“Transforming public finance under the impact of COVID-19”

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ARTICLE INFO	Tetiana Bogdan and Vitalii Lomakovych (2021). Transforming public finance under the impact of COVID-19. *Public and Municipal Finance*, *10*(1), 67-81. doi:10.21511/pmf.10(1).2021.06
DOI	http://dx.doi.org/10.21511/pmf.10(1).2021.06
RELEASED ON	Tuesday, 03 August 2021
RECEIVED ON	Monday, 24 May 2021
ACCEPTED ON	Tuesday, 27 July 2021

JOURNAL	"Public and Municipal Finance"
ISSN PRINT	2222-1867
ISSN ONLINE	2222-1875
PUBLISHER	LLC “Consulting Publishing Company “Business Perspectives”
FOUNDER	LLC “Consulting Publishing Company “Business Perspectives”

NUMBER OF REFERENCES	NUMBER OF FIGURES	NUMBER OF TABLES
27	5	1

BUSINESS PERSPECTIVES

LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine

www.businessperspectives.org

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TRANSFORMING PUBLIC FINANCE UNDER THE IMPACT OF COVID-19

Received on: 24th of May, 2021
Accepted on: 27th of July, 2021
Published on: 3rd of August, 2021

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Abstract

Devastating effects of the COVID-19 pandemic throughout the world enhance the societal requests for effective healthcare and social protection systems, modern education, and high-quality infrastructure. In Ukraine, education, healthcare, and social services have been chronically deteriorating, and the corona-crisis has further exacerbated their state and increased poverty in the country. The aim of this study is to reveal the main weaknesses of fiscal policy in Ukraine and to outline the prospects of public finance transformations under the impact of the COVID-19. To achieve this aim, the indicators of fiscal policy response to the pandemic in Ukraine are calculated and a comparative analysis of Ukraine's public finance structure with the international patterns is undertaken. A moderate fiscal impulse and insufficient fiscal rescue package in Ukraine are shown. Moreover, the inconsistencies of anti-crisis fiscal policy instruments with the international best practice are revealed. Summarizing the available theoretical sources and recent applied research allows identifying the prospects of public finances transformations under the impact of the COVID-19 in a global context. Along with the obtained results of Ukraine's fiscal sector analysis, these form the basis for shaping the fiscal policy response in Ukraine over the medium term. Proposals for public financing of Ukraine's health care and educational sectors, of the social safety nets and infrastructures under the impact of the pandemic are developed. Offsetting measures from the expenditure and revenue sides of the budget are drawn up for closing the arising fiscal gaps.

Keywords public finance, corona-crisis, education, health care, fiscal policy, social protection, infrastructure

JEL Classification E62, H12, H51, H52

INTRODUCTION

The exacerbation of poverty and inequality from the outset of the COVID-19 pandemic, the tragic consequences of the pandemic, and the unpreparedness of many countries' medical systems to its spread have enhanced a worldwide societal demand for effective healthcare, social protection, modern education, and high-quality infrastructure. At the same time, healthcare and education in Ukraine suffer from chronic under-financing and have a negative impact on the quality of human capital, the social protection system does not perform its classic functions, and public investment in infrastructure does not maintain it in satisfactory conditions. The critical stance of the national health care sector was manifested during the COVID-19 pandemic when the majority of sick citizens did not receive any medical care, and Ukraine entered the first quartile of the world in terms of mortality from the coronavirus.

In general, since the beginning of the COVID-19 pandemic, the fiscal rescue package in Ukraine has lagged by 1.5 times behind the average level in emerging market economies and by 6 times behind advanced economies; and the structure of this package is far from international benchmarks. The stimulating effects of fiscal policy in Ukraine during

Conflict of interest statement:
Author(s) reported no conflict of interest

the corona-crisis, as measured by fiscal impulse, were also quite modest. At the same time, to stop the devastating socio-demographic processes, increase national competitiveness and build a modern efficient economy, Ukraine should take into account the latest global trends in public finance and the best world practice.

The review of the latest theoretical and empirical studies suggests that the main challenges for public finances in many countries in the future are expanding the social safety net, providing more and better public services, including health care services, creating adequate social, transport, and digital infrastructure. Unfortunately, such priorities are not always reflected in Ukraine's strategic documents, and "ensuring macroeconomic stability" is still considered to be the key function of public finance.

1. LITERATURE REVIEW

During the current economic and epidemiological crisis, the loose conditions of the global financial market allowed many emerging market economies to pursue expansionary fiscal policies, modifying traditional notions of fiscal space as a limiting factor for such policies. That is why, according to Cardenas et al. (2021), in most countries, the fiscal policy response to the COVID-19 in 2020–2021 was much larger than to the financial shock of 2008–2009.

The International Monetary Fund (2021a) estimates the total **package of fiscal policy** response to the COVID-19 at USD 16 trillion globally as of March 2021, or 19% of the world's GDP. Out of this amount, USD 10 trillion consists of spending programs and tax relief and USD 6 billion – of governments' liquidity support measures.

According to the International Monetary Fund (2020a), starting from the beginning of the pandemic, the governments of most countries have approved fiscal rescue packages, which usually included the following types of measures:

1) on the ***state spending side*** - unemployment benefits, government-funded paid sick leave, financing of additional healthcare programs, wage subsidy and targeted transfers to businesses and households affected by the pandemic, support to such sectors as tourism, hospitality services, and transports, which are hit hard by the corona-crisis;

2) on the ***state revenues side*** - deferrals of personal and corporate income taxes, other tax reliefs or exemptions including on medical products and services, for damaged sectors, vulnerable households and businesses, and social insurance contributions;

3) fiscal measures in the form of ***liquidity support*** - included government provision of loans and guarantees, equity injections to financial and non-financial corporations, which helped maintain the working capital of economic entities during the emergency.

Fiscal actions prevented a more severe world economic slowdown, bigger losses of jobs, and significant social costs. Fiscal backstop also moderated the negative effects of the COVID-19 on individual demand, private consumption, and employment. The International Monetary Fund (2021b) showed that additional fiscal policy measures on the side of government revenues and spending since the beginning of the pandemic had reduced the rate of decline in the global GDP by 2% in 2020.

The International Monetary Fund (2021a) estimates that in **advanced economies**, the fiscal packages in response to the pandemic amount to **27.7% of the GDP**. At the same time, in the structure of fiscal packages, additional government spending and tax measures reach **16.4% of the GDP**, and fiscal liquidity measures for companies constitute **11.3% of the GDP** (Table 1). Among large economies, the biggest volumes of fiscal rescue packages were in Germany – 38.8% of the GDP (including liquidity support – 27.8% of the GDP); Italy – 43.7% (35.3% of the GDP); Japan – 44.2% (28.3% of the GDP); the United Kingdom – 32.4% (16.1% of the GDP); France – 23.3% (15.6% of the GDP); the USA – 27.9% (2.4% of the GDP).

In **emerging market economies**, IMF experts estimate the anti-crisis fiscal measures since the be-

http://dx.doi.org/10.21511/pmf.10(1).2021.06

ginning of the pandemic at **6.7%** of the GDP, which is four times behind the level of advanced countries. Of this amount, **4.2%** of the GDP is additional government spending and forgone revenues, and **2.5%** of the GDP is liquidity support. Among the large emerging markets, the biggest deviations from the average in terms of fiscal rescue packages are in Brazil (the fiscal package is 15.0%), Peru (18.7%), Poland (13.1%), Thailand (12.4%), Turkey (11.3%), Chile (10%), South Africa (9.9%). At the other end of the spectrum are Mexico (1.8%) and Egypt (1.7%).

Table 1. Fiscal policy response to the COVID-19 in the country groups and specific countries as a % of the GDP

Source: IMF (2021a).

Countries	Additional spending and forgone revenue	Equity, loans, and guarantees
Turkey	1.9	9.4
Mexico	0.7	1.2
India	3.3	5.1
Russia	4.3	1.5
Saudi Arabia	2.2	0.8
Indonesia	4.5	0.9
France	7.6	15.6
Argentina	3.9	2.0
Korea	4.5	10.2
Spain	7.6	14.4
Italy	8.5	35.3
China	4.8	1.3
South Africa	5.9	4.1
Canada	14.6	4.0
United Kingdom	16.2	16.1
Brazil	8.8	6.2
Australia	16.1	1.8
Germany	11.0	27.8
Japan	15.9	28.3
USA	25.5	2.4
Ukraine	3.5	0.8
Country groups		
Emerging market and middle-income	4.2	**2.5**
G20 countries	10.7	7.2
Advanced countries	16.4	**11.3**

Analyzing the tools of anti-crisis fiscal support to the population and business, in the report "Fiscal Monitor" a certain optimal toolkit was emphasized, which maximizes the positive socio-economic effects (IMF, 2020b). In particular, *in the first phase* of the pandemic outbreak, when quarantine restrictions are overwhelming, the experts indicate the priority of tools entitled to *saving lives and financial support* to the most affected individuals and businesses. *In the second phase* of the gradual reopening of the economy under the uncertainty of the epidemiological situation, fiscal policy should focus on *public health and the preservation of key programs of financial support* to the economy and population. The acceleration of public investment is justified for countries with sufficient fiscal space and in the context of mass involvement of the unemployed in construction work.

According to the "Fiscal Monitor", *in the third phase* of the pandemic (when vaccines become widely accessible), the state should promote economic recovery. Countries with limited fiscal space and poor access to funding should focus public spending on social payments to low-income households and productive public investment. However, at the same time, it is necessary to increase the progressivity of taxation, both for individuals and legal entities.

The experience of many countries after the global financial crisis of 2008–2009 demonstrated the danger of premature withdrawal of financial support programs and subsequent fiscal consolidation. Dosi et al. (2014) stressed that in 2010, the recovery from the crisis was interpreted as sustainable, and governments of advanced countries sharply reduced their budget deficits along the U-shape trajectory; but this approach impeded economic recovery and did not help decrease the ratio of public debt to the GDP.

Given the current challenges, Cardenas et al. (2021) made the following warnings: "Avoiding an early withdrawal of fiscal support in 2021 and 2022 is an important task given that countries are still facing high rates of contagion and deaths, vaccination proceeds very slowly, the economic recovery is partial, uncertain and not strong enough to help those most affected by the twin public health and economic crisis".

Most international experts and researchers recognize the need to continue an active fiscal policy in 2021 to protect the health and income of people who cannot secure their livelihood, as well as to promote a strong recovery (IMF, 2020b). At the same time, it is emphasized that fiscal policy must be flexible and adjusted to all phases of the pandemic, paying attention to the increased demands to protect individuals, promote the transformation to the post-pandemic economy, guarantee sustainable debts, reinforce demands, and promote structural change creating a sustainable, inclusive and green economy.

Fiscal protection of employees and companies from economic collapse and a significant decline in production had the spillover effect of increasing the burden of public debt. The IMF estimates that global public debt in 2020 increased by 13.6% of the GDP and climbed to 97.3% of the GDP. In the meantime, the public debt in advanced countries reached 120.1% of the GDP, and in emerging market economies – 64.4% of the GDP at the end of 2020 (IMF, 2021a).

Dangerous aspects of debt expansion include increased vulnerability of state budgets to changes in financial market conditions. If interest rates begin to rise because of tighter monetary policy in advanced countries or investors' losing confidence in the relevant asset class, many governments and companies will face higher interests in new borrowings. Similarly, devaluations of national currencies will increase payments on debt denominated in foreign currency. The possibility of such scenarios will negatively affect the assessment of sovereign and corporate credit risks, exacerbating the effects of tightening financial conditions (IMF, 2021c).

Overall, according to the IMF (2021b), fiscal risks are elevated for many countries this year and they arise from diffidence about the future dynamics of the pandemic and the shape of recovery, the direction of commodity prices, and global interest rates movements, as well as the risk of contingent liabilities, being accumulated during the crisis.

Several studies showed that the COVID-19 pandemic had hardened inequality and poverty and argued the importance of an effective social protection system (Yonzan et al., 2020; ECLAC, 2021). The pandemic also disclosed non-equal access to basic services such as education, healthcare, and digital infrastructure. For example, estimates by international organizations show an increase by 95 million people in extreme poverty in 2020 relative to 2019. In Spain, the Gini coefficient of wages increased from 38.4 in February 2020 to 49.2 in December 2020 (Aspachs et al., 2020). In Mexico, a share of working population in poverty rose from 35.7% in the first quarter of 2020 to 44.5% in the third quarter (CONEVAL, 2020).

Other studies showed that the pandemic had disproportionately hurt different minority groups and those in low-income deciles. Furceri et al. (2020) found that the COVID-19 pandemic had amplified existing inequalities through several channels, in particular higher risks of contagion for national minorities and the poor, different access to hospitalization, different possibilities to work in the remote mode, and different risks of longer-term losses of jobs. Dosi et al. (2020) obtained similar results.

IMF experts argue that the key areas of fiscal policy in the post-pandemic world should be:

- investing in human development to improve public health care and education outcomes;
- efficiently improving the social protection system – and thus resist the rise of poverty;
- facilitating the reallocation of labor and capital factors to new sectors of the economy, which received a boost for growth during the pandemic;
- reforming tax systems aimed at eliminating tax distortions and increasing government revenues (IMF, 2021a).

Thus, during and after the pandemic, it is crucial for policymakers in most countries to meet the growing demand for core public services and to implement inclusive policies for supporting social cohesion.

Economic theory has proved that expenditure on education and healthcare improves the quality of people's life, promotes economic growth through the channel of human capital accumulation, and increases equality of opportunities for children (Suri et al., 2011). Social protection spending di-

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rectly reduces income poverty and inequality, increases long-run growth, and improves distributional outcomes through the impact on the welfare of children from disadvantaged families (Grosh et al., 2008). It is also very important that children's health and future productivity depend significantly on public investment in education and health care (Case et al., 2002).

A strand of research based on 2020 data showed the effectiveness of fiscal policies in constraining inequalities arising from the COVID-19 pandemic. Aspachs et al. (2020) confirmed that public transfers had been effective in offsetting a significant part of the enlargement in wage differentials in the early months of the corona-crisis. It was proved that the electronic social safety system, which had begun working with the onset of the epidemic, had protected the most vulnerable segments of the population, although many informal workers had fallen outside that electronic system (Balasubramanian et al., 2021).

The world has devised several approaches for raising the effectiveness of social programs in terms of their impact on poverty and inequality, as well as expanding coverage of the vulnerable groups while avoiding unproductive losses of public funds. According to Zouhar et al. (2021), the main challenges facing social protection systems in many countries since the beginning of the pandemic include: strengthening the targeted nature of social support programs; expanding the scope of such programs to all vulnerable individuals or households; securing the adequacy of state assistance benefits; adherence to the principle of cost-efficiency and avoidance of unjustified costs.

In the post-pandemic period, the importance of public investments in infrastructure and human capital has to grow as a driving force for increasing potential output, that contracted as a result of the pandemic. Economic theory has argued that public investment in infrastructure affects inclusive growth through several channels. First, in the short term, the fiscal multiplier boosts aggregate demand during the implementation stage of investment projects. Next, government investments facilitate long-term growth widening the operational capacity, boosting human capital accumulation, intensifying productivity returns and gains on private investments (IMF, 2015). In addition to these effects, public investment in schools and health facilities in underserved areas reduces inequalities in access to health and education services for people from different jurisdictions (Zouhar et al., 2021).

It was estimated that 1% of the GDP increase in public investment in advanced and emerging economies could potentially stimulate private investment by 10%, the GDP up by 2.7%, and contribute to the creation of 20-33 million workplaces (IMF, 2020a).

The corona-crisis has highlighted problems of access to communications technologies and showed inequality in terms of distance learning and remote work. Lustig et al. (2020) found that individuals and businesses with better technical means of communication had been better able to absorb the shocks associated with the practice of social distancing during the COVID-19. Under such conditions, investment in digital infrastructure should ensure fair access to the Internet and mitigate the gap in the availability of internet services between urban and rural areas, and between different types of households.

This means that in the post-COVID world, the priority areas of public investment should be more efficient and adjusted to new challenges **healthcare system**, modern **education**, extended **digital infrastructure,** and **environmental protection**. Such investments, according to the International Monetary Fund (2021a), should create conditions for sustainable economic growth and social integration.

The transformation of public functions in the post-pandemic period (the adoption of new obligations in the social sphere and the sectors of human capital accumulation) should be based on strengthening **tax systems** and improving their structures. In this context, Abdel-Kader and de Mooij (2020) rightly pointed out that local and international tax reforms are vital to accumulate the resources needed for improving people's access to basic services, enhancing social safety nets, and achieving sustainable development goals, especially as the economic recovery gains momentum.

At the same time, provisions related to the tax systems design sound quite reasonable; they suggest that taxes should not restrict economic growth and should minimize the negative impact on investment, savings, employment, and productivity. A consensus has emerged on the range of existing taxes and their structures, which should provide a compromise between the goals of economic growth and reducing inequality (Arnold et al., 2011).

Toporowski and Jump (2020) argued that the challenges facing public finance in most countries of the world will push governments to increase tax progressivity in the medium term and achieve a fair share of tax obligations for profitable corporations. In this context, the International Monetary Fund (2020c) recommends rising progressivity in personal income taxation, taxation of property, wealth, and capital gains, as well as introducing alterations to corporate taxation that will ensure businesses pay taxes in line with their profitability and make tax avoidance more difficult.

Summing up, theoretical literature, numerous applied research, and policy studies give insight into the processes of structural shifts of public finance across the globe and new fiscal policy challenges posed by the COVID-19 pandemic. However, public finance weaknesses and unresolved problems in emerging market economies with a narrow fiscal space remain poorly studied. Moreover, a holistic vision of the medium-term transformations of public revenue and expenditure in such an economy, of new fiscal policy goals and instruments in the post-COVID world is not proposed. Therefore, this study aims to reveal the main weaknesses of fiscal policy in Ukraine and to outline the prospects of public finance transformations under the impact of the COVID-19.

2. METHODOLOGY

For assessing the fiscal policy response to the pandemic, the standard indicators of fiscal policy analysis have been employed: 1) Cyclically-adjusted primary balance (CAPB), 2) Fiscal impulse. CAPB calculation is a multi-stage process that encompasses the following:

Cyclically-adjusted primary balance (CAPB) = Overall general government balance – interest payments on public debt + cyclical adjustments to general government revenue and expenditure with application of output gap and elasticity coefficients.

For the investigation, data on cyclically-adjusted primary balance for Ukraine and country groups have been derived from the International Monetary Fund database (IMF, 2021a).

Fiscal impulse is the difference in CAPBs of the current period and previous period; it shows whether fiscal policy is getting more expansionary/less contractionary (in case of positive sign) or less expansionary/more contractionary (in case of negative sign).

$$Fiscal\ impulse = -\left(CAPB_t - CAPB_{t-1}\right). \quad (1)$$

The negative value of the fiscal impulse indicates the period of fiscal consolidation, and the positive one is during the period of fiscal expansion.

Comparative analysis of the volumes and compositions of ***fiscal rescue packages*** in Ukraine, in different countries and country groups, form the basis for assessment of the quality of fiscal policy in Ukraine and its anti-crisis characteristics. Data on the fiscal rescue packages in Ukraine and other countries have been derived from the Statistical Appendix to Fiscal Monitor of the International Monetary Fund.

Given the strategic importance of the ***health care, education*** sectors, and public ***infrastructure***, a comparative cross-country analysis of ***public expenditure*** in these sectors has been undertaken. Data from Government Finance Statistics on public expenditure in Ukraine, in emerging market countries, and country averages have been used for this purpose. For assessing the adequacy of public expenditure on ***public order, safety, defense, and public debt service***, the official statistical data of Ukraine and averages for country groups (calculated by the IMF) have been compared.

Last, but not least, an extensive literature review on fiscal policy and government functions in different countries was carried out, which gives

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a deep insight into the processes of ***structural transformations in public finances*** throughout the world and new fiscal policy challenges caused by the pandemic.

Overall, assessing the imbalances in public finance of Ukraine and fiscal policy response to the pandemic against the international best practice, as well as summarizing the trends of public finance transformations under the impact of the COVID-19 provide evidence for ***policy advice formulation*** in Ukraine concerning prospective fiscal policy goals and instruments in the post-pandemic period.

3. RESULTS AND DISCUSSION

Based on the IMF statistical database "Fiscal Monitor", it was established that the fiscal rescue package in Ukraine in March 2021 was 4.3% of the GDP. The results of the comparative analysis suggest that this indicator lags by 1.5 times behind the average level in emerging market economies (6.7%) and by 6 times behind the level of advanced countries (27.7% of the GDP). The corresponding results are shown in Figure 1.

Figure 1 indicates that in Ukraine, additional spending and tax relief as part of the fiscal rescue packages amounted to 3.5% of the GDP, which was slightly lower than in emerging market economies (4.2% of the GDP). However, liquidity support measures in Ukraine were 0.8% of the GDP and they were many times lower than in emerging markets (2.5% of the GDP) and lagged by an order behind the average of advanced economies (11.3% of the GDP). Presumably, the dominant factors of such imbalances in Ukraine were the government's institutional weakness, distorted distribution of public financing across the state functions, limited scope for government private borrowings, and ineffective monetary policy.

Having employed the key indicators of fiscal analysis (cyclically-adjusted primary balance and fiscal impulse), it was found that the impact of the general government fiscal transactions on the level of aggregate demand in Ukraine was positive in 2020 and 2021. In addition, this situation contrasts sharply with the period 2014–2019, when fiscal policy narrowed aggregate demand.

Indicators of the Fiscal Monitor (IMF, 2021a) show that in 2020 the cyclically-adjusted primary balance (CAPB) of the general government sector in Ukraine was –1.8% of the GDP, and in 2021 it is projected at –1.2% of the GDP. This means that both last year and this year the impact of fiscal policy on aggregate demand was stimulating.

However, after the comparison of cyclically-adjusted primary balance (CAPB) in Ukraine with the relevant indicators in other countries (both advanced and emerging market economies), the insufficiently loose nature of fiscal policy in Ukraine was revealed. In particular, the Ukrainian CAPB at the level of –1.8% of the GDP in 2020 proved to be several times lower than the average CAPB in

Source: IMF (2021a).

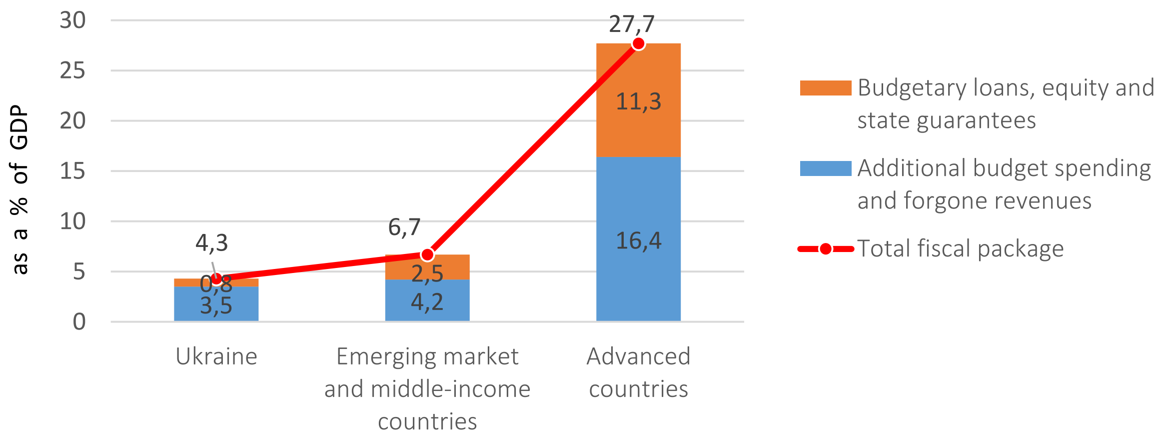

Figure 1. Fiscal rescue packages in Ukraine and country groups by main components as of March 2021

Source: IMF (2021a).

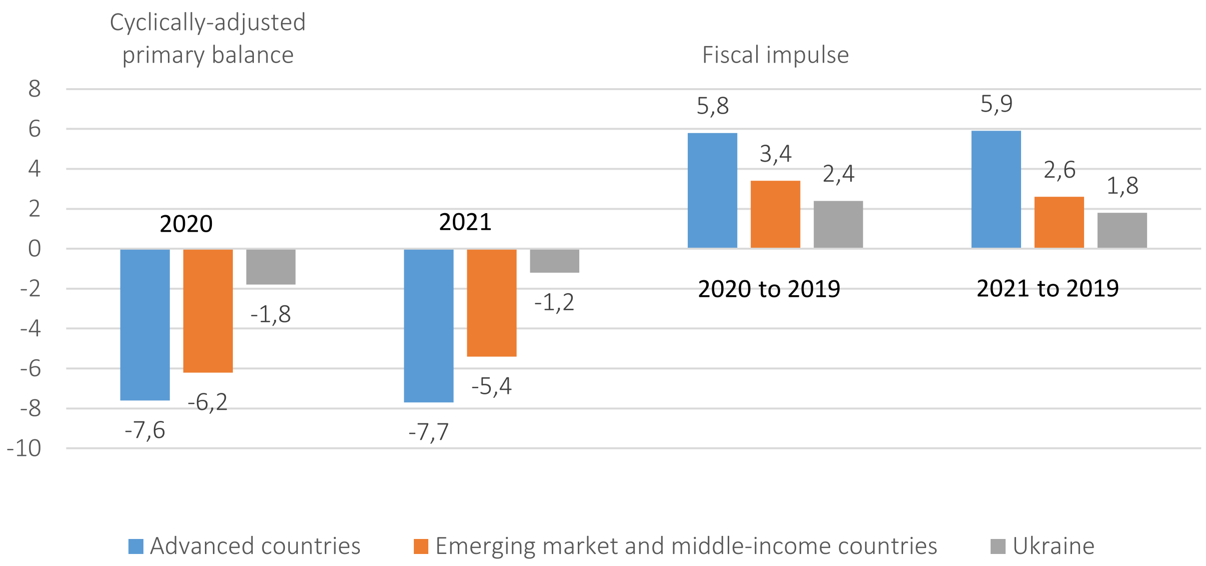

Figure 2. Cyclically-adjusted primary balances (CAPBs) and fiscal impulses in Ukraine and country groups as a % of the GDP

emerging market economies (–6.2% of the GDP) and the average CAPB in advanced countries (–7.6% of the GDP).

To identify the fiscal policy stance from the point of view of fiscal consolidation or fiscal expansion, the indicators of fiscal impulse for Ukraine and country groups were calculated and their comparative analysis was carried out. It was found that fiscal impulse in Ukraine was positive, both in 2020 and 2021, at 2.4% and 1.8% of the GDP compared to 2019. However, comparisons of the fiscal impulse in Ukraine with the averages in emerging market economies (3.4%) and advanced countries (5.8% of the GDP), evidence only the slight expansionary effects of fiscal policy in Ukraine. Fiscal impulse indicators in Ukraine and country groups are depicted in Figure 2.

Having established the standard composition of the fiscal rescue packages in advanced and emerging market countries as a benchmark, the analysis of the actual structure of fiscal rescue packages in Ukraine has been undertaken. It is found that Ukraine's structure is rather problematic and deviates significantly from the benchmark. To be specific, dominant roles in other countries played the following anti-crisis fiscal instruments: tax relief for vulnerable firms and households, wage subsidies, government-funded paid sick and family leave, introduction/extension of social assistance programs, increased funding for healthcare, and introduction of new programs to combat the pandemic, loan guarantees and soft loans to viable enterprises (especially small and medium-sized).

By contrast, in Ukraine *wage subsidies to employees, tax relief for vulnerable firms and households, loan guarantees to viable enterprises* were symbolic. In addition, *government-funded paid sick and family leave for childcare during the closure of schools and childcare centers* were not used in Ukraine at all. Moreover, the increase in health care funding, although amounting to UAH 47 billion, or 1% of the GDP in 2020, was clearly insufficient to protect the population from the pandemic and provide basic medical services to patients.

Thus, analysis of the composition of fiscal rescue packages suggests that in Ukraine, key fiscal support instruments have been used insufficiently, and the transition to active road construction has been premature. In the international context, the intensification of public investment in the second phase of the pandemic is justified only for countries with a broad fiscal space and only in the context of mass involvement of the unemployed in construction. In fact, Ukraine, having limited fiscal space, has managed to increase fund-

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Source: IMF (2021d).

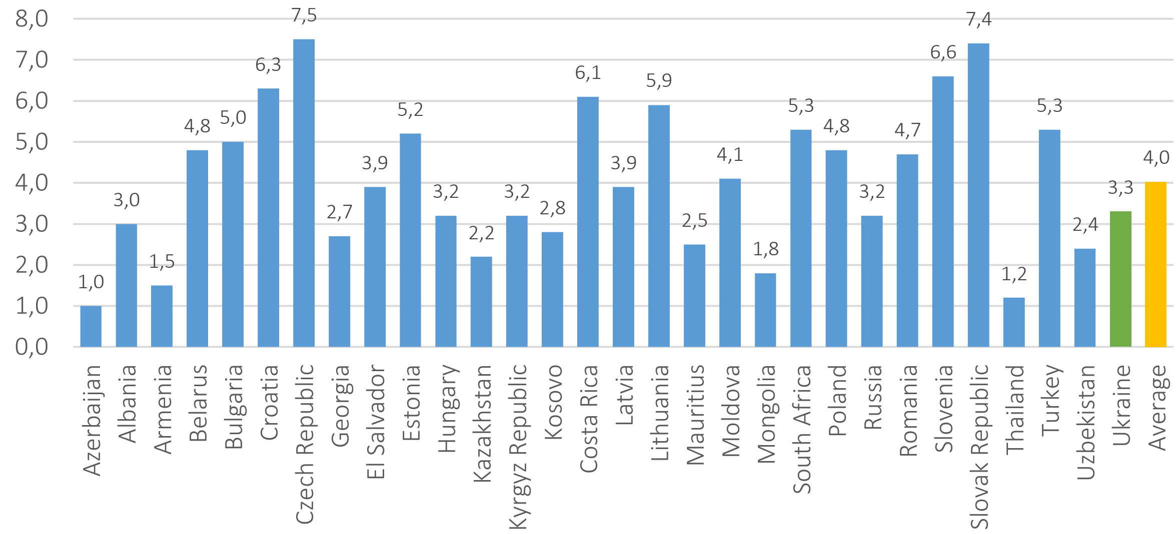

Figure 3. Public expenditure on health care in emerging market and post-socialist economies as a % of the GDP, 2017–2019 average

ing on road maintenance significantly (by UAH 65 billion in 2020), doubling the corresponding expenditures.

Literature review suggests that the challenges for post-COVID transformations in public finances justify the importance of expanding the social safety net, enhancing public health care systems, improving the quality of educational services, modernizing infrastructure.

To assess the adequacy of budgetary financing of human development in Ukraine, a comprehensive cross-country investigation was carried out on the basis of the Government Finance Statistics database. Data for the health care sector, education sector, and public investments have been collected and processed, using the standard techniques.

It is found that ***average expenditures on healthcare in Ukraine before the pandemic, 3.3% of the GDP, are significantly lower than average*** in both emerging market and advanced countries – ***4% and 6.4% of the GDP*** (Figures 3 and 4). In 2020–2021, health care financing increased in all countries, and therefore Ukraine lagged behind most

Source: IMF (2021d).

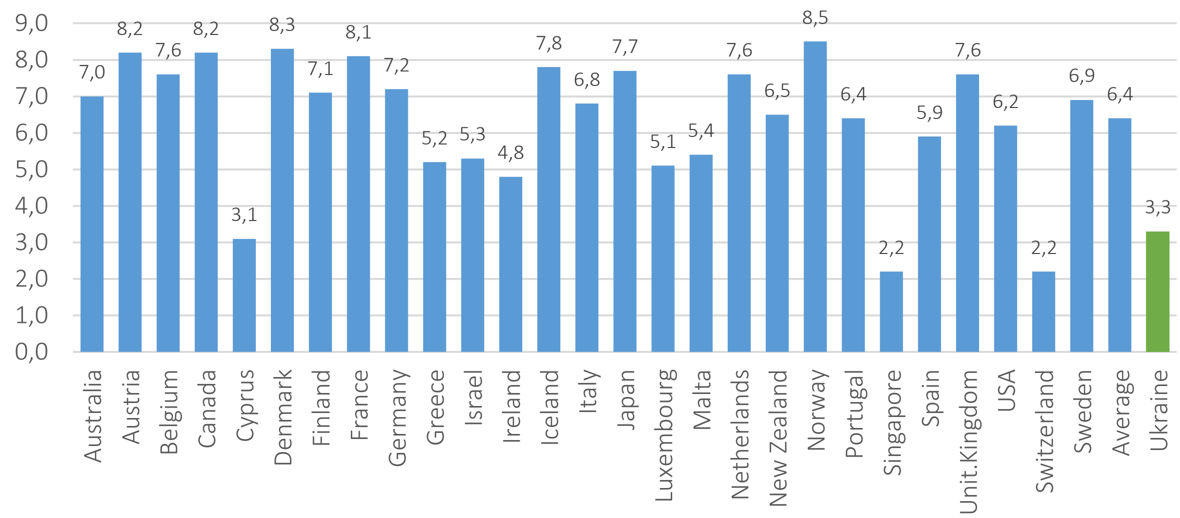

Figure 4. Public expenditure on health care in advanced economies and Ukraine as a % of the GDP, 2017–2019 average

countries in the world. Thus, this cross-country study reveals an insufficient level of financial provisions for the national health care sector, as compared to both advanced and emerging market countries.

Moving on to the education sector, it was found that in Ukraine, financing of education in the global context looks satisfactory. For instance, education financing at the level of 6% of the GDP in Ukraine exceeds the average in emerging market economies (4.5% of the GDP) and advanced countries (4.9% of the GDP). However, empirical data suggest a ***lack of financing of preschool education and basic secondary education in Ukraine***.

Assessing the adequacy of government capital investment, the indicators of general government expenditure on acquisition of fixed capital were derived (including capital construction and capital repairs) for Ukraine and country groups. In Ukraine, this indicator constituted 2.2% of the GDP in 2019 and 2.0% of the GDP in 2020. Among emerging market countries, Ukrainian figures proved to be very low, lagging more than by 1.5 times the average for this country group (3.4% of the GDP).

It should be noted that Government Finance Statistics data suggest that investments in non-financial assets of the general government sector in 2019 amounted to 5.5% of the GDP in Albania, 14% in Azerbaijan, 6.9% in Georgia, 5.5% in Kyrgyz Republic, 5% in Serbia, 4.6% each GDP in Uganda and Uzbekistan, which is much higher than the current level of Ukraine.

Thus, an extensive literature review on the prospects of public finance transformations in the post-COVID era and the analysis of current problems of the fiscal sector in Ukraine provides a basis for policy advice formulation over the medium term. In particular, it is proposed:

1) **Increasing the volume and improving the quality of health care services, providing equal access to them to all citizens.**

Until the end of the pandemic, the health care sector should receive ***emergency financing*** for providing new hospital beds for COVID-19 patients, involving additional medical staff and its training, purchasing necessary medicines, materials and drugs, and widespread vaccination.

In the future, priorities should focus on expanding the medical infrastructure and medical institutions, including the hiring of the necessary staff and providing reward systems for them to work in remote areas. It is also crucial to provide health fee waivers for the poorest citizens when providing primary and tertiary medical care in public institutions.

Source: IMF (2021d).

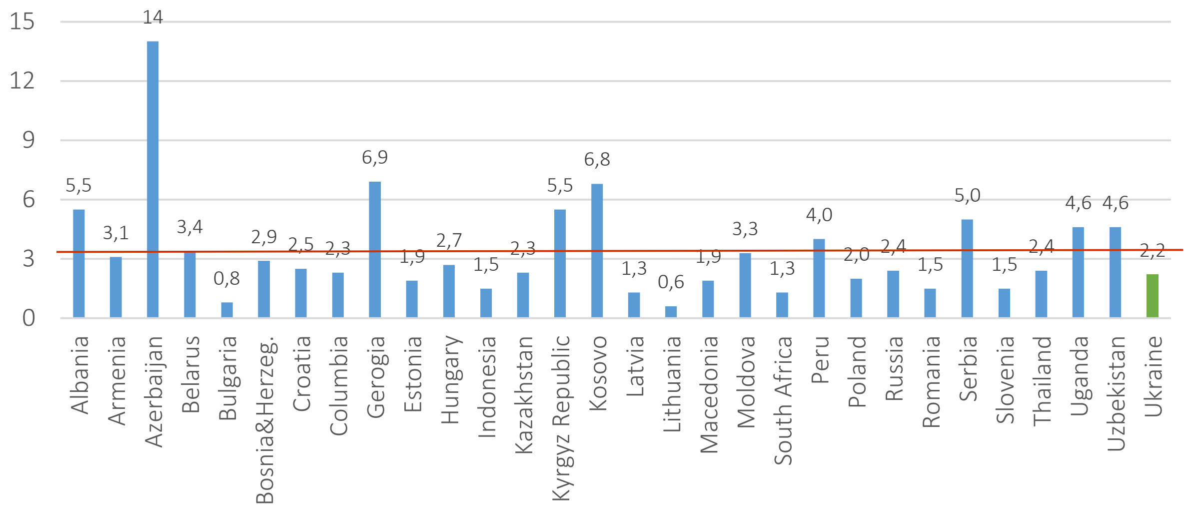

Figure 5. Public investments in Ukraine versus emerging market countries and countries average as a % of the GDP in 2019.

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2) **Improving the structure of education financing and responding to challenges of the pandemic.**

Adapting the educational process to social distancing during the pandemic requires additional emergency financing to the education sector: a) to support students' online education during quarantine restrictions; b) to provide methodological and technical support to teachers during the restructuring of the educational process.

The special role of the education sector in human capital accumulation, building the dynamic and inclusive economic model drives the need of targeting public policies at improving the quality of education, ensuring equal access to education, and adaptability to labor market patterns. In this regard, the following measures are important:

- expanding early childhood care and basic schooling for all;
- upgrading the infrastructure for secondary school, especially in remote and poorer areas, including access to the Internet;
- balancing government spending on higher education with consideration of its regressive nature;
- improving the infrastructure of the educational process and motivating teachers/tutors to be productive.

3) **Enhancing public investment in transport, digital and social infrastructure after overcoming the pandemic.**

Recent theoretical and empirical findings indicate that in the post-COVID world the priority areas for public investment should be an efficient and adaptive **health care system**, modern **education**, **digital infrastructure**, ramified **transport infrastructure**, and **environmental protection**. Public investment in these areas will connect people, increase economic productivity, enhance resilience to future climate changes and pandemics.

During and after the pandemic, overcoming inequalities in distance learning, remote working, and e-government services is critical. The main tool to overcome these inequalities is **investing in digital infrastructure**, which should provide fair access to the Internet and reduce the gap between upper- and low-income households, and between urban and rural areas.

Economic theory and practical experience suggest that effective public **investment in transport will** enhance production and international trade and expand access to public services, as well as improve the social mobility of the population in underserved areas. Therefore, considerable attention should be paid to road construction, especially in rural areas.

4) **Increasing importance and inclusiveness of the social protection system.**

Improving the effectiveness of social protection programs in the context of their impact on poverty and inequalities while avoiding unproductive public spending should include the following potentially beneficial tools time-tested by international practice:

- higher spending on the social safety net (SSN), increased adequacy of state assistance programs, and extension the scope of potential recipients via these programs;
- consolidation of available social assistance programs to avoid overlapping and provision of unjustified state support;
- introduction of the biometric identification system and a national social system (identifier) for better targeting by the government of the social protection programs;
- creating opportunities for involving informal workers and members of their families in specific social programs;
- triggering public work to address the unemployment problem and strengthening of a retraining/training component in social programs;
- devising multifunctional social programs that cover the needs in healthy nutrition, obtaining the necessary medical and educational services.

Comparing the main categories of budget expenditure in Ukraine and other countries build the evidence for rationalizing specific outlays as the offsetting measures for more significant public investment in infrastructure and human capital developments. The investigation suggests that these offsetting measures are expenditure cuts on **public order, security, and debt service**. Calculations, based on official data, show that the total expenditures on defense and security in Ukraine in 2020 amounted to 6.7% of the GDP, which is one of the highest in the world. According to Zouhar et al. (2021), average expenditures on these items in advanced countries in 2016–2018 were 3% of the GDP, in low-income countries – 3.7%, and in emerging market countries – 4.5% of the GDP. Low efficiency of public order, judicial and anti-corruption bodies in Ukraine should encourage the state to review the relevant budget expenditures (including the number of employees and their wage rates). On the other hand, Ukraine's objective needs in the development of the defense sector should be met by more substantial investments and current financing from Western partners, which have obligations to Ukraine in the context of the Budapest Memorandum signed by them.

Calculations based on "Fiscal Monitor" statistics show that **public debt service expenditures** in Ukraine at 3% of the GDP are 1.7 times higher than the average level in emerging markets (1.8%). In addition, this occurs though the public debt in Ukraine does not even reach the average level. To solve this problem, the NBU should stop pursuing the policy of serving the interests of financial capital, but take into account the triad of goals (price, financial stability, and economic growth), while formulating the monetary policy. The reorientation of the government from borrowings in foreign currencies on the external markets to those on the domestic market (which usually are cheaper by 2-2.5 times) also seems prudent.

An extensive literature survey related to the tax policy reforms in the post-COVID world allows deriving some conclusions for reforming tax policy in Ukraine:

- achieving the goals of redistribution and mobilization of the necessary budget revenues requires more progressivity of income taxes and using the potential of the real estate and inheritance taxes;
- having used the potential of these taxes, the possibility of introducing a wealth tax should be considered in the future, taking into account the ability to collect this tax by responsible institutions and bodies.

According to this study, tax policy instruments that comply with identified trends and challenges are the following:

e) to introduce a progressive scale for personal income tax;

f) to increase in the dividend tax rate;

g) to raise the inheritance tax and gift tax rates for the relatives of III and more degrees of kinship;

h) to establish the rates of real estate taxation at the level of 0.5-2.5 minimum wages;

i) to expand the transport tax base and increase its annual payment to UAH 35,000;

j) to increase the annual payment for the taxation of luxury real estate and expand their base.

Obtained results could be supplemented by conducting surveys (interviews) aimed at finding out the desired directions to expand the social safety net, improve the quality of educational and health care services, as well as ways to finance the additional obligations of the state. It is very important to get an objective picture of most citizens' preferences to modification of the state expenditure policy and increasing taxes as a mirror image. Such surveys could legitimize the evidence from empirical research and should create a basis for legislative changes in state social policy, restructuring healthcare and education, and transforming the tax system to accompany the urgent changes.

An important field for further studies is also the assessment of fiscal policy potential in responding to the pandemic, taking into account the monetary policy effects. Economic theory predicts that

http://dx.doi.org/10.21511/pmf.10(1).2021.06

the narrow fiscal space and limited sources of financing in poor countries reduce the effect of fiscal policy (compared to advanced countries) in responding to shock factors. However, the practical experience of different countries in 2020–2021 showed that massive liquidity injections and financial assets purchases by central banks had fueled the fiscal expansions in advanced countries and some emerging market countries. On the opposite side, in Ukraine, the National Bank has pursued a rather tight monetary policy since the beginning of the COVID-19 crisis and categorically rejected the possibility of "quantitative easing" policy, which artificially weakened the response of fiscal policy to the crisis. In the case of an alternative scenario, if monetary policy were stimulative and accommodative to fiscal policy, the fiscal rescue package in Ukraine could be significantly larger. The modeling and estimation of monetary-fiscal interconnections with implications for shaping anti-crisis policy response are urgently needed for Ukraine and other emerging market economies.

CONCLUSION

Ukraine should consider the current global trends of anti-crisis fiscal policy, the dominant ways of public finance transformations, as well as current gaps and inconsistencies of national fiscal policy to stop the devastating socio-demographic processes, to pull through the challenges of the COVID-19 pandemic, and to increase the national competitiveness in the world economy.

Computed indicators of fiscal impulse in Ukraine and various groups of countries evidence the slight expansionary nature of fiscal policy in Ukraine. For instance, the fiscal impulse in Ukraine in 2020–2021 was 2.4% and 1.8% of the GDP compared to 2019. The comparisons of the fiscal impulse in Ukraine with the averages in emerging market economies (3.4 and 2.6% of the GDP) and advanced countries (5.8 and 5.9% of the GDP) allows concluding the insignificant stimulus effects of fiscal policy in the country. Moreover, in Ukraine, the fiscal policy response to the pandemic (rescue package) amounts to 4.3% of the GDP, which is 1.5 times behind the average level in emerging market countries and 6 times behind the advanced countries.

The analysis of the structure of fiscal rescue packages showed that in Ukraine, concerning the best international practice, wage subsidies, tax relief for vulnerable firms and households, loan guarantees had been symbolic, and government-funded paid sick and family leave for childcare during the closure of schools and childcare centers had not been used at all. On the other hand, the active road construction amid the pandemic was premature and poorly justified.

Recent economic literature suggests that the main challenges for public finances under the impact of the pandemic are expanding the social safety net, strengthening public health care systems, improving the quality of education, expanding and modernizing infrastructure. Findings indicate an insufficient level of financial support for health care in Ukraine, compared with both emerging market and advanced economies. The average expenditures on health care in Ukraine before the pandemic was 3.3% of the GDP and it is significantly lower than the average of these groups of countries – 4% and 6.4% of the GDP, respectively. In addition, it is established that the current level of public capital investment in Ukraine (2% of the GDP) is unreasonably low and lags by more than 1.5 times behind the average level in emerging market countries.

Assessment of the current imbalances and inconsistencies of fiscal policy in Ukraine, analysis of fiscal policy response to the pandemic in a global context, and summarizing the prospects of public finance transformations in the post-COVID era, allow formulating the fiscal policy advice for Ukraine. Policy proposals are related to increasing financing and the quality of health care services, improving the structure of financing of education, enhancing public investment in infrastructure, strengthening the importance and inclusiveness of the social protection system, rationalization of non-priority expenditure and higher taxation of income, wealth and real estates. The proposed fiscal policy toolkit can be used by scientists and practitioners for developing the Economic Strategy of Ukraine and designing the Public Finance Management Strategy for 2022–2025.

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