

Final scientific report

Regarding the implementation of the project PN-III-P1-1.1-PD-2019-0219 (52/2020)
between September 2020 – August 2022

I. Presentation of the project and the general objective

Project name PN-III-P1-1.1-PD-2019-0219: "Better knowledge for based assessment of public sector performance in European countries/ Problematika măsurării performanței sectorului public în țările Europene" (PN-III-P1-1.1-PD- 2019-0219, Contract 52/2020)" (hereinafter referred to as "the Project").

The research objective proposed within the project aims to analyze the performance of the public sector considering an innovative and robust research tool in terms of methodologies and aggregate indicators. The results of the research can generate benchmarks to understand the different ways in which a society must prioritize its public policies, in the context of socio-economic transformations in the geography of the European space mainly.

Stage 1 (September – December 2020): Conduct a review of recent literature (Objective 1) + Research dissemination (objective 3)

Stage 2 (January – December 2021): Econometric analysis (Objective 2) + Research dissemination (objective 3)

Stage 3 (January – August 2022): Econometric analysis (Objective 2) + Research dissemination (objective 3)

II. Implementation of the project during September - December 2020

During 2020, the project had only one stage scheduled, between September 1 and December 31, 2020. Stage 1 had as its main objective the realization of a literature review on the measurement of public sector performance and the dissemination of the results obtained.

The specialized literature was analyzed through <https://www.e-nformation.ro/>, as well as through access to the university library. Moreover, two databases were acquired.

The global economy is struggling in the worst recession in decades (the crisis that started in 2008 and the pandemic of 2020), and economies around the world are facing significant shortages of financial resources. Moreover, citizens began to notice and express their dissatisfaction with the quality of services provided by the government. Struggling in this environment, the government had to become more inventive and adopt new strategies. For example, the need to measure the performance of the entire public sector taking into account its multidimensional nature and not just the financial perspective.

Starting from the current state of the literature and, in addition, the practices specific to the public sector domain, we find that the basis of the evaluation of this sector is data that analyzes inputs, outputs and results through performance measurement methodologies. In order

to carry out a reliable and neutral assessment, it is necessary to take into account the completeness of the influencing factors of the analyzed phenomenon (quantitative and qualitative elements of the results).

Measuring the performance of a country is becoming more and more difficult to determine, because nowadays financial indicators are no longer considered sufficient and there is a need to investigate the multidimensional reality of the economy. Almost all the world's economies trade and generate spin-offs, migration is another important factor that should be considered, but also sub-sectors such as education, health, environment and the general well-being of the nation. The practical implications of measuring the performance of different sub-sectors of the public sector are a key factor in achieving a global and sustainable performance of a nation.

More and more international institutions have developed methods to determine public sector performance and aggregate indicators to provide international comparisons, emphasizing the importance of selected sub-indicators, while public sector analysis is judicious and representative. It is important to note that these aggregate indicators can serve governments, more precisely policy makers in underperforming countries can identify sub-sectors of their economies that generate lower value, encountering the problems and generating policies specifically designed to improve them, with the aim of improve growth across the country. Moreover, the business environment and the population perceive the real position of their country's economy and can decide their further actions.

The research carried out at this stage is based on content analysis and bibliometric analysis to investigate the measurement of public sector performance in the specialized literature. Our research has highlighted that the most complex method of performance measurement in this area, namely the public sector, is that of aggregate indicators. In addition, special attention is needed in selecting the sub-indicators to consider and the sub-sectors of the economy to create the indicator. We state this because there is a risk of conveying ambiguous policy information, more precisely if some dimensions of the studied phenomenon are not correct, then decision makers may encounter difficulties in generating and applying appropriate policy. When performing the bibliometric analysis, our results reveal the existence of strong links. In terms of keywords, we selected at least 4 coincidences and obtained 9 clusters with "public sector" and "performance management" as the strongest keywords, while when we considered "authors cited together" with a threshold of 20 citations, we identified 38 authors grouped into 4 clusters. Furthermore, we analyzed authors' countries and institutions and observed a concentration of authors with affiliation in the USA and England.

Regarding the dissemination part of the results obtained through the project, it is presented below in detail, being able to summarize the main results as follows: 2 international conferences and 1 article sent to the ESCI journal.

Expected results of Stage I:

[1] 1 database with relevant studies on performance measurement and continuous updating of the database

[2] 1 study of relevant methodologies and results obtained in the recent literature to be materialized in a BDI article submitted to the journal

- [3] 1 participation in a national / international conference
- [4] 1 project website
- [5] 1 Annual scientific report

Results obtained at the end of Stage I:

- [1] 1 database of relevant performance measurement studies

It is reflected through the article sent to Jurnal: "How should we measure public sector performance?"

- [2] Articles published / submitted for publication in 2020:

BDI articles

How should we measure public sector performance? Mustea L., Mihit L.D. & Lobonț O.R. – in evaluation

- [3] Participation in international conferences in 2020:

3.1 Competitiveness and stability in the knowledge-based economy - 12th iConEc Conference, with the article "Public sector performance - content analysis", Craiova, October 30 – 31.2020, Mustea L., Mihit L.D. & Lobonț O.R.

3.2 6th International Conference "Recent Advances in Economic and Social Research" (RAESR 2020), with the article: Composite indicators – a tool for measuring public sector performance, Bucharest, 10 - 11 December 2020, Mustea L.

- [4] Project web page updated with research progress:

<https://performeu.projects.uvt.ro/>

- [5] 1 Annual scientific report – available on the project webpage

III. Implementation of the project during January - December 2021

During 2021, the project had only one stage scheduled, between January 1 and December 31, 2021. Stage 2 had as its main objective the realization of 1 study that will take into account the membership to the Euro Zone versus the Non-Euro Zone (partially) and 1 study taking into account the geographical and geopolitical position of the countries (partially), as well as the dissemination of the results obtained.

The literature was analyzed through <https://www.e-nformation.ro/>, as well as through the databases available in the universities where the two documentation-research internships were carried out. The variables database was created with the help of data extracted through Eurostat, European Commission, Statista, as well as the two databases acquired during stage I.

The government plays the primary role in ensuring the welfare of the people. Thus, in the context of continued digitization, we affirm the need for public policies, structural reforms

and common action plans so that all EU countries can improve their performance in as many areas of the public sector as possible. Therefore, EU countries need to create common approaches, as demonstrated by the uniform and interoperable approach to vaccination, or develop compelling applications for monitoring and warning of COVID-19 infection. The health of citizens is closely related to their level of well-being, thus to the performance of governments in each country.

The research carried out in this stage is based on econometric analysis of data collected to investigate the measurement of public sector performance in EU countries. Our research has highlighted that the most complex method of performance measurement in this field, namely the public sector, is that of aggregate indicators as well as cluster analysis. On the one hand, it was observed the need for common approaches for EU member countries, and on the other hand, the fact that countries that do not belong to the EU Zone or that are more recent members, are the ones that register changes in their position in times of crisis.

Regarding the dissemination part of the results obtained through the project, it is presented below in detail, being able to summarize the main results as follows: 6 international conferences, 1 ISI article, 1 ESCI article and 1 article sent to the ESCI journal.

Expected results of Stage II:

- [1] 1 database with European country variables
- [2] 1 study that will consider the membership of the Euro Area versus the Non-Euro Area (partially) and 1 study considering the geographical and geopolitical position of the countries (partially) (2 articles of which 1 ISI proceedings and 1 ISI sent to journal)
- [3] 4 participations in national / international conferences
- [4] 2 documentation internships
- [5] 1 updated project website
- [6] 1 Annual scientific report

Results obtained at the end of Stage II:

- [1] 1 database with European country variables
It is reflected in published and submitted articles containing econometric analyses
- [2] 1 study that will consider the membership of the Euro Area versus the Non-Euro Area (partially) and 1 study considering the geographical and geopolitical position of the countries (partially) (2 articles of which 1 ISI proceedings and 1 ISI sent to journal)

ESCI articles

How should we measure public sector performance? (2021) Mustea L., Mihit L.D. & Lobonț O.R., *Postmodern Openings Journal*, vol 12., p 71-89.

Does crisis influence different performance in Eurozone versus Non-Euro countries?, Mustea L – in evaluation.

ISI articles

Challenges on radical health redesign to reconfigure the level of e-health adoption in EU countries (2021) Luca M., Mustea L., Taran A., Stefea P, Vatavu S., *Frontiers in Public Health*, section Health Economics, vol 9 , pp. 1-15.

[3] 4 participations in national / international conferences:

3.1 SOCIAL INNOVATIONS FOR SUSTAINABLE REGIONAL DEVELOPMENT
The 17th annual International Scientific Conference, with the article "Public sector performance around crises in European countries", Lithuania, April 28 - 29, 2021, Mustea L., Mihiț L.D. & Lobonț O.R.

3.2 Competitiveness and stability in the knowledge-based economy - 13th iConEc Conference, with the article "Composite index of public sector performance in Eurozone versus Non-Euro countries", Craiova, October 29 – 30, 2021, Mustea L., Mihiț L.D. & Lobonț O.R.

3.3 The 8-th International Conference REGIONAL SUSTAINABLE DEVELOPMENT – THROUGH COMPETITIVENESS, INNOVATION AND HUMAN CAPITAL - MOVING TOWARDS NEW PARADIGM OF SUSTAINABLE DEVELOPMENT, with the article: Performance in Europe. A geopolitical perspective, Bucharest, Satu-Mare, November 19, 2021, Mustea L.

3.4 Economic security in the context of sustainable development -2nd edition International Conference, with the article "Does crisis influence performance in European countries?", Republic of Moldova, December 17, 2021, Mustea L.

3.5 Economic Scientific Research - Theoretical, Empirical and Practical Approaches ESPERA 2021, with the article "Performance in European countries and "bad periods", Bucharest, December 9-10, 2021, Mustea L. & Lobonț O.R..

3.6 7 th International Conference Recent Advances in Economic and Social Research, with the article "Does crisis influence different performance in Eurozone versus Non-Euro countries?", Bucharest, December 16–17, 2021, Mustea L.

[4] 2 documentation stages

Two documentation stages were carried out as follows: one at the University of Economics in Bratislava and one at the University of Szeged.

[5] Project web page updated with research progress:

<https://performeu.projects.uvt.ro/>

[6] 1 Annual scientific report – available on the project web page

IV. Implementation of the project during January – August 2022

During 2022 period, the project had only one stage scheduled, between January 1 and August 31, 2022. Stage 3 had as its main objective the realization of 1 study that will take into account the membership to the Euro Zone versus the Non-Euro Zone (revised) and 1 study

taking into account the geographical and geopolitical position of the countries (revised), as well as the dissemination of the results obtained.

The literature was analyzed through <https://www.e-nformation.ro/>, as well as through the databases available in the universities where the documentation-research stage was carried out. The database with variables was created with the help of data extracted through Eurostat, European Commission, Statista, as well as the two databases acquired during stage I.

The last decades have been characterized by economic and financial recessions that put world economies in difficult situations and political decision-makers faced with difficult decisions to revive the country's economy. The world economy is struggling with what may become the worst economic and financial crisis in a decade. Nowadays, more and more countries around the world are struggling with inflation. In this sense, since our geographical area of interest is the European area, we must emphasize that since the beginning of the Eurozone in June 2022, the highest percentage of inflation was reached, namely, 8.6. Unfortunately, the forecasts are not favorable. At the moment, supply chain and labor market issues appear to continue globally, and the return of another wave of COVID-19 appears to exacerbate supply chain disruptions (see, for example, China). Moreover, we can see how wage growth has not been able to keep up with rising inflation, causing additional hardship for households, and central banks are taking a more aggressive stance than in previous recessions in raising interest rates. The war in Ukraine primarily supports this uncertain environment, generating and sustaining rising global food prices. In addition, the sanctions against Russia that have been taken and announced to be taken put additional pressure on the world economies and support the overall negative trend of economic growth in the world (for example, the EU announcement of embargoes on coal imports from August 2022 or shipping of Russian oil at the end of the current year).

Given this uncertain environment and especially the bleak forecast of what lies ahead, public sector performance measurement is a topic of interest in academia and a tool for policymakers. At the moment, official statistics do not provide many indicators for measuring public sector performance, as opposed to measuring economic performance. The subject of composite index is widely discussed in academia and we are aware of the difficulty of defining composite indicators. However, the government can use composite indices to analyze the state of the economy and social welfare of their country and to identify sub-sectors that contribute to public sector performance for each economy. In order to prevent an intensive deterioration of the economic situation, we must be aware of the fact that there are fiscal and monetary policies that can be taken at the European level, but also specific measures are needed at the level of each country, region, sub-sector of the economy. The research in stage III is based on scientific mapping by performing a bibliometric analysis of research works published and indexed in the Clarivate - Web of Science database during the period 2018 – 2022, investigating the performance of the public sector in European countries. Our results identified 3 groups of 28 keywords with at least 3 co-occurrences and 21 authors if we consider a minimum of 9 citations grouped into 5 groups. In addition, 22 countries in 4 clusters generated at least 5 documents, and 14 institutions in 3 clusters met the requirement of at least 2 documents. Furthermore, a study has been launched that analyzes the performance of the public sector in the countries of the European Union taking into account seven sub-sectors of the economy, namely administration, education, health, infrastructure, income distribution, stability, economic

performance, digitization and innovation. In addition, we also perform a ranking and grouping of countries based on the data obtained in the previous stage.

Expected results of Stage III:

- [1] 1 study considering Eurozone versus Non-Eurozone membership (revised) and 1 study considering countries' geographic and geopolitical position (revised) (1 BDI article)
- [2] 1 participation in a national / international conference
- [3] 1 documentation internship
- [4] 1 updated project website
- [5] 1 Annual scientific report

Results obtained at the end of Stage III:

- [1] 1 study considering Eurozone versus Non-Eurozone membership (revised) and 1 study considering countries' geographic and geopolitical position (revised) (1 BDI article)

ISI article

Challenges and drawbacks of the EU medical system generated by the COVID-19 pandemic in the field of health systems digitalisation (2022) Țăran A.M., Mustea L., Vătavu S., Lobonț O.R. and Luca M.M., International Journal of Environmental Research and Public Health, doi: 10.3390/ijerph19094950

Article BDI

An Overview of Public Sector Performance in Europe (2022) Annales Ovidius University, Economic Sciences Series - accepted for publication.

- [2] 1 participation in a national / international conference

2.1 Zilele Academice Arădene, XXXII Edition, with the article Performance during crisis in Eurozone versus Non-Euro countries, 25-29 May 2022, Arad, Mustea L.

2.2 The International Conference "Present Issues of Global Economy" 19th Edition with the article An Overview of Public Sector Performance in Europe, July 14-16, 2022, Constanța, Mustea L.

- [3] 1 documentation internship

A documentation internship was carried out at the University of Economics in Bratislava, Slovakia.

- [4] Project web page updated with research progress:

<https://performeu.projects.uvt.ro/>

- [5] 1 Annual scientific report – also available on the project webpage

V. Conclusion

The project objectives were fully achieved for each stage. Below are the results obtained in the period September 2020 – August 2022.

Objectives foreseen / achieved within the project:

Objective 1: Conduct a review of recent literature

Achieved: database with relevant studies

Objective 2: Econometric analysis

Achieved: publishing 4 articles

Objective 3: Dissemination of research

Achieved: participation in 10 national / international conferences and publication of 4 articles.

Estimated results within the project:

- 1 database with relevant studies
- 1 database with variables regarding European countries
- 1 web page of the project
- Articles: 1 ISI, 1 ISI proceedings and 2 BDI
- National/international conferences: 6
- Documentation stages: 3
- Research reports: 3

Results obtained within the project PN-III-P1-1.1-PD-2019-0219

[1] 1 database of relevant performance measurement studies.

It is reflected in published articles that contain analyzes of specialized literature

[2] 1 database with European country variables

It is reflected in published articles containing econometric analyses

[3] The web page of the project updated with the evolution of the research:

<https://performeu.projects.uvt.ro/>

[4] Articles published / accepted

ISI articles

Challenges on radical health redesign to reconfigure the level of e-health adoption in EU countries (2021) Luca M., Mustea L., Taran A., Stefea P, Vatavu S., *Frontiers in Public Health*, section Health Economics, vol 9 , pp. 1-15.

Challenges and drawbacks of the EU medical system generated by the COVID-19 pandemic in the field of health systems digitalisation (2022) Țăran A.M., Mustea L., Vătavu S., Lobonț O.R. and Luca M.M., International Journal of Environmental Research and Public Health, doi: 10.3390/ijerph19094950

ESCI articles

How should we measure public sector performance? (2021) Mustea L., Mihiț L.D. & Lobonț O.R., Postmodern Openings Journal, vol 12., p 71-89.

Article BDI

An Overview of Public Sector Performance in Europe (2022) Annales Ovidius University, Economic Sciences Series - accepted for publication.

[5] Participation in international conferences

5.1 Competitiveness and stability in the knowledge-based economy - 12th iConEc Conference, with the article "Public sector performance - content analysis", Craiova, October 30 - 31, 2020, Mustea L., Mihiț L.D. & Lobonț O.R.

5.2 6th International Conference "Recent Advances in Economic and Social Research" (RAESR 2020), with the article: Composite indicators – a tool for measuring public sector performance, Bucharest, 10 - 11 December 2020, Mustea L.

5.3 SOCIAL INNOVATIONS FOR SUSTAINABLE REGIONAL DEVELOPMENT The 17th annual International Scientific Conference, with the article "Public sector performance around crises in European countries", Lithuania, April 28 - 29, 2021, Mustea L., Mihiț L.D. & Lobonț O.R.

5.4 Competitiveness and stability in the knowledge-based economy - 13th iConEc Conference, with the article "Composite index of public sector performance in Eurozone versus Non-Euro countries", Craiova, October 29 – 30, 2021, Mustea L., Mihiț L.D. & Lobonț O.R.

5.5 The 8-th International Conference REGIONAL SUSTAINABLE DEVELOPMENT – THROUGH COMPETITIVENESS, INNOVATION AND HUMAN CAPITAL - MOVING TOWARDS NEW PARADIGM OF SUSTAINABLE DEVELOPMENT, with the article: Performance in Europe. A geopolitical perspective, Bucharest, Satu-Mare, November 19, 2021, Mustea L.

5.6 Economic security in the context of sustainable development -2nd edition International Conference, with the article "Does crisis influence performance in European countries?", Republic of Moldova, December 17, 2021, Mustea L.

5.7 Economic Scientific Research - Theoretical, Empirical and Practical Approaches ESPERA 2021, with the article "Performance in European countries and "bad periods", Bucharest, December 9-10, 2021, Mustea L. & Lobonț O.R..

5.8 7th International Conference Recent Advances in Economic and Social Research, with the article "Does crisis influence different performance in Eurozone versus Non-Euro countries?", Bucharest, December 16–17, 2021, Mustea L.

5.9 Zilele Academice Arădene, XXXII Edition, with the article Performance during crisis in Eurozone versus Non-Euro countries, 25-29 May 2022, Arad, Mustea L.

5.10 The International Conference "Present Issues of Global Economy" 19th Edition with the article An Overview of Public Sector Performance in Europe, July 14-16, 2022, Constanța, Mustea L.

[6] documentation stages:

- University of Economics in Bratislava – 2021
- University of Szeged – 2021
- University of Economics in Bratislava – 2022

[7] Annual scientific reports – 1 for each stage, respectively 2020, 2021 and 2022.

The estimated impact of the results obtained

The project aimed to measure the performance of the public sector with the aim of identifying good practices to be taken into account by political decision-makers for the adoption of fiscal policies. The global economic situation has deteriorated in recent years, especially due to the COVID-19 pandemic and the effects generated by the restrictions imposed by governments. Thus, the research carried out within the project took into account the current economic situation, generating publications that took into account the impact of COVID-19, but also variables such as digitization. Among the most significant results of the project are the two ISI publications in Q2 ranked journals according to Web of Science.

Project director,



Lavinia Mustea