external loans increase the foreign exchange risks of borrowings and enhance the volatility of the UAH exchange rate in the long run;
- significant external debt raises the vulnerability of Ukraine's economy and individual borrowers to external shocks (such as lower prices for exported goods, changes in global liquidity, "appetite for risk" by international investors, etc.) and highlights the risks of the crisis scenario.

With the declining long-term private capital inflows to the national economy, the problems of the external financing deficit for Ukraine will become chronic, and the risks of the balance of payments instability will go up. Therefore, in the coming years, Ukraine will urgently need a reorientation of financial policy towards intensifying the domestic sources of investment financing and covering the financing requirements.

Reducing the inflow of foreign capital highlights the task of developing the capital market in Ukraine as a source of accessible funding for Ukrainian enterprises. Besides, the devaluation of dollar savings of households and businesses in 2020–2021 will encourage them to seek alternative ways of investing, among which securities of the capital market of Ukraine should be dominant.

Important tasks in the development of the national capital market are:

- creation of liquid markets of financial instruments and risk mitigation mechanisms/ instruments (bank certificates of deposit, investment certificates, promissory notes, stock option certificates, stock warrants, credit notes, depository receipts, infrastructure bonds, mortgage bonds, bonds secured by loans and cash);
- modernization, consolidation, and development of the exchange and depository infrastructure of the market (introduction of the institution of a regulated market operator, creation of a model of the Multilateral Trading System and the Organized Trading Facility, etc.);
- establishment of the Private Investment Guarantee Fund, which would be a source of covering the losses of small investors in the event of bankruptcy of professional stock market participants;
- overcoming the "bottlenecks" of the secondary market for government bonds: a) building up a secondary market infrastructure and introducing control over the fulfillment by primary dealers of their obligations as market makers; b) increasing the interest of individuals to invest in the government bonds by simplifying the sale and purchase procedures and abolishing the requirements for documentary proof of the sources of funds.

Given Ukraine's relatively high public debt (64% of GDP) and significant debt financing risks, a gradual debt reduction is an important task for the medium term. This implies a departure from the fiscal stimulus for the economy from 2022 and forwards via:

- increases in taxes on property, wealth, and capital gains;
- improving the administration of corporate profit tax, eliminating "loopholes" for minimization of tax liabilities;
- growth of environmental taxes and rent payments;
- reduction of budget expenditures on state administration, security, and judiciary.

The growth of the world's uncovered money supply and the devaluation of dollar savings of economic entities in Ukraine will increase the demand for real assets and the attractiveness of investments into the real economy. All this will fuel the demand for investment bank loans. In this context, the priorities of the central bank's policy are:

- loose monetary policy conduct and keeping the key policy rate close to zero in real terms;

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- implementation of the program for long-term refinancing by the central bank of the bank loans issued to the real sector of the economy;
- easing of standards for banks to reserves provisioning related to the credit risks (NBU Board Resolution No. 351).

Global research suggests that in the coming decades, tensions in US-China political and economic relations will incline the US companies for re-shoring of the global value chains and for investing in the new production and logistics facilities outside China (Deutsche Bank Research, 2020). The prompt response of the Ukrainian authorities to new opportunities related to the attraction of the foreign direct investment should be based on the following priority actions:

- maintaining the high volumes of public investments and improving their quality with the priority allocations into the development of economic infrastructure;
- making laws and applying the practices for infrastructure bonds functioning;
- improving the business climate and regulatory system in Ukraine for foreign direct investors.

Given the instability of the global financial system and the volatility of capital flows, the central bank's foreign exchange reserves' role is growing objectively. The sufficient amount of reserves creates appropriate preconditions for maintaining macro-financial stability. Currently, Ukraine is facing the task of gradually increasing reserves and bringing them closer to the standard adequacy ratio, i.e., IMF composite metric. The calculations indicate that to properly protect against a sudden stop of capital or export earnings reduction, Ukraine's international reserves should amount to about USD 32 billion.

Besides, with the strengthening of global financial risks, Ukraine's international reserves' structure should protect them from losses associated with the bankruptcies and real negative returns on instruments in which reserve assets are placed. Achieving such goals involves:

- rise in the share of gold from the current 5.8% to 12-15% of the total value of international reserves;
- growing investments in AAA-rated corporate bonds issued by the corporates from the EU and the US, which have optimistic growth prospects and offer relatively high yields;
- alignment of the currency composition of deposits and securities in which foreign exchange reserves are invested with the currency composition of Ukraine's public debt.

Pursuing a prudent macroeconomic policy and strengthening the core market institutions should help overcome the credit and debt distortions in Ukraine and set up a sound financial basis for developing the national economy.

3. DISCUSSION

Following the onset of the recent global economic crisis in 2020, the world's central banks have taken decisive actions for supporting the aggregate demand and lending process by lowering the policy interest rates, purchasing assets in the market, and expanding loans to financial institutions, businesses, and government agencies. In particular, the US Federal Reserve and the European Central Bank (ECB) have taken the following steps (Cheng, Powell, Skidmore, & Wessel, 2020):

- resumption of targeted long-term refinancing operations for banks (for loans to the corporate sector – TLTRO III program of ECB);
- launching pandemic emergency longer-term refinancing operations (PELTROs);
- introduction of special programs with negative interest rates entitled for the refinancing of bank loans to small business;
- launching or expanding existing asset purchase programs ("quantitative easing" programs – QE);
- practicing the direct lending by central banks to reliable corporations (the Primary

Market Corporate Credit Facility – PMCCF in the USA);

- launching the direct lending by central banks to municipalities and local governments (Municipal Liquidity Facility in the USA).

The global economic downturn combined with unprecedented monetary easing meant a rise in uncovered money supply and compounding the problems associated with the financialization of the economy. In particular, in the United States, the Fed's balance sheet assets in 2020 grew by 56.8% as real GDP decreased by 3.5%. The amount of shares issued on the US capital market in 2020 was 1.5 times higher than in 2019. Stock indices went up impressively: NASDAQ-100 – by 47.6%, Dow Jones – by 7.2%, and S&P 500 – by 16.3% for 2020.

This means that currently, in advanced countries, released funds put pressure on the stock market and pump up the financial "bubbles". However, this situation may prove to be unsustainable in the long run.

One of the consequences of monetary expansion during the pandemic was the formation of negative real rates on highly reliable instruments, and in the case of EU issuers, even negative nominal

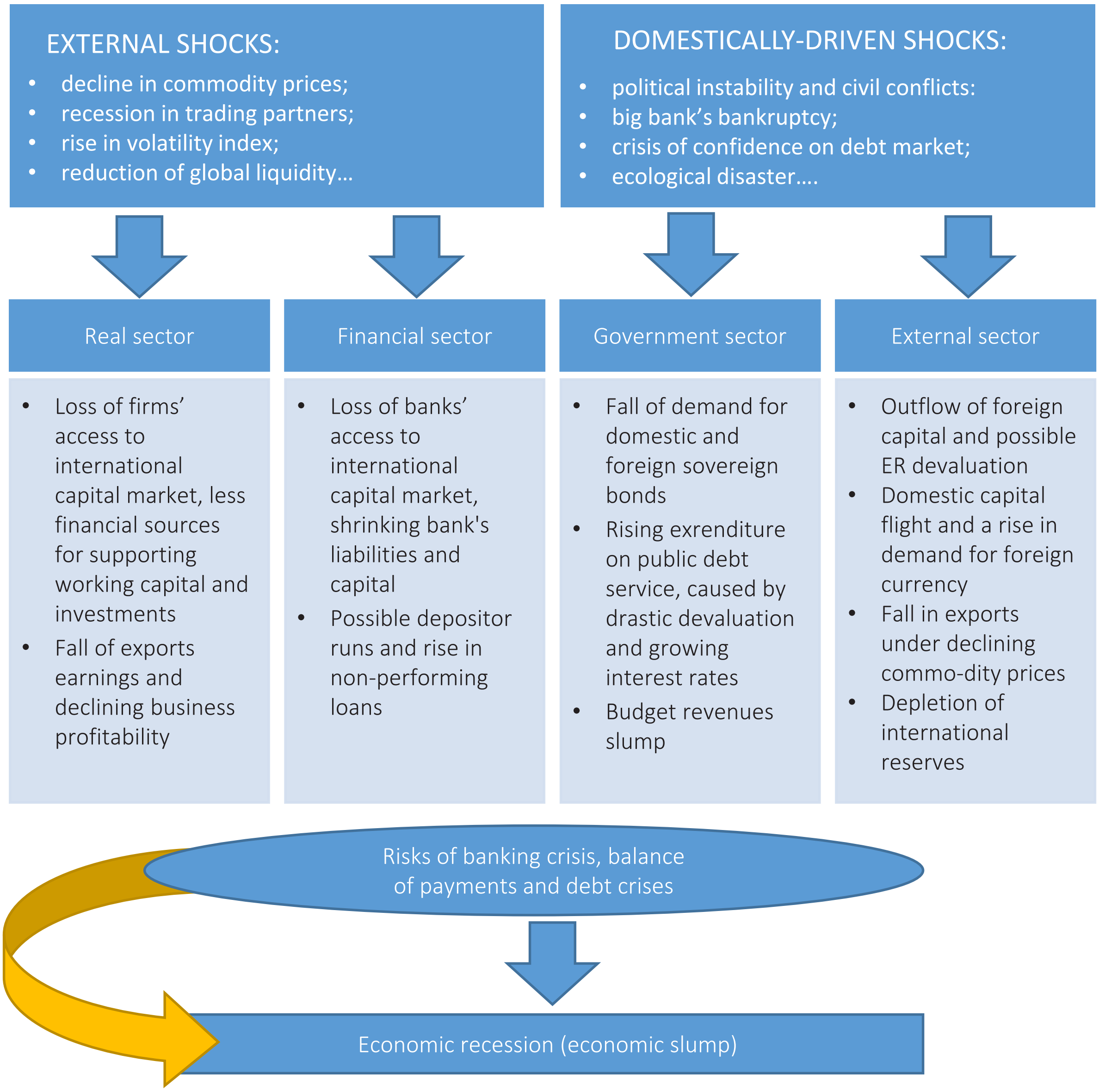

Figure 2. Areas and mechanisms of shocks spillovers in Ukraine's economy

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Table 3. Nominal and real interest rates of different assets in the USA in 1999–2020, per annum

Source: Compiled by the authors based on Deutsche Bank Research.

	Corporate bonds, rated AAA	10-year US Treasury bonds	30-year US Treasury bonds	Short-term US Treasury securities	Gold
Real yields	5.90	2.87	4.90	-0.34	6.92
Nominal yields	8.11	5.01	7.08	1.73	9.15

rates. As of January 15, 2021, the real yields on US Treasury bonds ranged from –0.25% per annum to –1.63%) and German government bonds from –0.65% to –1.24% per annum.

In the post-pandemic era, new global threats and challenges will increase the risks of currency and debt crises in countries with high debt burdens and significant external financing needs. Unfortunately, Ukraine belongs to a group of such countries.

An earlier study by Bogdan (2020) showed that the key mechanisms of shock transmission and the spread of the crisis in Ukraine's economy are associated with the reversal of foreign capital, exchange rates devaluation, growing global interest rates, domestic capital flight, fiscal imbalances, shrinking bank capital, fall of export earnings, etc. (see Figure 2).

Under the instability of the global financial system, the role of international reserves is growing, and the adequate size of reserves provides a margin of safety and supports macro-financial stability. As of December 31, 2020, the NBU's international reserves amounted to USD 29.1 billion. According to the IMF composite criterion, this volume, although covering almost 5 months of future imports, is 5.5% lower than a threshold ratio. But in the face of increased currency and financial risks and growing global imbalances, the NBU's policy should be aimed not only at accumulating sufficient reserves but also at achieving their reasonable structure.

New challenges within the global financial system require a reassessment of traditional benchmarks and a radical change in foreign exchange reserve management approaches. The main challenges are:

1) increased instability of key currencies and emergence of negative real interest rates on bank deposits and AAA-rated government securities;

2) the growing role of gold and other precious metals as "anchors" of stability, which in most cases guarantee the preservation of their real value;

3) achieving the high yields on reliable borrowers' corporate bonds and the ability to bring positive real yields when investing official reserves into the AAA-rated corporate bonds.

In terms of yields on various assets in which official reserve funds could potentially be invested, Deutsche Bank Research (2020) revealed that in 1999–2020, the most profitable assets in the United States were gold and AAA-rated corporate bonds. In contrast, short-term US Treasury securities had negative real returns (see Table 3). In 2020–2021, highly reliable government securities' negative real yields exacerbated even more.

Therefore, in the future, it seems reasonable to restructure Ukraine's international reserves in favor of gold and AAA-rated corporate bonds denominated in freely usable currencies for settlements of international transactions.

CONCLUSION

High trade and financial openness of the economy, significant amount of external debt, deficit of domestic credit, and investment resources amplify the impact of adverse global factors on the economy of Ukraine. With the onset of the COVID-19 pandemic, global risks of financialization of the economy and debt accumulation have become significant. They are manifested in growing volatility of the world's financial markets and alternation of boom and bust cycles in the markets; expanding the uncovered money supply and accumulating inflation potential; increased probability of corporate debt unsustainability (mass defaults of small enterprises); higher fiscal risks of corporate debts and higher solvency risks of individual countries with widespread growth in the burden of public debt; higher vulnerability of borrowers to debt refinancing risks, to market fluctuations in interest rates and exchange rates; crowding out of private investments by public borrowings; projected increase in the frequency of financial crises in the future.

On the other hand, the results of the comparative analysis indicate that the financial and credit system of Ukraine is underdeveloped and the credit levers in the sectors of financial, non-financial corporations, and households are insufficiently used, which slow down economic growth but mitigate the impact of external shocks in Ukraine's economy. In Ukraine, the accumulated debts of non-financial corporations lag behind the world average five times. The total debt of all sectors of Ukraine's economy is 97% of GDP, which is 2.5 times lower than the average ratio in emerging market economies.

The low level of financial deepening of the economy and the high volume of external debt (at the level of 212.5% of exports) implies the distortion of credit flows in the economy towards external financing. Such bias raises the currency exchange risks of the borrowings of economic entities in Ukraine, the instability of sources of refinancing of existing debts, and magnifies the macroeconomic volatility in Ukraine.

Identified global risks, protective arrangements, and vulnerabilities of the financial system of Ukraine allowed specifying a set of organizational and financial actions to increase the resilience of the economy to external shocks, overcome credit and debt distortions in Ukraine and create a financial basis for sustainable economic growth. The main directions for employing such measures are acceleration of the domestic capital market development and stimulation of foreign direct investment; expansionary monetary policy and support of the domestic lending process; gradual reduction of the budget deficit via higher taxes for the wealthy, and cut in the state consumption, further accumulation, and restructuring of NBU international reserves.

The integrated assessment of the global financial risks and vulnerabilities of the national financial and credit system, as well as a toolkit of financial and organizational measures, which is developed and based on them, can be used by experts and practitioners in finalizing the Strategy of Ukrainian Financial Sector Development until 2025 and devising the Economic Development Strategy of Ukraine.

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