M3E2 2021 – Economic aftershock of COVID-19

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Abstract. This is an introductory text to a collection of papers from the M3E2 2021: 9th International Conference on Monitoring, Modeling & Management of Emergent Economy, which held in Odessa National University of Economics, Odessa, Ukraine, on the May 26-28, 2021. It consists of short introduction, conference review and some observations about the event and its future.

1 Introduction

The development of human society, its various spheres of activity and functioning in recent years is characterized by the emergence of new challenges and threats. Humanity is facing many global problems of development of technology and the increasing scientific and technological progress. In addition to the usual environmental and man-made disasters, financial crises, the new ones appeared. The COVID-19 pandemic, for example. As a result, technologies and online communication instruments began to develop at an increasing pace. The need to work and study remotely has forced people to master new methods and tools of digital technology.

Due to the limited movement and transportation, as well as due to the reduction of production and business closure, enterprises, regions, national economies and transnational capital found themselves in a difficult situation. They experienced a decline in production and trade, bankruptcy, reduced profitability, slower growth etc. This is just a small list of the effects of the pandemic on the world economy.

The causes, mechanisms and consequences of such processes are of particular concern to the scientific community, which is the first to try to understand the depth and importance of these changes. This year's theme of the international conference International Conference on Monitoring, Modeling & Management of Emergent Economy has especially relevant issues that experts of various fields are trying to raise and solve in their works.

The authors' attempt to find out the causes of the crisis and the possibility of using modern ICT to solve existing problems or prevent economic, political and environmental threats, need to be especially considered. The countries with emerging economies are particularly vulnerable to new challenges, so participation in constructive scientific discourse is very important. Modern challenges contribute to the search for new approaches to solving these problems.

In their research scientists focus on economic, financial security and sustainability of enterprises and regions; digitalization of all spheres of human life; modern methods of management and marketing activities; development and analysis of the financial market and cryptocurrency market; modeling and forecasting of international economic activity of various business entities; especially relevant methods of machine learning and fuzzy logic; solving the problems of various sectors of the economy of Ukraine and other countries, especially countries with emerging economies.

The subject of the works included in the proceedings it necessary to search for a new scientific paradigm in a constantly changing environment. After all, new challenges and threats are a certain stimulus for the development of scientific thought. We expect that the research of the participants of this conference will be useful for scientists, teachers, students and representatives of the business community.

2 M3E2 2021: At a glance

The **Monitoring, Modeling & Management of Emergent Economy** (M3E2, https://m3e2.ccjournals.eu/2021/) is a peer-reviewed international conference focusing on research advances and applications of nonlinear dynamics

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methods, econophysics and complex systems methodology of emergent economy.

The M3E2 Conference occupies contributions in all aspects of Computational Finance, Economics, Risk Management, Statistical Finance, Trading and Market Microstructure, (Deep) Machine Learning technologies and tools, paradigms and models, relevant to modern financial engineering and technological decisions in the modern age. There is urgent general need for principled changes in postclassic economy elicited by current models, tools, services, networks and IT communication.

M3E2 2021 topics of interest since 2019 [1–3]:

- Complex cyberphysical systems, synergy, econophysics, economy of agents (papers [4, 5])

- Dynamics of emergent markets in crisis and post-crisis period (papers [6–9])

- Economic security (papers [10, 11])

- Global challenges for economic theory and practice in Europe (papers [8, 12, 13])

- Information systems and technologies in economics (papers [10, 14–18])

- Innovation models of economic development (papers [8, 12, 19–28])

- Machine learning for prediction of emergent economy dynamics (papers [18, 29])

- Management of the state's economic safety and economic safety of economic agents (papers [10, 11])

- Methods and models of artificial intelligence in economic systems (papers [18, 29])

- Modeling of hospitality sphere development (papers [30, 31])

- Models of global transformations (papers [12, 32, 33])

- Monitoring, modeling and forecasting in the banking sector (papers [19, 34])

- Monitoring, modeling, forecasting and preemption of crisis in socio-economic systems (papers [4, 5, 10, 17, 19, 23, 25, 32, 35–39])

- Optimal management of socio-economic processes (papers [8, 10, 12, 17, 20, 22, 25, 38, 40])

- Risk management models in emergent economy (papers [19, 35, 41, 42])

This volume contains the papers presented at M3E2 2021: 9th International Conference on Monitoring, Modeling & Management of Emergent Economy held on May 26-28, 2021 in Odessa, Ukraine.

There were 49 submissions. Each submission was reviewed by at least 3, and on the average 3.1, program committee members. The committee decided to accept 39 papers.

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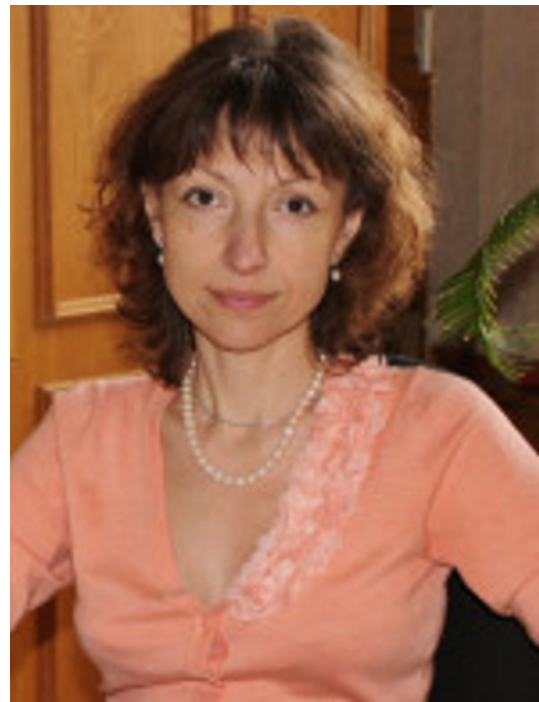
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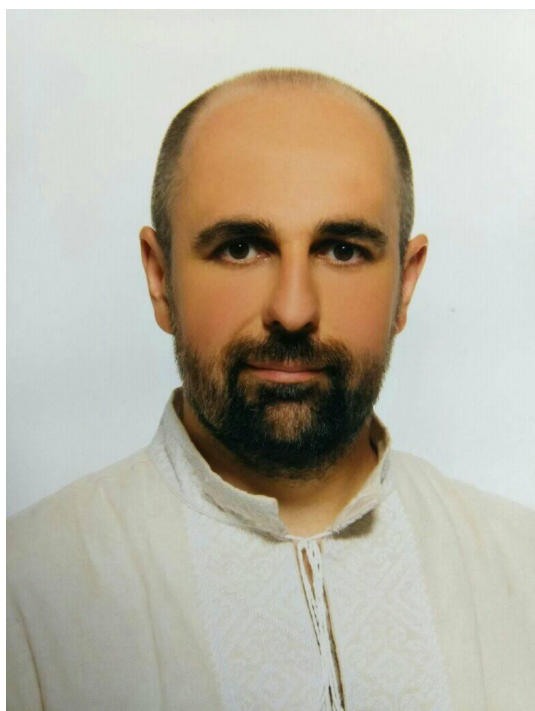
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4 M3E2 2021: Conclusion and outlook

The vision of the M3E2 2021 is provides a premier interdisciplinary platform for researchers, practitioners and educators to present and discuss the most recent innovations, trends, and concerns as well as practical challenges encountered and solutions adopted in the fields of emergent economy.

The conference has successfully performing forum to transferring and discussing research result among the researcher, students, government, private sector or industries. Participants and presenters from several countries such as Belarus, China, Czechia, Kazakhstan, Moldova, Poland and Ukraine have attended the conference in-person and online to share their significant contribution in research related to Monitoring, Modeling & Management of Emergent Economy.

We are thankful to all the authors who submitted papers and the delegates for their participation and their interest in M3E2 as a platform to share their ideas and innovation. Also, we are also thankful to all the program committee members for providing continuous guidance and efforts taken by peer reviewers contributed to improve the quality of papers provided constructive critical comments,

improvements and corrections to the authors are gratefully appreciated for their contribution to the success of the conference. Moreover, we would like to thank the developers and other professional staff of *Not So Easy Science Education* platform (https://notso.easyscience.education), who made it possible for us to use the resources of this excellent and comprehensive conference management system, from the call of papers and inviting reviewers, to handling paper submissions, communicating with the authors etc.

We are looking forward to excellent presentations and fruitful discussions, which will broaden our professional horizons. We hope all participants enjoy this conference and meet again in more friendly, hilarious, and happiness of further M3E2 2022.

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