

EU's Governments Responsiveness in Inducing Efficiency and Innovation

Ramona Țigănașu
Sorin Mazilu

*"Alexandru Ioan Cuza" University of Iasi, Centre for European Studies,
Faculty of Law, Romania*
ramona.frunza@uaic.ro
mazilu.sorin@yahoo.com

Abstract

The current paper aims at briefly discussing the ability of European governments to be more efficient and to respond to current societal challenges in order to support their citizens by: opening up to innovation, adapting to novelty, and helping to create optimal conditions for a more efficient management of resources and provision of quality public services.. Starting from these considerations, the analysis focuses on evaluating the government's ability to perform (providing appropriate policies, in accordance with the identified needs - government assertiveness), in order to highlight certain strategies, approaches and measures that can foster and support regional efficiency and innovation. In conducting the analysis, there were taken into consideration relevant indexes (such as World Bank governance indicators, EUPACK, Digital Economy and Society Index, Innovation Output Indicator); overall, the data analysis suggests that compared to the western European countries that have showed a better effectiveness of their development policies, the Central and Eastern European states displayed lower results in government effectiveness and openness to innovation which outline certain deficiencies in their strategic visions and governments' responsiveness.

Key words: governance, efficiency, innovation

J.E.L. classification: O29, O38, O43

1. Introduction

As economies represent complex systems characterised by a network of multiple interactions between heterogeneous actors, they cannot be understood in terms of functioning without taking into account their institutional elements through which the society's norms and rules are established. Furthermore, various research studies provide evidences on how institutions can encourage the comparative advantage formation (Nunn & Trefler, 2014) and about their interdependence with other dimensions of economic development, such as trust, growth, and well-being (Algan & Cahuc, 2014). The institutions' role in managing present challenges is also underlined in the United Nation Report on sustainable development goal 16: "Institutions are paramount to the achievement of the 2030 Agenda for Sustainable Development and all the Sustainable Development Goals (SDGs) [...] The Agenda and the SDGs prominently feature institutions, both as a crosscutting issue in many of the goals and as a standalone goal (SDG 16) "Promote peaceful and inclusive institutions at all levels"" (United Nations - Department of Economic and Social Affairs, 2018, p. 2). For unlocking the institutions' potential regarding the achievement of the assumed development goals, a special attention should be placed on promoting *the good governance*. "The 2030 Agenda embraces a set of institutional principles that together can provide the backbone to good governance and, thus, help reduce corruption risks. These principles – accountability, transparency, participation, and inclusion- play a crucial role in combating corruption" (United Nations - Department of Economic and Social Affairs, 2018, p. 43). Therefore,

for ensuring some pertinent premises in support of the good governance, we must consider coordinating decisions, encouraging strategic orientation, and facilitating multi-dimensional and multi-level communication and cooperation. Moreover, the government intervention through policies must be accompanied by transparency, open dialogue, and connectivity with the public and private sectors.

When it comes to the East-European space, history has shown that the *path dependence* creates a strong anchoring in the past, limiting the acknowledged possibilities and inducing the reluctance or even the fear of incorporating elements of novelty in the governmental act. "Contrary to the notion that the socialist period would produce a more equitable development across CEECs that could disrupt capitalist patterns of development, it rather tended to result in inefficient spatial development, leaving environmental damage as well as social and economic problems to be re-addressed in the capitalist period. Entry to the EU at the beginning of the 21st century created a chance for CEE regions to benefit from the use of EU funds under Cohesion Policy to seek new economic opportunities and break from their historical development paths" (Dyba *et al.*, 2018, p. 89). Therefore, the failure to properly consider the initial conditions, the deficiencies of the overall system, coupled with the limited degree of stakeholders' involvement, are expressions of an incorrect inventory, which will be translated into adopting solutions that do not properly aim at or that partially target the real causes of the problems. For these reasons, there is an increasing need to reflect more intensively on the government's activities and involvement in the economy, thus to focus on the following questions: what are the demands of civil society, how are government's actions be repositioned to the benefit of the citizen and different social networks, how transparent is the government in managing resources so that the distortions of the informational asymmetry are overcome, or if it can play the role of a cohesion factor?

To a certain degree, the answers to all these questions rely on how to use the policy tools that the government has at hand for accomplishing its assumed goals. The call for coherence, consistency, cooperation, is the basis of reforms that generate more value in the economy. However, this is not an easy task, especially when we are referring to the EU, which is comprised by countries with different and various challenges, such as: some legal systems malfunction, the political systems are unstable and subjected to short-term changes, the degree of business security might be low, and there is an overall institutional fragility. Within this particular context, a special attention should be centred on the knowledge society, due to its continuously improving technologies and its innovative character, which requires a permanent reconfiguration of the institutions, in the sense of reducing costs, shortening the cycle of economic processes, and increasing the quality of services and products. Consequently, "the knowledge-based economy is an economy that favours the development of those sectors where the technological knowledge spreads more quickly and effectively, this necessarily leads to the unfolding of processes of structural change. In this context the role of institutions is important, because it is by the interactions between actors and institutions and, therefore, through the relationships that exist between the production system, public authorities, universities and the education sector as a whole – addressed to developing scientific knowledge and technology –, which directly affect the innovation performance of firms, organizations and economies" (Schiliro, 2012, p. 6 *apud* OECD, 1996; Mokyr, 2002).

2. Theoretical background

Considering the aspects discussed before, in order to achieve performance, governments must first and foremost pursue a complementary process between goals-means-outcomes, and more precisely, to prove efficacy, a premise from which one starts in achieving efficiency needs (Handler *et al.*, 2005). Second, in any endeavour involving large-scale effects, it is necessary to take into account the budgets available to governments so that they could reach their proposed goals.

When addressing the public sector matter, Drucker, one of the followers of management in public administration, identifies various issues that should be avoided in order to ensure efficiency (Drucker, 1989, 1999, 2002). Thus, we note that, for the most part, governments fail when they formulate intangible targets, when a thinking based on the rational distribution of resources does not propagate according to results, when moral and economic causes are not properly considered in

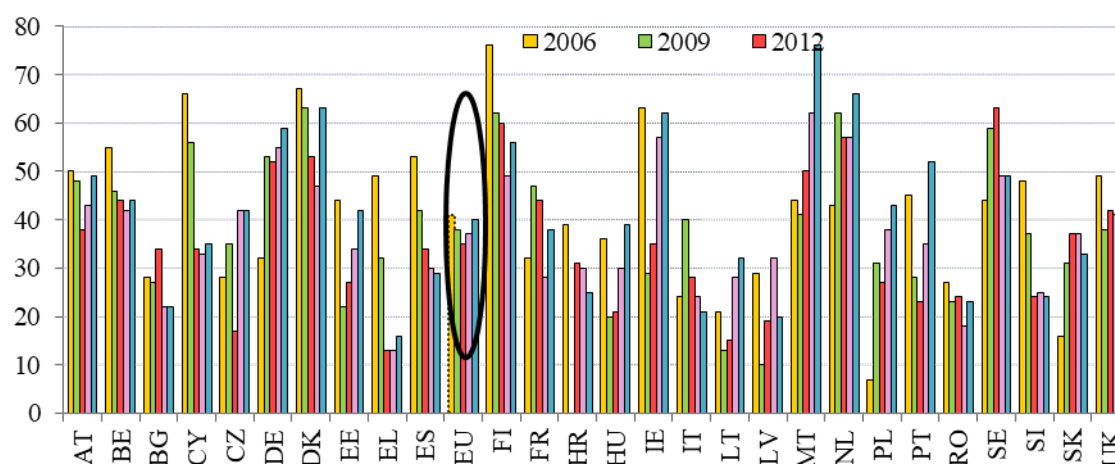
the shaping of governmental strategies, or when there is no simplification through decentralization. In other words, it is vital to outline operational objectives, which are clearly defined and can be transformed into specific work tasks, whose achievement can be measured, or at least appreciated, thus setting clear deadlines, and periodically evaluating the impact of public policies since many activities and government programs might become unnecessary over time (some of the needs they have addressed could either no longer exist or are no longer urgent). As the *theory of change* highlights, the public policies must be evaluated to see if progress is accomplished in achieving the expected results that can be operationalized through observable indicators - the relation outcomes-outputs-impact (Wilson, 2016; Pearl, 2009).

In addition to the aforementioned, a major role in ensuring good governance is played by the *innovative mechanisms* for monitoring and evaluating the public management, with the purpose to make public actions more transparent and to increase the confidence/credibility of the state's institutions. The capacity of governments to adapt to technological changes, to incorporate and disseminate innovative elements in public services should not be neglected. As such, medium- and long-term strategies, as well as a strong mobilization are necessary in order to enjoy the benefits of innovative challenges. "In an era of unprecedented change, with increasing levels of change on the horizon, governance must be designed to enhance innovation capabilities. It is not enough to design governance to cope with today's challenges—in a changing environment, the governance must evolve to stay relevant" (Knapp *et al*, 2019). When evaluating the good governance, along with elements such as internal order, the rule of law, and the policy results, it is necessary to consider the ability to run a business, to be a good leader, to demonstrate the adaptability to the continuous change of external environment, and to analyse the speed of response to challenges.

Moreover, in order to act in the spirit of the subsidiarity principle, each EU government must have a strong connection with the civil society in the decision-making process, taking into account the demands of citizens, who, according to official statistics (Gallup, EU opinion Eurobarometer), often complain about the corruption of civil servants. Therefore, it is necessary to group the causes and effects of immoral practices, of what is done and what could be done (the positive versus the normative level); the approach has to be an integrative, multi-dimensional one, which should include all actors and all sectors (education, health, defence, etc.). The correction mechanisms need to serve as fundamental benchmarks, to which each individual should refer to, and any violation of the rules of conduct has to be properly sanctioned. Within the European public sector, whether we are talking about countries with advanced capitalism or about those in transition, there are behaviours that are not aligned with the rules drawn in the spirit of fairness, justice, equity and truth. Moreover, Weber's vision regarding the bureaucracy encountered among the public administrations points towards the creation of incentives for the officials of this sector, based on rational principles and meritocracy. By recognizing the negative impact of corruption in the public sector and acting to reduce the phenomenon, the foundation of good governance is ensured. On the contrary, if corruption thrives, the entire economic system is destabilized.

As stated in the relatively recent literature, this negative aspect can be upheld by the fact that man, being driven by personal interests, uses different actions, which do not converge with ethics. *Homo oeconomicus rationalis* makes informed choices, knowing, in some cases, that they may be in contradiction with moral principles, and thus can generate a large-scale *modus operandi* (Pohoata, 2008). In the medium and long term, the consequences are of the worst, in the sense that, once covered, there is the risk of multiplication effects, which translates not only in a decrease in the quality of the governance, but also in an alteration of the level of population's confidence in the public sector (Figure no. 1).

Figure no. 1. Confidence in National Government (%)



Source: Authors' representation based on Gallup data, 2019

As Figure no. 1 suggests, in 2009, the confidence of the Romanian population in the government was only 23%, a score which was much lower than the EU average of 38%. Similar observations can be drawn from the data of the following years, noting that the overall tendency for the 2006-2018 period being one of decreasing confidence. The EU average in 2012 was 35%, with a slight increase in 2016 (37%); however, this increase has not exceeded the pre-crisis level, when, for example, in 2006, there was registered a confidence of 41%. Therefore, the massive action of the normative factor is required, with clear means and provisions regarding sanctions, and, at the same time, the allocation of resources in this direction, in the form of an imperative resembling Kant's "categorical imperative" as a universal law.

3. Government effectiveness in supporting innovative processes

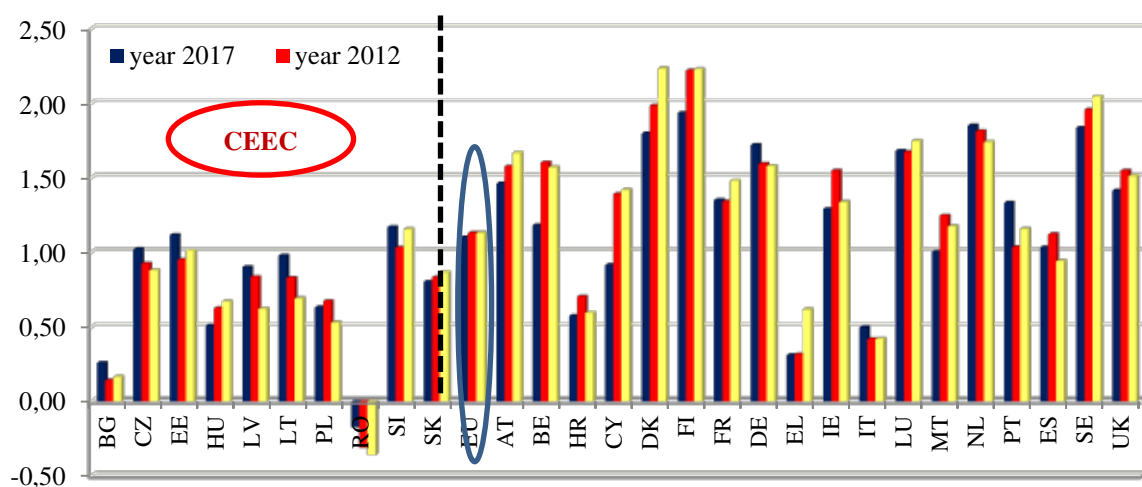
The strategic vision of governments and their ability to generate policies to absorb and promote innovation are key elements in the development process. Thus, according to EC (2012), we find that most of the respondents in the EU countries to the questionnaire measuring the perception of the impact that the public sector has in fostering innovation in the business environment, consider that the public sector does not help their companies to innovate, despite its capability to provide favourable conditions and training systems for the staff. Moreover, 87% of them say that for public services to become more innovative, a constant and focused effort is needed to reach this goal (the gaps between countries, in this sense, are major: Greece (90%) vs. Luxembourg (26%). Although 51% believe that there is information available on what innovative public services mean, only 20% think that their company receives support in facilitating the use of procedures for financial support. Innovation involves significant financial resources, at least until that time when large-scale production allows lower costs. In addition, other concern about the implementation of information technologies in the public sector refers to the lack of online data protection mechanisms. Thus, according to *EU Special Eurobarometer 464a*, entitled *Europeans' attitudes towards cyber security* (European Union, 2017), it stands out that 87% of the 28,093 interviewees, from the 28 Member States, consider cyber security a major challenge; moreover, 49% of the respondents believe that law enforcement fights cybercrime, 42% have concerns about the security of online payments and 45% about the protection of personal data. Furthermore, the results of the same Eurobarometer show that the lowest share of those who access the Internet daily is in Romania (47%), with the Netherlands and Sweden (93%) at the opposite pole.

In the public health system, at EU level, the eHealth Plan 2012-2020 traces the lines of development along with the specific barriers to overcome for the interoperability and implementation of online medical services (EC, 2012). Among the challenges that could hinder the achievement of this objective, the following were recorded: lack of information and trust of

patients in new services, high implementation costs, and lack of clarity in law for interoperability of eHealth systems at Member State level. Starting from these limits, the European Commission (2018) felt the need for more specific information among citizens about the opportunities offered by eHealth for disease prevention, identifying the needs of patients, solving the problem of lacking the necessary medical staff, equitable access to quality medical services and for the sustainability of medical systems throughout the Union, underlining the benefits of both the public health sectors at national level, as well as of the economic actors in the medical field. Essentially, the focus is on three pillars of action: ensuring the safe access of citizens to eHealth between states; data transfer and improvement of the medical treatment research infrastructure; encouraging citizens to use digital health services. Not coincidentally, *the European e-Government Action Plan 2016-2020* (EC, 2016, p. 3) aims for "EU public institutions to work openly and inclusively and provide digital, non-border, personalized public services and be easy to use for all citizens and the business environment in the EU". This should be fully accomplished because the public sector essentially means a regulatory authority, a both services and jobs that account for more than 25% of the total number of job opportunities; if it proves its effectiveness, this should be considered a driver for the expansion of the private sector.

The statistics most commonly used in the governance assessment literature are those of the World Bank, which measures six dimensions of governance (voice and accountability, political stability and absence of violence, government effectiveness, quality of regulation, rule of law and control of corruption) over a wider period, from 1996 to the present (World Bank, 2019). The effectiveness of the government is based on the quality of the services and public actions, their degree of independence from political pressures, the formulation and implementation of policies and the credibility of the government's commitment to such policies. The rating ranges from -2.5 (poor governance) to 2.5 (strong governance) - *Figure no. 2*.

Figure no. 2. Government effectiveness

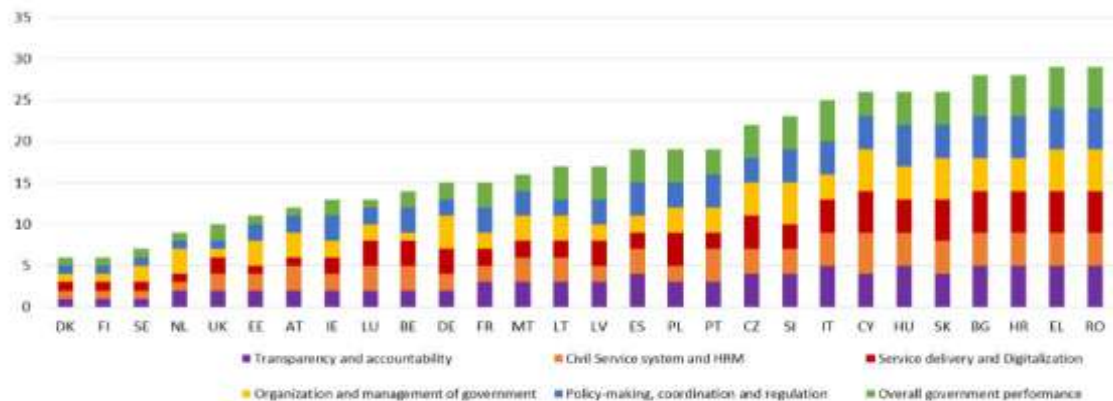


Source: Authors' representation based on WGI, World Bank data

As the World Bank data shows, there is an obvious gap between the Central and Eastern European countries (CEEC) and the western ones in terms of governmental efficiency. If in the case of the former group we report a positive dynamic over time (except for Romania and Hungary), in terms of the latter group we can notice a general decline in governance in 2016 as compared to 2009 (Austria, Belgium, Denmark, Finland, France, Sweden), which further validates the results of our study. Furthermore, additional statistical data was gathered in the framework of a project coordinated by the European Commission - EUPACK (European Public Administration Country Knowledge); subsequently, the EUPACK data highlights the grouping of EU28 countries in the chapter on the capacity of the public administration to perform, according to 5 components: transparency and accountability; civil service systems and human resources management; digitization and provision of services; organization and management of governmental activities; policy development, coordination and implementation (European Union, 2018). The data was

collected from official sources (Eurostat, World Bank, UN, OECD, the Quality of Government Research - University of Gothenburg, Bertelsmann Foundation etc.). The best cumulative score possible is 6, while a maximum score of 30 means a position in the lower ranking. Therefore, in this case, the lower the score, the higher the performance. Analogous to World Bank statistics, the Scandinavian countries occupy the first positions (DK, FI, SE), followed by the Netherlands, Great Britain, Estonia, Austria, Ireland, Luxembourg, Belgium, Germany and France. By contrast, Romania and Greece hold the last positions in this ranking.

Figure no. 3. Overall assessment of public administration capacity and performance of the EU Member States



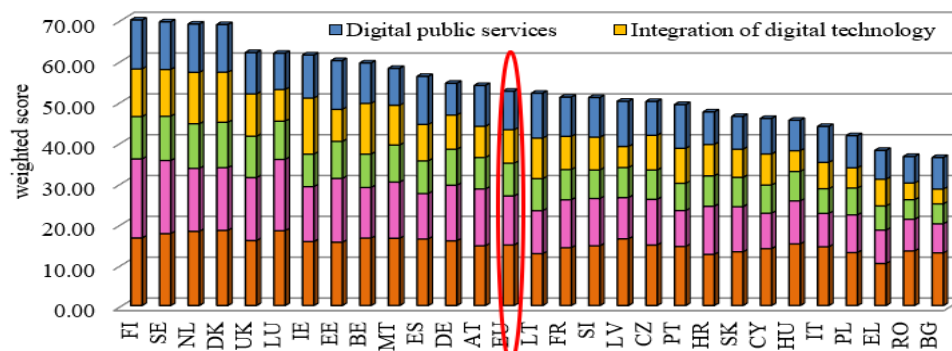
Source: EUPACK calculation based on the overall rank of each country in each of the 6 dimensions (each based on a quintile rank of 1-5) (European Union, 2018, p. 58)

Overall, governmental efficiency, is often associated with digitalization. As such, the digitization level reached by European Member States is monitored through the *Digital Economy and Society Index (DESI - European Commission, 2019)*, which is based on the weighting of the following variables:

$$DESI = Connectivity * 0.25 + Human\ capital * 0.25 + Use\ of\ Internet * 0.15 + Integration\ of\ Digital\ Technology * 0.2 + Digital\ Public\ Services * 0.15$$

According to Figure no. 4, Finland, Sweden, the Netherlands and Denmark have the most advanced digital economies in the EU, followed by the UK, Luxembourg, Ireland and Estonia. The lowest scores are recorded by Bulgaria, Romania, Greece and Poland. With regard to the digital public services, Finland has the highest score, followed by Estonia and the Netherlands. In this case, Romania, Greece and Hungary are at the opposite pole, as well.

Figure no. 4. Digital Economy and Society Index, 2019



Source: Authors' representation based on European Commission, DG Research and Innovation - Digital Scoreboard, 2019 (European Commission, 2019)

The explosion of digital technologies, the increasing emphasis on innovation, the ability to cope with possible disruptions that may occur at the micro and macro levels, will continue to transform nowadays societies; however, these changes will depend, first and foremost, on how citizens, companies and public authorities choose to use these technological tools. Through the Digital Single Market Strategy, the EU has proposed to create optimal conditions for the development of a fair and balanced digital environment, which firmly respects the rights of citizens regarding the protection of personal data. Although there are many reported cases of cyber-attacks at European level, undermining trust in the digital economy and democratic institutions must be counterbalanced through joint efforts, firm actions, clear responsibilities for all actors involved, both within the Union and in the strategic partnership with other economic powers. The report on the digitization of the European industry (European Parliament, 2017) highlights the importance of a clear strategy, thus establishing a series of favourable framework conditions, strengthening of security, coherence and long-term vision, better social resilience through innovation, skills, education and social innovation.

At the same time, a composite indicator that measures the extent to which ideas for new products and services generate economic benefits and are able to reach the market refers to the Innovation Output Indicator (IOI), developed by the European Commission since 2013.

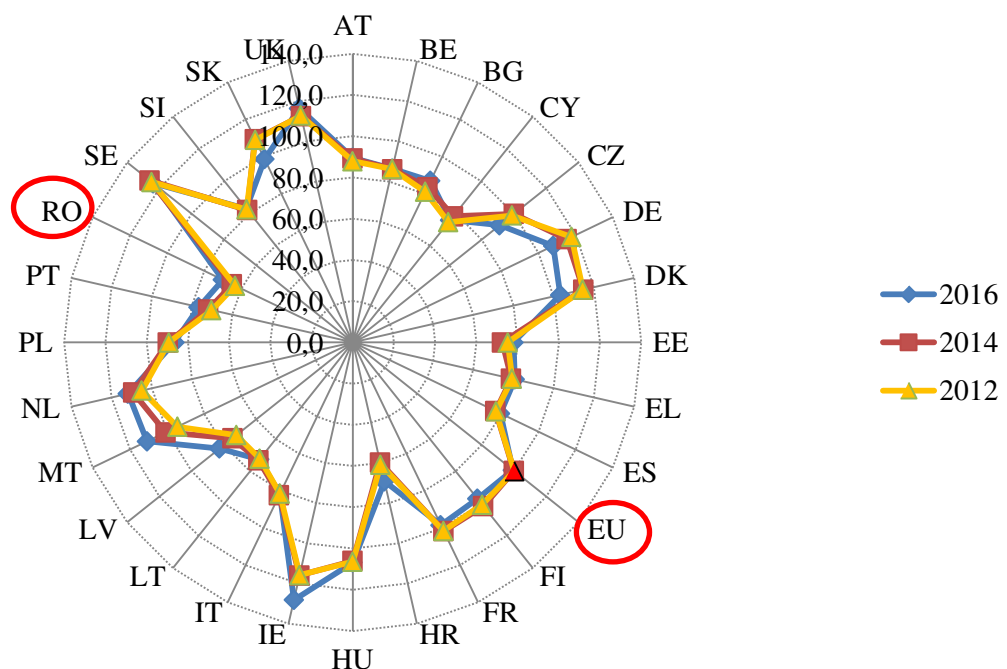
IOI is computed according to the following formula

$$IOI = \alpha_1 PCT + \alpha_2 KIABI + \alpha_3 COMP + \alpha_4 DYN,$$

where α_1 , α_2 , α_3 , α_4 are the weights of the component indicators; PCT = patent applications per billion GDP (PPS); KIABI = share of employment in knowledge-intensive business industries; COMP (competitiveness of knowledge-intensive goods and services in the export markets) consisting of GOOD = the share of medium and high-tech products in total exports and SERV = knowledge-intensive services exports as percentage of total service exports; DYN = employment share in fast-growing enterprises in innovative sectors.

The base year for which the reporting was made was 2011 (EU 2011=100) – *Figure no. 5.*

Figure no. 5 - Innovation output indicator (EU 2011 = 100)



Source: Authors' representation based on Eurostat data, DG Research and Innovation – Science, Research and Innovation performance of the EU 2018

According to the IOI scores, we observe that Ireland, Sweden, the UK and the Netherlands are among the leaders, whereas Croatia, Romania and Lithuania are at the bottom of the ranking. An in-depth analysis of the interrelationship between the IOI components emphasizes that the employment in the fast-growing enterprises in the innovative sectors established a weak correlation with the rest of the components. This may lead to the conclusion that specific/ separate policies may be needed, both in terms of innovation based on research and development on the one hand, and in terms of innovation based on entrepreneurship, on the other hand.

4. Conclusions

Given that the EU economies are highly interdependent and the constraints on public spending have increased against the background of the crisis, the states need to find specific solutions to support innovative activities, based on diversification of economic activities, specialization, relationships between system components; such approach will allow them to create a suitable framework for adaptability in order to better deal with shocks. The resistance of a system to shocks is closely linked to its institutional diversity (Aligică & Tarko, 2014), considering that a sound institutional system refers to that system that is capable to maintain its efficiency over time and to fulfil its core mission, despite the changes that have occurred. Even if the tools that facilitate the institutional arrangement (human resources, infrastructure, human resources, procedures, budgets) persist, the system may still disappear if its mission is fundamentally altered (Steinberg, 2009).

If the western countries of the EU have proved, over time, a better effectiveness of their development policies through coherent policies and institutional flexibility (obtaining high scores regarding macroeconomic issues), the Central and Eastern European states seem to lack a strategic vision as the capacity of their governments to perform is often associated with extractive institutions, which only redistribute the resources from one part of the population to another, without being guided by well-studied cost-benefit analyses. Under these conditions, in CEEC, structural transformations and rethinking of the functioning of the governance system are required. However, the performance of a state is not only measured in terms of the results of innovation and technology, but rather must be judged in relation to the major objective of increasing its competitiveness. Technological change means following three stages (invention, innovation and diffusion) and the competitiveness is evaluated through the whole system's components (quality of institutions, human capital, territorial capital, macroeconomic and social aspects, geopolitics, etc.).

Therefore, the dynamics of societies can be interpreted as a result of several influencing factors, endogenous and exogenous, which act on individual decisions and actions, among which the institutions (formal or informal) and the system of governance can be considered of major importance.

Regarding the strengthening of the innovative capacity of a country, it is important that the measures taken in this direction by governments to support the human resource produce innovative goods and services; as such, in order to foster and enhance innovative capacity, governments need to consider encouraging and financing the creative activities, expanding the partnerships between companies and educational institutions that have in their activities applied/ innovative research, providing incentives for the diffusion of inventions in less developed areas (inclusive innovation), and facilitating the introduction of informational technologies in the public sector to reduce transaction costs.

5. Acknowledgement

Sorin Mazilu is supported by the Jean Monnet Module "Culture, creativity and human capital: pillars for European Union's prosperity" - EUcreaTip, co-funded by the European Union (587908-EPP-1-2017-1-RO-EPPJMO-MODULE).

6. References

- Algan, Y., & Cahuc, P., 2014. *Trust, Growth, and Well-Being: New Evidence and Policy Implications*. In *Handbook of economic growth* (pp. 49-120). doi:10.1016/b978-0-444-53538-2.00002-2
- Aligică, P.D., Tarko, V., 2014. Institutional Resilience and Economic Systems: Lessons from Elinor Ostrom's Work. *Comparative Economic Studies*, 56, pp. 52–76.
- Drucker, P., 1989. *The New Realities: in Government and Politics, in Economics and Business, in Society and World View*, New York: Harper & Row.
- Drucker, P., 1999. The Deadly Sins in Public Administration, in Kearney, R. (ed.), *Public Sector Performance Management, Motivation, And Measurement*, 1st edition, New York: Routledge.
- Drucker, P., 2002. *A Functioning Society*. New Brunswick, London: Transaction Publishers.
- Dyba, W., Loewen, B., looga, J., & Zdražil, P., 2018. Regional development in Central-Eastern European countries at the beginning of the 21st century: path dependence and effects of EU cohesion policy. *Quaestiones Geographicae*, 77-92.
- European Commission, 2012. *eHealth Action Plan 2012-2020 – Innovative healthcare for the 21st century*, Brussels.
- European Commission, 2018. *Communication on enabling the digital transformation of health and care on the Digital Single Market; empowering citizens and building a healthier society*, Brussels.
- European Commission, 2019. *The Digital Economy and Society Index*. [online] Available at: <https://ec.europa.eu/digital-single-market/en/desi> [Accessed 20.10.2019]
- European Parliament, 2017. *Report on digitising European industry*. Brussels: Committee on Industry, Research and Energy.
- European Union, 2017. *Special Eurobarometer 464a. "Europeans' attitudes towards cyber security"*. Brussels: Directorate-General for Communication.
- European Union, 2018. *A Comparative Overview of Public Administration Characteristics and Performance in EU28*. Brussels: EUPACK.
- Gallup Database www.gallup.com
- Handler, H., Koebel, B., Reiss, P., Schratzenstaller, M., 2005. The Size and Performance of Public Sector Activities in Europe. *Austrian Institute of Economic Research, WIFO Working Paper*, 246/2005.
- Knapp, M., Killen, C. P., Stevens, C., & Sankaran, S., 2019. Governance of innovation in portfolios, programs, and projects. *PMI White Papers*. [online] Available at: <https://www.pmi.org/learning/library/governance-innovation-projects-programs-portfolios-11796> [Accessed 3.11.2019]
- Mokyr, J., 2002. *The Gifts of Athena. Historical Origins of the Knowledge Economy*. Princeton: Princeton University Press.
- Nunn, N., & Trefler, D., 2014. Domestic Institutions as a Source of Comparative Advantage. *Handbook of International Economics*, 263–315. doi:10.1016/b978-0-444-54314-1.00005-7
- OECD, 1996. *The Knowledge-based Economy*. Paris: OECD Publishing.
- Pearl, J., 2009. *Causality: Models, Reasoning, and Inference*, 2nd edition. New York: Cambridge University Press.
- Pohoata, I., 2008. From the human capital defined as "homo oeconomicus rationalis" to that of the rationally bounded and opportunistic "homo contractualis". An institutionalist approach. *Review of Economic and Business Studies*, pp. 129-134.
- Schiliro, D., 2012. Knowledge-based economies and the institutional environment. *Theoretical and Practical Research in the Economic Fields*, pp. 42-50.
- Steinberg, P., 2009. Institutional Resilience Amid Political Change: The Case of Biodiversity Conservation. *Global Environmental Politics*, 9, pp. 61-81.
- United Nations - Department of Economic and Social Affairs, 2018. *Sustainable development goal 16: Focus on public institutions*. World Public Sector Report 2019. New York: United Nations.
- Wilson, C.A., 2016, *Public Policy: Continuity and Change*, second edition. USA: Waveland Press.
- World Bank, 2019. Retrieved from Worldwide Governance Indicators: info.worldbank.org

at: <https://www.pmi.org/learning/library/governance-innovation-projects-programs-portfolios-11796>
[Accessed 3.11.2019]

- Mokyr, J., 2002. *The Gifts of Athena. Historical Origins of the Knowledge Economy*. Princeton: Princeton University Press.
- Nunn, N., & Treffer, D., 2014. Domestic Institutions as a Source of Comparative Advantage. *Handbook of International Economics*, 263–315. doi:10.1016/b978-0-444-54314-1.00005-7
- OECD, 1996. *The Knowledge-based Economy*. Paris: OECD Publishing.
- Pearl, J., 2009. *Causality: Models, Reasoning, and Inference*, 2nd edition. New York: Cambridge University Press.
- Pohoata, I., 2008. From the human capital defined as "homo oeconomicus rationalis" to that of the rationally bounded and oportunist "homo contractualis". An institutionalist approach. *Review of Economic and Business Studies*, pp. 129-134.
- Schiliro, D., 2012. Knowledge-based economies and the institutional environment. *Theoretical and Practical Research in the Economic Fields*, pp. 42-50.
- Steinberg, P., 2009. Institutional Resilience Amid Political Change: The Case of Biodiversity Conservation. *Global Environmental Politics*, 9, pp. 61-81.
- United Nations - Department of Economic and Social Affairs, 2018. *Sustainable development goal 16: Focus on public institutions*. World Public Sector Report 2019. New York: United Nations.
- Wilson, C.A., 2016, *Public Policy: Continuity and Change*, second edition. USA: Waveland Press.
- World Bank, 2019. Retrieved from Worldwide Governance Indicators: info.worldbank.org