

CROWD ECONOMY AS A SOCIAL WELFARE CATALYST: OPPORTUNITIES AND CHALLENGES

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Abstract. In the context of a post-industrial economy and global socio-economic challenges, the crowd economy plays a crucial role in shaping new approaches to social welfare. The relevance of this topic lies in the need to understand how digital technologies and collaborative initiatives can contribute to a fairer distribution of resources and improve the quality of life of disadvantaged groups. The *subject* of the study is the crowd economy and its various forms, including crowdfunding, crowdsourcing, collaborative consumption, open innovation, etc., with a focus on their impact on social welfare and living standards in society. The aim is to analyse the mechanisms and forms of the crowd economy and to assess its impact on social welfare, taking into account the opportunities and challenges it presents to contemporary society. *Methodology.* The research takes an integrated approach, incorporating theories of political economy and social innovation. The methodological framework includes a review of academic literature and case studies to synthesise researchers' findings on different forms of crowd economy. The types of crowd economy studied include popular forms such as crowdfunding, crowdinvesting, crowdsourcing, crowdstaffing, resource sharing, open innovation and decentralised production, among others. *Main reasons.* Empirical evidence confirms that the crowd economy offers new opportunities to improve the effectiveness of social initiatives, ensure the availability and rational use of resources, stimulate citizen participation and volunteering, and improve living conditions. However, it also poses regulatory challenges and raises concerns about participants' rights, unequal access to digital platforms and limited resources. A balanced approach is therefore essential to integrate crowd economy practices into the broader context of socio-economic development. *Conclusion.* The crowd economy is driving contemporary economic development and offers an alternative way to address economic and social inequality. However, it is crucial to take pragmatic steps to create national policies and legislative programmes that encourage and protect its participants. By highlighting the potential of the crowd sector to improve social welfare, particularly in countries with unstable economies, the study underscores the importance of a holistic approach that includes robust legal regulation and public awareness.

Key words: crowd economy, social protection, social integration, crowdfunding, crowdinvestment, social inequality, open innovation, decentralised production networks.

JEL Classification: L31, R11, G23, D63, H81

1. Introduction

The ongoing evolution of economic models in the context of globalisation and digital transformation, as well as the unforeseen challenges of the coronavirus pandemic and military operations in Ukraine, have increased attention to the study of the modern phenomenon of the crowd economy. This economic model represents a new way of organising

business activities by combining collective financing, resource pooling, cooperation and distributed production. As a result, the crowd economy can be used not only as a means of adapting and rebuilding the economy, but also as an immediate response to socio-economic needs in times of crisis. Ukraine's experience provides a striking example of economic resilience under extreme conditions,

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when the conventional mechanisms of the market economy fail.

The study of crowd economy mechanisms in Ukraine aims to develop effective social support strategies and identify new ways to ensure social welfare. Ukrainians show a preference for collective forms of interaction, as seen in the financing of military needs (Redko, Moskalenko & Vdodovych, 2022) and the provision of social assistance to affected citizens. Therefore, adaptation of the crowd economy to the Ukrainian context is necessary for local economic development. However, when examining the potential of the crowd economy as a driver of social welfare, it is important to assess both the potential for inclusive growth and the risks that may threaten social stability and create new forms of inequality.

The study used various scientific approaches, such as political and economic analysis and synthesis, to investigate the mechanics of the crowd economy. In addition, inductive and deductive methods were used to derive patterns, generalisations and conclusions.

2. Socio-Economic Challenges of Ukraine's War Economy

Military conflicts have a significant and lasting impact on social well-being, as they affect various aspects of social life:

- 1) Economic instability (Collier et al., 2003) is characterised by the destruction of infrastructure and industrial production, resulting in job losses and a reduction in overall economic activity, requiring significant resources and a prolonged recovery period.
- 2) The health of the population has declined, as evidenced by rising levels of injuries, chronic diseases and mental disorders, and reduced access to health services (World Health Organization, 2022).
- 3) The closure of schools and higher education institutions has led to a loss of educational opportunities. The forced displacement of the population has complicated access to education, as noted by UNICEF (2021). The transition of education to a remote mode has led to an imbalance in students' understanding and learning of educational material.
- 4) According to Stewart (2000), the result of military conflict is an escalation of social inequality, a deterioration in inter-group relations and increased social exclusion of certain groups within the population.
- 5) The imposition of restrictions on fundamental freedoms and rights, as well as providing opportunities for misconduct by the authorities, has been highlighted by Human Rights Watch (2022).
- 6) Migration and population displacement is a significant issue, with many people experiencing internal displacement or becoming refugees. These

individuals often face difficulties in accessing both the labour market and social services in their place of residence (UNHCR, 2021).

7) Trust in state institutions and the rule of law declines when they fail to provide effectively for the security and basic needs of citizens (Uslaner, 2002).

These interdependent aspects are mutually reinforcing, resulting in a far-reaching socio-economic crisis that may last for generations. Inclusivity, equity and sustainability must be the underlying principles of responses to armed conflict and social welfare, taking into account all related dimensions.

In Ukraine's current context, the importance of the crowd economy in maintaining social welfare is particularly relevant in the context of martial law, which was introduced in the country on 24 February 2022. In the context of military operations, state control and emergency measures escalate, potentially affecting selected political and civil liberties and contributing to increased state centralisation and a more dominant executive. Suspending electoral processes and redirecting budgetary resources to meet military and defence needs may result in negative trends in existing socio-economic inequalities. It is therefore important to consider the potential consequences of such changes. Concentrating resources on defence needs and health care for military personnel reduces investment in some economic and social programmes, education and other key sectors that are crucial for maintaining social equality and well-being. In line with this, the structural changes in Ukraine's state budget expenditure are illustrated by assessing the distribution of expenditure before and during the conflict (see Table 1).

Table 1 shows that since the start of the war, the Ukrainian state budget has prioritised funding for defence, public order, security and health care. In contrast, spending on education, environmental protection and restoration, spiritual and physical development, housing and communal services, maintaining the civil service and financing state development programmes and economic activity has declined. The government is currently spending significantly more on housing and utilities than it did before the war. This is needed to repair damaged utility infrastructure and build new housing for internally displaced people. To account for the unpredictability and uncertainty, the government is cautiously forecasting a budget of 3.3 trillion UAH for 2024. Almost 60% of this sum will be concentrated in the Ministry of Defence, the Ministry of the Interior and the Ministry of Social Policy. Social security spending will increase by 22 billion UAH, of which 12 billion UAH will be spent on benefits and housing subsidies, 2.6 billion UAH on social protection of citizens in difficult circum-

Table 1
Planned and actual indicators of the distribution of expenditures
of the state budget of Ukraine for 2021–2024 by functional classification

	Actual indicators and expenditures of the State Budget in 2021	Planned expenditures and indicators for 2022 until 24 February 2022	Actual indicators and expenditures of the State Budget in 2022	Planned expenditures and indicators for 2023	Planned expenditures and indicators for 2024
Real GDP growth rate, % year-on-year	3,4	3,8	-30,4	3,2*	4,6*
Total subsistence minimum per person as of 1 January of the respective year in UAH ¹	2189	2393	2393	2589	2920
Minimum wage, UAH	6000	6500	6500	6700	7100
Total costs, billion UAH	1490,3	1465,7	2705,4	3 742,8	3 350,0
National security and defence, billion UAH	127,5	133,5	1142,9	1808,2	1183
Public order, security and justice, billion UAH	174,4	174,2	443,3	484,4	485
Healthcare, billion UAH	170,5	190	184,2	184,1	201
Environmental protection, billion UAH	8,2	8,1	4,7	6,1	10
Social protection and social security, billion UAH	339,3	320,7	426	455,7	477
Education, billion UAH	63,8	70,1	58,5	70,2	69
Housing and utilities, billion UAH	0,16	0,17	0,5	8,6	10
Spiritual and physical development, billion UAH	16	16,5	11,1	12,4	18
Economic activity, billion UAH	181	115,2	95,4	169,2	178
General government functions, billion UAH	51	231,6	44,1	61,4	303
Public debt service, billion UAH	155,7	181,4	157,9	275,9	422

* According to the forecasts of the National Bank of Ukraine / Ministry of Economy of Ukraine

Source: Compiled by the authors on the basis of data from the Ministry of Finance of Ukraine (2023), the Ministry of Social Policy of Ukraine, the web portal of the budget for citizens and the National Bank of Ukraine (2023)

stances, another 2.6 billion UAH on social protection of people with disabilities, and 1.1 billion UAH on the new programme "Development of the Social Services System". Most public sector agencies will receive increased funding to support new developments in the reform and compensation programmes. As a result, the Ukrainian government has decided to forgo road infrastructure projects and instead rely on international support from financial institutions and foreign governments. This decision is underpinned by the almost 1.8 trillion UAH projected to be raised through external borrowing to finance expenditure (Ministry of Finance of Ukraine, 2023).

As of October 2023, Ukraine's economic activity is showing signs of recovery, although unemployment is declining slowly as challenges in finding skilled labour persist. Meanwhile, labour income is predominantly the only means of ensuring the quality of life and well-being of the population. Household payments such as pensions, social benefits and military payments remain the main source of income

for many households. According to their own assessment, many households describe their financial situation as difficult (National Bank of Ukraine, 2023). According to a survey conducted in early September 2023, around 60% of respondents said their economic situation had significantly or slightly worsened over the past six months, while 35% said it had remained unchanged and 5% said it had improved. Sociological Group Rating's 2023 report shows that Ukrainian households are increasingly optimistic about their economic future in the coming year. The data show that 29% of respondents expect their situation to improve, while 32% expect it to get worse. In addition, 26% are confident about the stability of their situation, while only 13% say they have difficulty in predicting their economic situation. The actual changes in the situation in terms of the use of real household income during the pre-war and war periods are shown in Figure 1.

An examination of the data presented in Figure 1 reveals a sharp increase in social inequality in

¹ It is worth noting that Ukrainian social policy aims to gradually increase the minimum living wage for the population each year. The general subsistence minimum was 2294 UAH from 01.07.2021, 2393 UAH from 1.12.2021, 2508 UAH from 01.07.2022 and 2589 UAH from 1.12.2022. This amount was not changed in 2023 despite the increase in inflation. The Ministry of Social Policy of Ukraine provides two indicators for measuring the subsistence minimum: the nominal subsistence minimum, which is used by the public sector to calculate social standards and guarantees, and the actual subsistence minimum, which is calculated on the basis of average prices of basic goods and services, as well as tariffs for housing and communal services. In the pre-war period, the actual subsistence minimum exceeded the nominal subsistence minimum by almost 1.91 times.

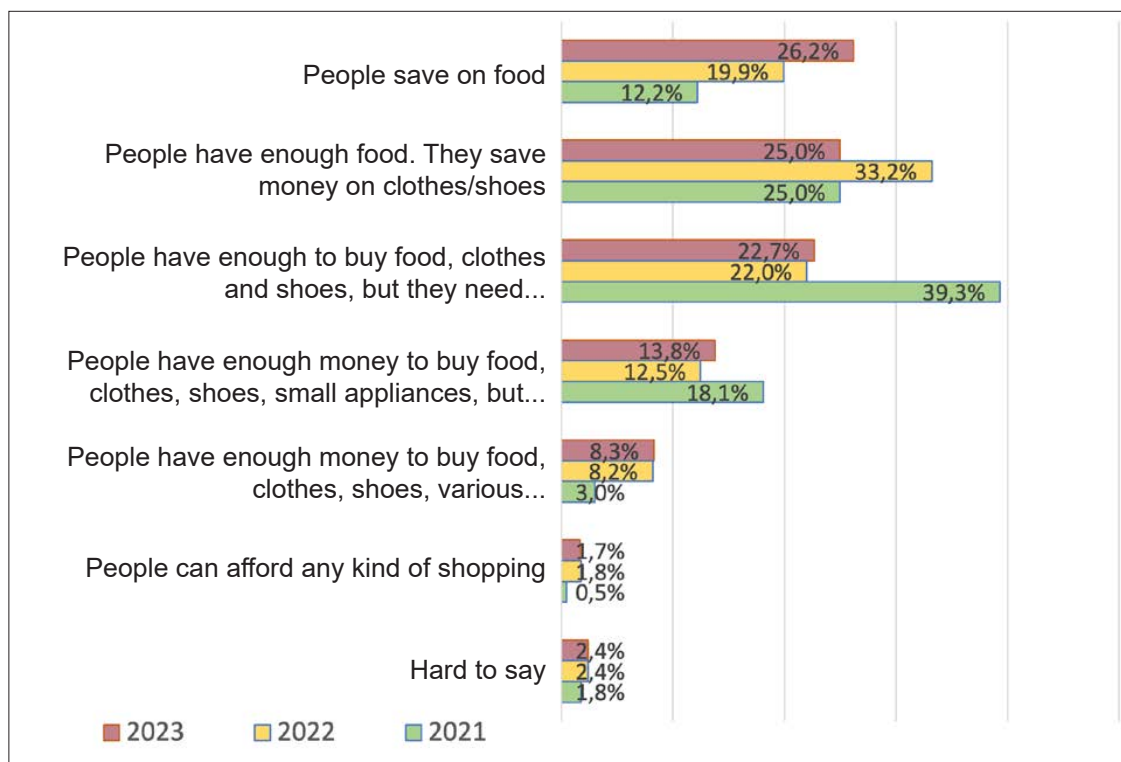


Figure 1. Data on households' self-assessment of their financial situation in the Q3 2021–2023

Source: depicted by the authors according to the data of the sociological group Rating (SG Rating, 2023)

Ukraine in the midst of the Ukrainian-Russian conflict. The significant increase in the number of people who save on food, which has almost doubled, and the threefold increase in the share of the population that is rich, indicate an increase in the polarisation of society. These trends are most likely to be explained by the unequal redistribution of national income in favour of the rich, especially in a situation where significant amounts of global financial aid are unevenly distributed among different segments of the population. A significant proportion of the middle class, traditionally seen as a pillar of societal stability, is experiencing impoverishment, which in turn could create additional economic and social tensions in the country. According to the World Bank, the year-long conflict in Ukraine has caused the poverty rate to soar from 5.5% to 24%. Projections show that this figure could rise to 58% by the end of 2023, and if the war continues beyond that date, poverty levels could rise to as high as 90% (World Bank, 2023).

Therefore, in the context of the Ukraine-Russia conflict, the welfare of the population is affected by the risks associated with the uneven recovery of economic sectors, structural problems in the labour market and unequal redistribution of national income. Such risks could increase social inequality, as certain demographic groups may be better able to adapt to changes while others remain vulnerable.

In this environment, ensuring the stability of income from work and state payments is therefore crucial to securing the basic necessities of life. Maintaining and strengthening social support, especially for the most vulnerable, is essential to mitigate the adverse effects of the economic and social obstacles associated with the ongoing conflict and its monetary aftermath.

For example, statistics suggest that Ukrainian businesses have faced significant disruptions to their economic activity, which has led to an increase in inequality. This is largely due to significant internal (4.9 million internally displaced persons (There are 4.9 million individuals..., 2023)) and external (6.34 million migrants (Operational Data Portal, 2023)) population movements, damage to infrastructure and a decline in industrial production. International financial assistance has been instrumental in supporting Ukraine, with concessional loans and non-repayable grants amounting to 65 billion USD over the course of the war (How much non-repayable assistance..., 2023). In addition, fundraising and crowdfunding platforms have emerged as powerful tools for generating resources for humanitarian aid, supporting internally displaced people, and financing small and medium-sized enterprises. In general, Ukraine has national crowdfunding platforms such as Spilnocosht and StartEra, as well as local platforms such as My City, which operates in Odesa,

Kharkiv and Dnipro. International platforms such as KickStarter, GoFundMe and JustGiving etc. are also used in Ukraine.

It is not possible to calculate the exact amount of aid received by Ukraine due to the large number of public and private projects and individual initiatives taking place at the same time, which are often not recorded in a specific accounting system. The variety of different types of assistance makes it difficult to provide accurate statistics, but it does highlight the significant international solidarity and support that Ukraine is receiving and implementing on its own during the period of martial law. According to recent reports from the National Bank of Ukraine (2023), two special accounts were established in 2022 to receive funds from various donors. The first account, for defence purposes, was opened on 24.02.2022, while the second, for humanitarian purposes, was opened on 01.03.2022. Throughout the armed conflict, citizens and institutions from Ukraine, the United States, the United Kingdom, Norway, Sweden, Finland, Switzerland, Germany, Poland and other countries have raised more than 30 billion UAH (in national currency equivalent) for defence and almost 1 billion UAH for humanitarian needs, including transfers from the governments of some of these countries. Launched by the President of Ukraine in May 2022, the United24 fundraising project has raised 488,709,154 USD (as of 02/11/2023) at the National Bank of Ukraine (2023) exchange rate. Private initiatives are regularly implemented on various scales, including charitable foundations such as Ukrainian Philanthropic Marketplace, Tabletochki, Plast, Tvoia Opora and KSE Foundation (Petrushko & Davydenko, 2022). These initiatives aim to support the defence forces, internally displaced persons (IDPs) affected by the hostilities, humanitarian aid, sick children and animals. It is difficult to estimate the scale of the contributions that can be made by NGOs (People's Project, Army SOS), banks, companies, voluntary organisations, actors, singers and citizens by opening special demand accounts that can be recharged using their own bank cards. It is difficult to estimate the size of the contributions.

According to the Gradus research company (2023), Ukraine has seen a twofold increase in the number of motivated individuals who have joined voluntary groups, defence initiatives and supported the army. The increase in the number of active volunteers is mainly attributed to people who had previously expressed an interest in participating. In July 2022, 36% of respondents fell into this category, but by July 2023 this figure had fallen to 26%, highlighting their potential to join the community of helpers. The number of citizens involved in charitable activities has doubled, rising from 22% in July 2022 to 43% in

July 2023. Their willingness to help, which extends to donations, volunteering and charity, is not limited to a specific organisation, functional area or final beneficiary. The active use of various crowd economy models in times of crisis shows the intention to meet people's urgent needs and help them in situations where they have lost their main source of income, as well as to create a basis for revitalising economic activity, in particular by supporting local initiatives and entrepreneurs offering inventive solutions in areas such as agriculture, education, health, etc.

However, rising socio-economic inequality has become a serious challenge as the consequences of the hostilities have affected different regions of the country and social groups unequally. The crowd sector can play an important role in reducing inequality and improving living standards, particularly in the most vulnerable communities.

3. Opportunities of the Crowdsourcing Economy for Social Welfare

In times of crisis and martial law, the crowd economy can become an important tool to support the social well-being of the population, with the potential to mobilise resources and support sustainable community development. It is important to review the different types of crowd economy that exist in order to fully understand their potential.

Crowdfunding involves raising funds from a large number of people, typically through online platforms, to finance a variety of projects and initiatives. This model can be used in times of peace as well as in times of crisis or war to raise funds for infrastructure restoration and development, business start-up and expansion, medical aid, and support for populations and internally displaced persons (IDPs). It can also be used to support civic journalism, humanitarian aid and many other causes. Crowdfunding platforms allow individuals and small businesses to raise funds from a large number of small investors, reducing their risk and creating employment opportunities. Compared to traditional funding methods, crowdfunding is often less complex and more cost-effective (Redko et al., 2022), while also providing a way for businesses to experiment with untested ideas, concepts and approaches that may have significant future commercial benefits. However, it is crucial to recognise that the triumph of crowdfunding schemes is heavily dependent on proper regulation and the development of the platforms offering these services, as well as the financial literacy of the population.

This article focuses on Social Crowdfunding, a form of crowdfunding that raises funds for socially important initiatives such as education, healthcare and social support for veterans. The tool promotes

direct public involvement in tackling important societal problems, thereby expanding opportunities for civic participation and shared responsibility. As well as funding vital initiatives, social crowdfunding helps to foster a more cohesive and resilient society where individuals play an active role in tackling global issues. This is particularly important when it comes to tackling poverty and supporting the growth of the middle class, as social crowdfunding generates funds to support projects that promote equal opportunities, social inclusion, education and healthcare. These are fundamental elements of a stable and prosperous society.

Crowdfunding involves citizens investing in start-ups and small businesses in exchange for "benefits", gifts, rewards or a share of the profits, which can stimulate economic growth, particularly in situations of economic recovery during and after a crisis. Crowdfunding promotes innovation, entrepreneurship and job creation, which in turn increases employment and prosperity in society. Crowdfunding plays an important role in channeling untapped small-scale private capital and resources into economically viable and socially relevant projects. This in turn can help to reduce social inequalities while promoting sustainable development.

Crowdsourcing involves the collection of knowledge, ideas, skills or resources from a large audience, primarily through online platforms. Its use in times of crisis fosters collaboration among citizens who contribute to solving societal problems, such as finding innovative solutions to emergency situations, supporting national security and promoting democratic processes. Activating the civil society sector by strengthening social solidarity and responsibility is an effective way to enable citizens to participate directly in solving global problems. This approach can increase engagement and contribute to an overall improvement in well-being.

Data crowdsourcing, i.e., the collection and analysis of data from multiple sources, can be useful for monitoring crisis situations, planning evacuations, analysing disseminated information and responding to humanitarian needs. This model of participatory economics allows for the rapid accumulation of significant amounts of data to facilitate the effective distribution of resources, the identification of areas for improvement and the provision of assistance to marginalised communities, particularly in the aftermath of natural disasters or armed conflict. This improves the understanding of community needs and the effectiveness of humanitarian aid, which has a direct impact on improving people's well-being and reducing social inequalities.

Crowdstaffing, as a form of crowdsourcing, expands job opportunities and income for a wider range of people, including remote workers, freelancers and

those with flexible schedules. At the same time, businesses can access skilled and talented workers, optimising staffing costs by hiring on demand, leading to increased competitiveness, supplemental income and overall well-being. From a societal perspective, crowdsourcing can contribute to economic growth by bringing more people into the labour market and providing businesses with more flexible options for attracting talent.

Microtasking is a phenomenon that typically accompanies crowdstaffing. It refers to small tasks that are easy to complete and can be done independently. These tasks are often distributed through online work platforms. Unlike crowdsourcing, microtasks can be completed quickly and efficiently. Such flexible work provides an income opportunity for different groups, including freelancers, people with disabilities, who often live on small social benefits and pensions, to work full-time. It also serves as an additional source of income for a wide range of service providers. Microtasking enables greater engagement in work by providing individuals with greater flexibility and access to additional financial resources. This approach can play a crucial role in supporting and sustaining the middle class, especially in times of economic instability. By enabling people to supplement their basic income, microtasking offers the opportunity to improve their overall standard of living.

The sharing economy promotes the sharing of resources, such as housing, transport, tools, etc. This can lead to cost savings, as well as addressing the displacement of citizens in wartime by providing temporary housing or transport for those in need. In addition, the needs for temporarily needed goods can be met.

This form of crowd economy also helps to reduce regular expenses for individuals. In a decentralised way, it strengthens their financial stability, which is crucial for the middle class in times of crisis. Sharing resources also creates a sense of community and cooperation, which plays an important role in social support and mutual aid.

Open innovation is a method of soliciting and implementing innovative ideas from the general public that facilitates the rapid identification and implementation of new technologies and solutions that can address specific challenges in times of war. Adopting an innovation-friendly approach can strengthen society's influence on social and economic development, enable rapid adaptation to changing circumstances and unleash the imagination of a wide range of people. Open innovation can foster entrepreneurial expansion while contributing to economic recovery, thereby promoting the stability and advancement of the middle class, which is typically the fundamental driver of financial development.

Decentralised production networks, a form of the crowd economy, use 3D printing and other production methods to quickly manufacture essential goods on site. This can be crucial in situations where supply chains are disrupted. This collaborative approach not only provides a quick response to immediate needs, but also reduces dependence on large production centres, which benefits local economies. Decentralised production can play an important role in creating jobs and supporting the middle class, particularly in regions affected by economic transition or geopolitical conflict. It also makes economies more flexible and adaptable to changing conditions, contributing to their resilience.

Cooperation for information dissemination involves the public in disseminating reliable information, combating fake news and upholding the foundations of a democratic society, in order to fight the so-called "information war" and to boost morale, which helps to build trust and coherence within society around shared goals and values (as a basis for stability and prosperity). It also aims to raise citizens' awareness of important issues such as health, security and the economy, so that they can make informed and reasoned decisions. Sharing information can increase the need for citizens to hold government institutions to account by exposing wrongdoing and corruption. It can also help develop media literacy and critical thinking skills, which are essential components of an active and educated middle class that can influence political and social processes to improve lives.

Trust and transparency are critical to the success of the crowd economy in all its forms. In times of crisis and martial law, they become even more important as they enhance social cooperation, promote efficient use of resources and increase community resilience. However, the use of such models of economic activity can trigger various risks and threats that could negate their beneficial effects.

4. Crowd Economy Challenges for Social Wellbeing

According to modern economic theory and practice, the crowd economy has emerged as a response to the need for a more efficient allocation of free resources and participation of the general population in economic activity. This economic model contributes to social welfare by providing new perspectives for entrepreneurs, investors, consumers and professionals. Nevertheless, there are several challenges to the growth of the crowdsourced economy that could negatively affect the social welfare of different groups of the population. Therefore, consider these obstacles carefully.

Crowdfunding as an innovative financing mechanism has some advantages, but it also faces challenges and problems that can negatively affect different stakeholders in the process, including project initiators, investors and consumers. The lack of regulation can lead to potential investment losses, fraudulent activities and manipulation within the financial sector. These problems can arise due to financial abuse, non-repayment of funds, challenges in assessing project-related risks, and intellectual property infringement (Belleflamme, Lambert, & Schwiendbacher, 2012). In addition, crowdfunding may not be equally accessible in societies with existing inequalities, widening the gap between the wealthy and the less well-off. Both changing trends and the popularity of certain over-funded crowdfunding projects can be detrimental to existing investors and ignore genuinely important social initiatives.

Social crowdfunding typically relies on the altruistic motives and emotional state of investors, who are often middle class and, like the organisers, may develop unrealistic expectations about the effectiveness of the supported project. As a result, these investors may eventually become disillusioned with the results (Belleflamme et al., 2012). This scenario may lead some donors dissatisfied with social initiatives to consider alternative commercial ventures, while a social project that has been launched may require extended support. Social initiatives require careful planning and transparency, as well as the setting of achievable goals and milestones to maximise their impact on the well-being of society.

In crowdinvesting, similar to traditional investments, there is a risk of capital convergence towards highly successful projects and the possibility of losses in the face of uncertainty and unpredictable conditions for funding start-ups, new ventures and investment returns (Chen, Miao, & Wang, 2010). Moreover, during prolonged economic crises, the middle class may show disinterest in investment opportunities, use their savings, and lack sufficient knowledge of digital platforms (Brennitz & Noonan, 2020).

Crowdsourcing and data crowdsourcing in the context of the military crisis economy may be focused on solving urgent (military) problems, which may limit the scope of this form of crowd economy's contribution to other areas of public life. The outcomes of such collaborative ventures may also raise concerns if they involve non-professionals. There is a risk of using data with a large variation in samples or with insufficient professional evaluation of the data. Furthermore, such employment may change the set of skills and hinder the creation of stable jobs that are fundamental to the formation of a middle class (Malone, Laubacher, & Dellarocas, 2009). The concentration of profits in the hands of

a few companies resulting from such activities can exacerbate socio-economic inequality, which in turn can hinder the creation of a middle class (Felstiner, 2011). In order to mitigate these risks, it is crucial to implement data protection measures and rules and regulations in the gig economy, to protect workers' rights, and to involve governmental and non-governmental organisations in creating an environment that enables ethical data collection and its use for social good.

Crowdstaffing and misrotasking provide flexible and informal employment options that increase the likelihood of worker exploitation and lack of social protection, increase worker isolation, and hinder efforts to build collective action to protect their rights (Brawley & Pury, 2016). Crowdstaffing and microtasking deprive workers of basic rights and guarantees common to regular employment, such as pension contributions and sickness and unemployment insurance. This situation can lead to lower labour standards (Stefano, 2016), lower job quality (Gray & Suri, 2019), and a division in the workforce between those who have access to traditional jobs and those who are forced to turn to the insecure gig economy (Prassl, 2018). This, combined with unstable and unpredictable incomes, is unlikely to support the establishment and maintenance of a robust middle class in a society with an unstable economy (Berg, 2016), stabilisation of socio-economic conditions or overall economic growth.

The shared economy provides cost-saving opportunities for consumers, but does not provide permanent and stable income guarantees for the owners of "shared" capital (Martin, 2016). A lack of clear regulation can lead to labour rights violations, tax evasion, and various illegal practices, ultimately harming social welfare (Sundararajan, 2016). Sharing services can replace traditional businesses that provide more secure employment, putting further strain on the economy (Zervas, Proserpio & Byers, 2017). This new sharing economy has the potential to increase social inequalities, as only those with certain levels of assets are primarily able to engage in the relevant relationships as providers of certain resources (Malhotra & Van Alstyne, 2014). In the context of countries with unstable economies, these challenges may be exacerbated by the often ineffective or weak state of social protection and regulatory mechanisms. It is therefore imperative to improve the regulatory framework, while developing a social protection system that meets the specific needs of the sharing economy.

Open innovation can be concentrated in the hands of those who already have the technological skills and resources, leaving less resourceful firms and individuals behind. This threatens to exacerbate social inequalities (Chesbrough, 2006). On the

other hand, issues related to intellectual property and its protection can lead to legal uncertainty, posing a threat to innovators, especially in countries with weaker intellectual property laws (Gassmann, Enkel, & Chesbrough, 2010). Over-reliance on open innovation can hamper domestic R&D capacity, especially when resources are scarce (Laursen & Salter, 2006), as is the case in Ukrainian science. While open innovation can accelerate technological progress, it can also create difficulties for workers and firms that are slower to adapt, leading to potential social destabilisation (West & Gallagher, 2006). It is crucial to develop effective techniques that optimise the benefits of open innovation while countering the threats and drawbacks to social welfare and middle-class advancement.

Decentralised manufacturing networks may suffer from inadequate funding, infrastructure, IT systems and logistics in economies that often experience turbulence and instability, resulting in delayed growth (Prajogo & Olhager, 2012). However, a disadvantage of implementing such networks in business models is the replacement of conventional positions in larger firms with low-skilled workers (Srai and Gregory, 2008). Moreover, the decentralisation of this production process consequently increases vulnerability to local disruptions, potentially jeopardising the integrity of supply chains. This type of collaborative economy may exacerbate territorial disparities in the country's economic progress. Industrialised regions are more likely to attract greater investment and progress, while underdeveloped regions may be constrained by a lack of financial support, insufficient manufacturing enterprises and economic backwardness. To address these challenges, it is essential to develop a multi-faceted strategy that includes initiatives to improve the skills of workers, attract investment in technological infrastructure, refine financing mechanisms and support small and medium-sized enterprises engaged in decentralised production.

With regard to information cooperation, there is an urgent need to protect and maintain the confidentiality of jointly processed and stored data (Kshetri, 2017), to promote adequate employee competencies, to ensure equitable access to digital technologies across society, to counter the emergence of monopolies in information and its control (Zuboff, 2019), and to guard against over-reliance and vulnerability of the economy to foreign technologies and information systems (Hanna, 2016). These challenges require a centralised and comprehensive strategy that includes improving infrastructure, providing digital education, implementing strong information security measures and developing local technology solutions to support social welfare and the middle class.

5. Recommendations for Implementing Crowd Economy Forms in the Public Sector

In light of the current situation of martial law in Ukraine, the crowdsourcing economy can be a valuable solution for raising resources, stimulating innovation and supporting SMEs. In order to fully realise the potential benefits of the crowdfunding economy, attract more modest investors and reduce the associated risks, the public sector in Ukraine should consider the following suggestions:

- To develop and adopt a regulatory framework to regulate the crowd-technology sector, including crowdfunding, crowdinvesting, crowdsourcing and the sharing economy. This should prioritise the protection of investors' and depositors' rights, taking into account the experience of the EU and the US²;
- to create a regulatory framework for the verification and monitoring of crowdfunding platforms to increase investor confidence in them;
- to consider providing tax incentives for start-ups and projects that raise funds through crowdfunding;
- to introduce tax incentives for investors who invest in socially significant projects;
- to develop special programmes to support projects aimed at developing regions, creating new jobs and improving the quality of life;
- to create and support national crowdfunding platforms and ensure their integration with international systems;
- to ensure a high level of cybersecurity and data protection on these platforms;
- to develop rules for cooperation with banking institutions to develop joint crowdfunding programmes;
- to encourage cooperation with international experts and investors to exchange experience and attract foreign investment;
- to introduce reporting standards for projects financed through crowdfunding platforms that will ensure transparency in the use of the funds raised, thereby reducing risks for investors;
- to promote and initiate information campaigns to raise awareness of citizens and businesses about the opportunities of the crowdsourced economy;
- to include the topic of crowdfunding in the curricula of higher education institutions and business schools, and develop specialised courses and trainings that teach how to effectively raise funds through crowdfunding mechanisms;
- to develop and implement training programmes for entrepreneurs with a focus on the use of crowdfunding platforms.

By implementing these solutions, Ukraine will be able to create favourable conditions for the

development of the crowdsourced economy, which plays a key role in ensuring sustainable economic growth, stimulating innovation, and preserving and expanding the middle class.

6. Conclusions

The generalisation of the above observations shows that the development of the mass economy is particularly important for socio-economic progress, especially in the context of crisis economies and situations of martial law. The above-mentioned tools for attracting capital or resources act as mechanisms for strengthening social equality and promoting the formation and development of the middle class.

The crowd economy has the potential to reduce social inequality by increasing access to finance for small businesses and start-ups, particularly in areas and among communities that typically face barriers to obtaining credit or investment from traditional financial institutions. This will enable small businesses and start-ups, which are often part of the middle class or have the potential to become so, to raise capital directly from the community. This initiative can lead to economic expansion and job creation. The potential of the crowd economy also promotes entrepreneurship and innovation, and addresses social challenges through collective effort and financial support from communities. Crowdfunding platforms demonstrate the ability to stimulate economic activity, while crowdsourcing and its various forms help to optimise processes and the efficient use of labour.

Challenges and vulnerabilities identified include the risks posed by inadequate regulation, privacy issues, uneven access to technology and the likelihood of volatility. These challenges may be exacerbated in countries that are economically unstable or under martial law, highlighting the need for a more comprehensive approach to infrastructure regulation and development and other similar collaborative management activities.

The findings of this study can improve the understanding of these processes and help to develop more effective national strategies to promote the growth of the crowdsourced economy, improve legislation to protect its participants, and develop support programmes for those who use these tools to strengthen economic and social infrastructure.

To summarise, the crowdfunding economy has the potential to become a significant catalyst for social welfare in countries with unstable economies, but this requires a comprehensive approach to regulation, raising public awareness and developing the relevant infrastructure.

² Refers to the study of adopted documents, such as 1) Regulation (EU) 2020/1503 of the European Parliament and of the Council of 7 October 2020 on European crowdfunding service providers for business, and amending Regulation (EU) 2017/1129 and Directive (EU) 2019/1937; 2) Jumpstart Our Business Startups (JOBS) Act (2012); 3) Regulation Crowdfunding (2016).

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