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Study No. 1. The European orientation of the Republic of Moldova. Romania's support for this process

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Nowadays, the European continent is crossed by and marked by direct or indirect confrontations, which are a threat to the security of the entire continent. On the one hand, from a military point of view, one must remember the war in Ukraine and its effects, the confrontations between Republic of Armenia and Republic of Azerbaijan in 2020 - in addition, in September 2023, Republic of Azerbaijan launched an operation in Nagorno Karabakh, which led to the mass exodus of ethnic Armenians from the enclave (over 100,000 people) and the self-dissolution of the institutions of the "Artsakh Republic", as of 1 January 2024, Russia's revisionism, the waves of populism - events that changed the dynamics of the European security architecture. On the other hand, Europe also faces frozen conflicts such as those in: the Transnistrian region, South Ossetia and Abkhazia and until 2020 Nagorno-Karabagh. On the other hand, asymmetric risks and threats, coming from the cyber- sphere, are increasingly present, especially after the outbreak of the COVID-19 pandemic. At a macro-level, from a geopolitical point of view, the European continent is the meeting point of competing interests of the great powers such as the USA, the Russian Federation, China and Türkiye. Thus, more and more pressure is put on the EU's foreign policy, whether it is about the defense policy and the strategic autonomy of the EU, or about its enlargement. In 2023 the European decision-makers have announced the opening of gates to the EU precisely to one of the most dynamic areas from the point of view of the security at the level of Europe, accepting that the Republic of Moldova and Ukraine to become candidate countries to the EU despite the protests and belligerent actions from Moscow.

Thus, the future of any regional foreign policy initiative, such as the EU enlargement, is a very dynamic one, which includes a series of continuities, discontinuities, unforeseen events (such as the beginning of the war in Ukraine in February 2022 was) and a high level of incertitude. In order to explore such a topic, we believe that the comparative method and the method of constructing scenarios are very useful in forecasting in the field of foreign policy, being basically used in the military field, because it allows the articulation of possible future developments based on the identification of patterns, the estimation of uncertainties and probabilities, as well as the introduction of unexpected elements.

In addition to starting the accession negotiations of Ukraine and the Republic of Moldova, the EU has initiated a series of internal steps for effective preparation for enlargement. For example, the final report of the high-level expert group on EU Cohesion Policy (presented in January 2024), Ninth Report on Economic, Social and Territorial Cohesion (presented in March 2024), as well as the report on the Future of the Single Market (the Letta report – presented in April 2024) underlines the fact that in the coming years the priorities must not only aim at the normative preparation for accession, especially in terms of compliance with the Copenhagen criteria, but also at the rapid integration into the EU single market from the pre-accession stage. This means the allocation of funds from the cohesion policy for major investments in the transport infrastructure (rail, energy, road and data), the energy efficiency of public infrastructure and housing, strengthening the competitiveness of large enterprises and SMEs as well as in the efficient management of waste and water resources, etc. An essential role in this respect will be played by the member states and the border regions with Ukraine and the Republic of Moldova. From this point of view, Romania's role is a significant one, especially in the case of the Republic of

Moldova, both from the perspective of transferring its expertise and experience from the pre-accession period, as well as from the preparation of major and strategic public investment projects from European funds what will be available in the forthcoming period of time.

The *aim* of this study was to analyse the relations between the Republic of Moldova and the European Union and to identify the main areas in which Romania can offer expertise and transfer of best practices in the field of European integration.

In this respect, we set out to substantiate the contribution that Romania can have to the European path that the Republic of Moldova is engaged on in the short and medium term. Therefore, the purposefulness of the analysis is policy-oriented, being directly addressed to decision-makers in the field of foreign policy of Romania and the Republic of Moldova, consisting of a set of positioning recommendations and concrete actions that the Bucharest authorities can adopt in the endeavours to support the Republic of Moldova in its European course of action, with an emphasis on risks and opportunities, together with a broad overall analysis of developments in the strategic neighbourhood in the latest decades.

In view of attaining this goal, we had in mind the following **specific objectives**:

1. The analysis of the dynamics of the European integration process of the Republic of Moldova in the current geopolitical context, whereby there was analysed the relationship with the European Union, the evolution of Chişinău in the Eastern Partnership in accordance with the European standards, the Association Agreement and the acceptance of Republic of Moldova's accession as a candidate country to the EU.

2. Drawing up a SWOT analysis on the evolution and dynamics of the European integration process of the Republic of Moldova. This enabled the identification, synthesis, description and analysis of potential vulnerabilities and uncertainties that may affect the negotiation framework between the Republic of Moldova and the European Union. By using the SWOT method, we considered endogenous factors (such as: political stability at the internal level, the implementation of reforms, the support of the elites and of the population, the managing of territorial conflicts, etc.), as well as exogenous factors (the war in Ukraine, the merging of the accession negotiations with Ukraine; the support coalitions of the member states, a.o.).

3. Identifying, analysing and evaluating the ways in which Romania can contribute to the consolidation and expansion of the progress made by the Republic of Moldova in the integration process. By this analysis, we presented the actions that were taken in the last decade by the Romanian authorities with regard to its contribution to the consolidation and expansion of the progress made by the Republic of Moldova.

4. The 'construction' of alternative scenarios on the political and geopolitical evolution. We made five scenarios for the future starting from the best-case scenario (1. The Republic of Moldova in the EU until 2030; 2. The Republic of Moldova-Ukraine join together; 3. Maintaining the *status quo*; 4. The Republic of Moldova-buffer zone between the east and west) and the worst-case scenario (5. Non-EU Republic of Moldova for an unlimited period of time). The internal political evolution of the Republic of Moldova and the complicated geopolitical context in Eastern Europe (EU, Russia, USA, Ukraine, etc.) were taken into account.

5. Formulating recommendations to support the acceleration of implementing the necessary reforms in order to bring the Republic of Moldova closer to the European Union. The formulation of recommendations (at the tactical, operational and strategic level) to support the acceleration of the implementation of the reforms needed in order to bring the Republic of Moldova closer to the European Union resulted from the analysis.

6. Formulating public communication recommendations to support the authorities of the Republic of Moldova in promoting the European integration process. Following and

analysing Romania's European path, the expertise accumulated and the examples of good practices, we drew up a set of recommendations that could be used by the authorities of the Republic of Moldova in the process of promoting European integration.

Methodologically, we aimed at the fact that the carrying out of these objectives be achieved through a complex documentation and a set of elaborated methods and tools that imply the use of official documents as primary sources, specialized literature and the expertise of the authors.

The content analysis method included the analysis of the dimensions and stages of the European integration of the Republic of Moldova (internally and externally - multilateral and bilateral). From the multilateral perspective, in order to analyse the regional and national development framework of the EaP, but also the policies of Chişinău, the following programmatic documents will be analysed: 2009 – the EaP launch; 2013 – Vilnius Summit; 2015 - Riga Summit; 2017 - Brussels Summit: the „20 results for 2020”; 2019 - The conference celebrating the 10 years of EaP, the annual reports of the European Commission related to the level of integration of the Republic of Moldova and the scores recorded by it, etc. *The comparative method* was used in view of highlighting the road that the Republic of Moldova has to go by comparing it with the reforms and changes that Romania had to implement as part of the negotiations with the EU.

The SWOT analysis was used according to the classical approach of identifying strengths and opportunities as well as weaknesses and threats.

The *scenario method* thus makes the unpredictable predictable, at least partially, at an imaginative level. We aimed at using a scientific analytical model, agreed upon and used in the foreign policy and security analyst community, in the following format (Lambert 2007, p. 112): identifying the most important aspects of the problem analysed; identification of the main factors that can influence the analysed problem (differentiated based on the degree of uncertainty – from very likely (close to *status quo*) to very unlikely ('*black swan*' scenario) and the type of impact (very positive, neutral, very negative); creating alternative scenarios.

From the point of view of the structure, the research work is organized in **seven chapters**, in addition to the conclusions.

In the first chapter, *Introduction and methodology*, a short introductory presentation is made under thematic report and the methodological framework is developed.

In the second chapter, *The European integration process of the Republic of Moldova in the current geopolitical context*, we analysed the European integration process of the Republic of Moldova in the current geopolitical context, the challenges for European integration related to the management of the frozen Transnistrian conflict and the developments in the Autonomous Territorial Unit of Gagauzia (UTAG), but also the relationship between the EU and the Republic of Moldova, from partner to candidate state: the Eastern Partnership, the Association Agreement, candidate state, negotiation chapters.

In chapter three, *The relationship between the Republic of Moldova and Romania, as the main element of Romania's foreign policy*, we focused on the analysis of the relationship between the Republic of Moldova and Romania, as the main element of Romania's foreign policy, carrying out a longitudinal analysis of the bilateral relationship between the two, on Romania's role in moving forward on the European agenda of discussions *vis-à-vis* the integration of the Republic of Moldova in European structures.

In chapter four, *Romania's European path: good practice lessons and their transfer towards the Republic of Moldova*, we analysed Romania's European course, emphasizing the lessons of good practice and their transfer to the Republic of Moldova. Thus, we would like to highlight the way in which the Romanian state can assist the partners from Chişinău in the accession process, taking into account the *know-how* and skills acquired during the negotiations

for their own accession. Thus, the following themes of analysis were taken into account: ensuring the internal political consensus and a prescriptive strategic planning; substantiation of the negotiation strategy; finalization and continuous strengthening of the institutional system and internal governance.

In chapter five, *Future scenarios on the Republic of Moldova's EU integration process and Romania's view in regarding them*, the research team developed the 5 scenarios for the future in the process of integration of the Republic of Moldova into the EU and the positioning of Romania in relation to them after identifying the influencing factors. Thus, the 5 scenarios are: Scenario 1: The *best-case* scenario: Republic of Moldova until 2030; Scenario 2: Republic of Moldova-Ukraine together (jointly); Scenario 3: Maintaining the *status quo*; Scenario 4: Republic of Moldova-buffer zone between east and west and Scenario 5: *Worst case* scenario: Republic of Moldova non-EU for an indefinite period of time.

After the longitudinal analysis, the comparative analysis and the five scenarios, the research team carried out in chapter six, *SWOT analysis regarding the dynamics of the Republic of Moldova European integration process*, a SWOT analysis of the dynamics of the European integration process of the Republic of Moldova, outlining the most important strengths, weaknesses, opportunities, and also threats.

Thus, in chapter seven, *Supporting recommendations regarding the Republic of Moldova's European integration*, we drafted recommendations to support the enhancing of the implementation of the necessary reforms in order to bring the Republic of Moldova closer to the European Union, as well as recommendations for public communication to support the authorities of the Republic of Moldova in promoting the European integration process.

In conclusion, the Republic of Moldova is seriously affected by the war in Ukraine economically, socially, but also at the level of national and societal security. The hybrid war waged by Russia against this vulnerable state is contributing to a process of eroding democracy and threatens the strengthening of the rule of law and political balance. The Transnistrian conflict and the Autonomous Territorial Unit of Gagauzia (UTAG) are used by Russia to generate instability and to block the initiatives of the Chişinău authorities related to the European integration process. The Transnistrian conflict in the context of the events in Ukraine has repeatedly shown signs that it can be reactivated. The political leaders from the Autonomous Territorial Unit of Gagauzia (UTAG) publicly support Putin's regime and its policies towards the Republic of Moldova and its European integration by visits to Moscow inclusively.

The war in Ukraine, although being an event that affected international security, created an unprecedented opportunity for the Republic of Moldova, namely the chance to apply to the EU accession. The aggressive behaviour of the Russian Federation was felt at the EU level as an unprecedented threat to the stability and security of the entire European continent, fact that led the leaders from Brussels to go beyond the minimum common denominator and unanimously accept the candidate status of the Republic of Moldova to the EU, alongside that of Ukraine. At the other decision-making pole, having in mind the reforms already implemented within the Eastern Partnership, the signing and ratification of the Association Agreement, but also the political agenda, the authorities from Chişinău demonstrated a relatively constant behaviour at the head of the group of six states within the Eastern Partnership. Once with the acquiring of the candidate status, the efforts of the Chişinău authorities intensified in terms of adopting the necessary reforms in order to fulfil the criteria (an element identified as a strong point in the SWOT analysis). This fact is also attested in the monitoring report of the European Commission, but we cannot overlook the fact that the path will not be an easy one, given the weak points identified following the SWOT analysis: the necessary reforms in the judicial system, the still high level of corruption, the prevailing inequality between the sexes, the digitization process that must be continued, the problem of the Transnistrian conflict that can delay the accession to the EU.

The relations between Romania and the Republic of Moldova have been defined by a constant support towards the European integration of the Republic of Moldova. This aspect turned this collaboration into an essential element of Romania's foreign policy. During the last three decades, Romania had a determined role in the democratization and Europeanization of the Republic of Moldova, contributing significantly to its development through bilateral projects and substantial financial assistance, becoming the first bilateral economic partner. The major role played by Romania was noted in aspects such as: the process of liberalizing the visa regime, supporting the breaking of energy dependence on the Russian Federation, obtaining by the Republic of Moldova the status of a candidate country for EU accession and access to the negotiation stage, etc.

In the following period of time, Romania must continue this support, facilitating the progress of accession negotiations by the authorities of the Republic of Moldova and contributing to the implementation of the reforms necessary to complete this stage. Romania's experience in the process of EU accession offers a series of valuable lessons for the Republic of Moldova and can be used to guide the Republic of Moldova in a more efficient way, avoiding the blockages and strategic errors registered. Thus, the creation of a clear governance framework, the adoption of a well-defined inter-institutional strategy and the development of a solid partnership with the EU institutions, as well as with the member states that will hold the rotating presidency of the EU Council in the next three years are key aspects for the successful development of the process negotiation and subsequently of accession to the EU. Also, the implementation of a robust institutional mechanism to coordinate negotiations and the creation of a national program to prepare for integration are necessary steps to ensure a predictable and coherent process for the EU membership

As it can be seen from the scenarios developed, in order for the Republic of Moldova to be able to fulfil the objective it set forth, i.e. to become a member state by 2030, at the internal level, the issue of the Transnistrian conflict will have to be resolved in a relatively short term, namely a possible economic integration of this region into the European market, which is feasible, considering the commercial exchanges already registered. On the other hand, the integration of the Republic of Moldova into the EU will also require a border crossing, probably adopting a model similar to the Cypriot or Irish one. At an external level, it should be disconnected from Ukraine in the negotiation process, which is less likely. Thus, an identified threat was the dependence of the accession to the EU of this state on the end of the war in Ukraine and its accession to European structures. Having in mind these things, as well as the accession process of the Balkans and the aggressive behaviour of the Russian Federation, the Republic of Moldova has relatively small chances of becoming a member state of the EU in the short term. Moreover, this negotiation that the EU has chosen to make in two/jointly can represent a major threat to the Republic of Moldova, considering that the war in Ukraine can continue on an indefinite period of time, which will generate a feeling of frustration on the part of the authorities from Chişinău, fact that can lead to the development of a feeling of frustration and finally to the possible lack of interest in the EU.

The recommendations resulting from the analysis are structured on three levels: strategic, tactical and operational, having in view the national specifics. At a *strategic level*, the recommendation referring to the support of the acceleration of the implementation of the necessary reforms by the Republic of Moldova in order to get closer to the EU, emphasizes the need to provide coherent and united support to achieve institutional convergence between Romania and the Republic of Moldova, with a view to European integration. From a *tactical perspective*, the governmental strategies in Romania must include clear objectives related to supporting the authorities of the Republic of Moldova in preparing the negotiations for accession, as well as supporting the implementation of the specific requirements of the negotiation chapters, supported by adequate resources. At *operational level*, the creation of a national focal point to manage the coordination of technical and financial support is recommended, thus ensuring a unified and

efficient approach. At the same time, providing incentives for officials involved in the integration process and the medium and long-term secondment in the Republic of Moldova is also recommended.

In what concerns supporting the authorities of the Republic of Moldova in promoting the European integration process, from a strategic point of view, it is recommended that Romania should make efforts to include the Republic of Moldova in the European Digital Media Observatory (EDMO), as well as creating of a joint hub coordinated by Romania to counteract disinformation. From a tactical point of view, enhancing communication by exemplifying the benefits of European integration, based on Romania's progress within the EU is recommended. In addition to all this, from an operational point of view, the exchange of experience between specialists in the field of public communication from the Republic of Moldova and Romania would contribute to the improvement of communication skills on European topics, supporting correct and effective information of the citizens in the Republic of Moldova on the impact of European integration.

The study is available [here](#) (in Romanian).

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No. 2. Ukraine's European agenda. The impact of Ukraine's integration on the functioning of the EU's policies and institutional structure

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The study investigates the dynamics and the sustainability of the reform implementation in Ukraine as part of the process of joining the European Union. Our analysis includes both the progress made by the Ukrainian authorities and the difficulties of ensuring stable institutions and a viable economy in a country at war with temporarily occupied territories, ongoing direct military hostilities and airstrikes on the critical infrastructure. Moreover, this research highlights the potential challenges generated by Ukraine's EU integration, especially from the point of view of the distribution of agricultural and cohesion funds. Based on the commitment of Romania and Ukraine to raise the bilateral relationship to the level of Strategic Partnership, the research also aims to identify sectoral priorities where Romania can make a substantial contribution through the transfer of expertise to Ukraine.

To achieve the general and specific objectives of our study, we resorted to the permanent and creative combination of multiple methodological tools.

We used the diachronic analysis for the European path of Ukraine, while looking at different sectors. This analysis was beneficial for understanding the causes of particular dysfunctions and disruptions on the path to the European Union. We analysed the successes/advancements of the reform processes, as well as the problems/difficulties that generated delays in honouring the commitments made in accordance with the stage requirements formulated by the European institutions and, respectively, the reform commitments of the central authorities in Kyiv according to the model/grid recommendations/commitments/reforms.

For the July-October 2024 period, we proposed a synchronous SWOT analysis, which identifies, highlights and describes the strengths and weaknesses expressed in Ukraine's EU accession projection, and the related vulnerabilities and opportunities.

The beginning of our research coincided with the approval of the negotiation frameworks for the accession of Ukraine and the Republic of Moldova to the European Union, adopted at the end of the Belgian Presidency of the EU Council. In this sense, the relevance of our study increased: i.e., the research followed diachronically the first developments of Ukraine's approach to the EU according to the negotiation framework adopted in June 2024.

Direct sources were consulted regarding the state of reforms carried out in Ukraine. These primary sources represent a value-added element of our research. At the same time, the in-depth analysis of Ukraine's capacity to adapt to the EU's requirements and standards was guaranteed by the solid expertise on Ukraine of two of the authors of this research project. Sectoral analyses assessed the impact of internal and external factors on the Ukrainian administration's ability to honour its commitments and implement the necessary reforms. Among the external factors, the neoimperialist projection of the Russian Federation, the impact of the current war on the European and Euro-Atlantic orientation of Ukraine, the priorities of the post-conflict reconstruction and its overlap with Ukraine's accession agenda, the developments of the security infrastructure in the Black Sea extended region, and the impact on EU enlargement of Ukraine's bilateral relations with other regional actors were analysed in detail.

We simultaneously tried to analyse the global and sectoral impact of Ukraine's accession to the Union from the reverse perspective taking into consideration the Union's domestic reforms,

its strategic development projection, the ambitions of transforming the Union into a global actor, etc.

From this perspective, the Union's relations with Ukraine (i.e., Ukraine's accession to the EU) can represent the *litmus test* of EU's strategic autonomy ambitions and of its aspiration to become a relevant global actor. The analysis focused on the overall impact of Ukraine's accession on the institutional structure and capabilities of the Union (budget and budget distributions, security roles, sectoral challenges, etc.). The European Union itself is changing, and Ukraine's EU accession will take place simultaneously with the manifestation of far-reaching internal metamorphoses of the Union.

In this way, our study is not (only) an evaluation report of the impact of Ukraine's EU accession, but also an exhaustive analysis of the internal mechanisms that step up the Union's capacity to reduce the negative effects of the enlargement and to gradually integrate Ukraine in its multiple institutional structures, which forge the European identity, mentality, and its cultural, social and political foundations – an analysis that also contextualizes the basic parameters of regional geopolitical developments.

The analysis tools used took into account the overlap of several processes (Ukraine's approach regarding the EU, the internal transformations of the EU, the dynamics of geopolitical changes, etc.) to facilitate the necessary analytical flexibility, based on factual developments that can be identified and assessed, and on broader analytical developments, contextualizations, predictions stemming from different scenarios (scenarios regarding the evolution of the EU, the developments of the enlargement policy in the Eastern Neighbourhood, the major transformations in the Eastern Neighbourhood and the medium and long-term effects of the ongoing war of aggression against Ukraine, future collision zones between *the Russian world* and *the free world*), etc.

Our objective, in this sense, was to conduct a multidimensional study with a long analytical life considering the accelerated geopolitical dynamics at the regional and global levels and a high unpredictability regarding future geopolitical evolutions. For achieving this, we reflected on Ukraine's European approach, the new imperialist projections of the Russian Federation, the current war of aggression and its possible new phases and escalations, etc.

Romania's role and interests in this geopolitical context that generates some good opportunities, and the tools that our country has at its disposal, as well as the related challenges, were analysed in detail in the below-mentioned mappings (Ukraine's reforms and their impact). They were also described *in extenso*, separately, on two levels: the bilateral level (the drafting and implementation of the future Strategic Partnership Agreement between Romania and Ukraine) and, respectively, the European one (we identified and highlighted sectoral priorities where the transfer of Romania's expertise to Ukraine is possible, within the wider framework of its European integration).

The permanent assessments of the regional dynamics considerably broadened the framework of our analysis, while embedding the central theme (the impact on the EU policies of Ukraine's EU accession) in a large geopolitical context. The three levels (European/regional/bilateral) have been analysed by using methods specific to foreign policy analysis.

During the reference period for elaborating this study, the Agreement on Security Cooperation between Ukraine and Romania was signed. There is also a need for concluding a broader bilateral agreement between the two countries, which would state and define the purpose, objectives, fields of cooperation, instruments and resources of a strategic partnership between Romania and Ukraine. This would be feasible through a comprehensive bilateral agreement. Our study can thus be used to substantiate the configuration and implementation of such an agreement.

To achieve its specific objectives, our study generated four thematic analytical mappings: Ukraine's reform process, the impact of Ukraine's integration on the EU, the sectoral priorities for which Romania can transfer its expertise to Ukraine and, respectively, specific recommendations

on increasing Ukraine's capacity for sustainable reform implementation. The four analytical mappings directly respond to the specific objectives of our study. We used various analytical means and tools to create four analytical maps.

The methodological approach applied mixed methods, which combine qualitative and quantitative data, content analysis, as well as the collection and processing of analytical inputs gathered by organizing and conducting meetings (in-person, online or hybrid events) with experts from Romania and Ukraine. During the drafting phase, around 30 opportunities to collect analytical inputs from Ukraine were exploited directly by the team members, in the framework of some public or private activities.

Different statistical methods were used to perform a comparative analysis of the progress made by Ukraine at each stage of its relations with the EU. The combination of these approaches allowed for the harmonious and coordinated integration of varied datasets, thereby helping to maximize the potential of this study.

Data and studies from secondary sources ensured a comprehensive understanding of the dynamics of Ukraine's accession to the EU in a regional context. Secondary data were collected by consulting the progress reports and studies on Ukraine, conducted/issued by the EU institutions (Commission progress reports, European Parliament resolutions) or by international non-governmental entities. We added the qualitative data obtained following the meetings of our research team with experts from Romania and Ukraine.

In carrying out the analytical mapping of Ukraine's European path, special attention was given to the topic of the hybrid war components used by the Russian Federation both in Ukraine and in the EU's member states (primarily in Romania). We gathered a set of strategic narratives created and used by Russia in Ukraine, in Romania and in other EU member states, to undermine the enlargement process and to inhibit the European option of some state actors in the region (mainly, Ukraine, the Republic of Moldova, and Georgia).

Qualitative analyses that applied some critical factors, assessed on the basis of empirical data, were used to create four analytical maps. We opted for mixed methodologies, combining historical analysis, case studies, and quantitative and qualitative analysis.

In the study, we collected various evaluations of Ukraine's European integration, we considered the relevance for Ukraine of Romania's integration experience and the perspectives of the Romanian-Ukrainian bilateral relationship. These assessments were collected from the Romanian community in Ukraine, as well as from the Ukrainian community in Romania, between July and October 2024. We used the respective data to substantiate the proposals and recommendations of public policies based on data (*evidence-based policies*).

The extensive bibliography of this research includes (without being limited to) specialized studies carried out by Ukrainian experts (absent from the Romanian publishing market given the language barriers) and Romanian researchers, impact studies, content analyses, reports and official statistics of relevant public institutions in Ukraine and EU Member States as well as European institutions, public policy analyses, policy papers, strategic prospective analysis reports, databases, statistics, think tank reports, academic research, etc. A key step in this process regarded the consultation and interpretation of official sources, for applied comparative analyses in the field of public policies; the exploitation of these types of sources was doubled by a rigorous discourse analysis.

Each thematic mapping was accompanied by proposals and recommendations for actions in the field, policy recommendations and future scenarios. The added value of the study comes from its usefulness for the decision-makers. Our research project includes not only an exhaustive thematic mapping and a detailed analytical substantiation of specific public policies, but also an integrated set of proposals and thematic recommendations that can significantly improve current public policies, in the main areas of the research.

We found that Ukraine remains a *terra incognita* for European researchers and experts. Its forced belonging to a civilizational space shaped by the "Russian world" inhibited and limited the

ability to understand it in European academic circles. The recent intensification of the contacts of European circles with Ukraine still has an *epidermal* effect – the main European analyses on the functioning of the institutions, the public environment, and the collective mind, do not touch the essence. There is a need for a greater presence of European experts in Ukraine, a direct linguistic knowledge of the environment, and a comprehensive understanding of the specificities associated to the European path of Ukraine.

The Ukrainian authorities are making a real effort to get closer to Europe. The objective of modernizing the country through extensive sectoral reforms, mainly oriented towards areas not yet aligned with European standards, is largely assumed at the level of local administrations and relevant socio-professional categories of the population. At the same time, the option for Europe remains, in Ukraine, an abstraction rather than a concrete objective, achievable with a plan of sectoral measures and a great collective effort.

Numerous internal disparities are still visible in Ukraine, especially between the west and the centre parts of the country, on the one hand, and the south and the east sides of the country on the other. The western and central regions show a greater interest in European integration, are more ready for European integration reforms, and accept the discomfort that might come on the way to adopting European standards. The western and central regions act as an engine for the Europeanization of Ukraine. The south and east of the country remain less connected to the imperatives of integration. There is a need for constant dialogue and greater internal harmonization, but also for a fine understanding of the local specificities by the European experts, for the unitary application of the reforms related to the integration process and the overall understanding of the particularities of Ukraine. This improvement in the understanding will create not only appropriate expectations, but also adequate solutions to the needs and objectives of Ukrainian milieus.

The war of aggression dramatically influences Ukraine's European integration process. It generates considerable limitations on the country's reform capacity in numerous areas. Stage progress inevitably remains modest given the war conditions. The country's massive mobilization naturally revolves around the project of state survival and defensive war in the face of Russian aggression. Inevitably, the resources, tools and mobilizing capabilities for large-scale institutional social, political and mental transformations remain limited. Both resistance and defence against the aggressor are the foundation of Ukraine's internal life at this time, and the European idea seems peripheral in comparison to the immediate goals of survival and victory in this war.

The current war of aggression against Ukraine is dramatically draining its economic, human, moral, social, material and immaterial resources. The repair of these resources will involve significant and complementary efforts from the authorities and the population, simultaneously coordinated with the efforts of the international community.

The duration and intensity of this war of aggression are determining factors for identifying the degree to which the domestic resources can be catalysed around the European project. The Russian aggression against Ukraine has accelerated the first stages of Ukraine's candidacy for the European Union, forcing the international community to adopt measures to respond to the Russian aggression. The next stages will be difficult for Ukraine, and a process of European integration based on a special formula, which postpones the fulfilment of some obligations or that of specific criteria, will not be possible.

In the upcoming period, Ukraine's transformational efforts must increase rapidly to match the growing demands for adaptation to the European community standards, but the war hampers the objective of undertaking additional effort.

It is hard for Ukraine to increase its transformational dynamics during the war. A just and lasting peace would considerably improve the chances of internal mobilization towards long-term reforms. If the intensity of the current war of aggression is maintained, the capacity for internal mobilization and, respectively, the capacity for reformist political action will inevitably be reduced, which may impede Ukraine's adaptation to European norms and demands. Therefore,

achieving a just and lasting peace for Ukraine might exponentially increase the scope for developing the capacity for action towards achieving the European integration goals.

The war deepened some internal divisions in Ukraine and it can create others too. The post-conflict reconstruction will also involve, as a matter of priority, measures to improve the internal social and political life in the sense of rapidly reducing the cleavages. Immediate and post-conflict reconstruction will be carried out simultaneously with reforms for European integration, in a formula not yet experienced in Europe, not even in the Western Balkans. Inevitably, the post-conflict period can also weaken Ukraine's reform capacity, even if the commitment to reforms remains full.

In case it will not be possible to achieve a just and lasting peace that meets the legitimate needs and aspirations of both Ukraine and the European and Euro-Atlantic community (a peace that includes the total restoration of territorial integrity, the withdrawal of Russian troops from the territories occupied and the creation of a system of security guarantees, etc.), widespread frustrations in the Ukrainian society might arise. The European Union has limited capacity to create, through the support given to Ukraine, the necessary and sufficient conditions for a lasting peace, for an unequivocal victory of Ukraine in this war. These frustrations might weaken Ukraine's commitment to European rapprochement and further reduce the willingness of the administration and population to carry out the required reforms.

The Russian Federation will continue to remain hostile to Ukraine's European path (much less a Euro-Atlantic one) and will seek to use the entire hybrid arsenal at its disposal to undermine this project. The Russian resources that will be mobilized to sabotage Ukraine's European path will be significant and employed over a wide geographical area, not only in Ukraine, but also in European capitals, in the decision-making environments of these countries.

The impact of Ukraine's accession to the European Union will be substantial. The costs of Ukraine's European integration are already extremely high. Combined with the financial efforts of the European Union to support Ukraine in times of war and the related financial effort in the area of immediate and post-conflict reconstruction, these costs are expected to increase gradually, at least for the next 7-10 years. The costs necessary for the European integration of Ukraine could be higher than the financial support given to Ukraine by the EU in wartime conditions. There will be major simultaneous investments in immediate and post-conflict reconstruction and European integration respectively. The two fields partially overlap in terms of working tools and objectives. What is needed is a *smart map* that reduces the duplication of efforts and their overlap and that creatively combines the working tools of both processes.

The transformational efforts of Ukraine will be substantial and come together with a similar transformational attempt of the European Union. In its current configuration, the European Union will have major difficulties in integrating Ukraine. There will be a need for a paradigmatic change in the Union's policies, and not just in budgetary ones. The readiness for radical transformations of the Union can be, both in the Member States and at the community level, less than in Ukraine.

The budgetary policy of the European Union will change radically, to allow the adaptations required by the integration of a country the size of Ukraine. The current system of budget allocations, prioritized in the cohesion and agriculture funds, is expected to be modified and adjusted in a formula that simultaneously allows important allocations for Ukraine while maintaining substantial allocations for the EU Member States that currently benefit from these funds. The countries with a strong profile in the Union insist on a future financial and budgetary framework that remains the guarantor of substantial preferential budget allocations in traditional areas (i.e. France, agriculture).

The European policies will be strongly impacted by the accession of Ukraine to the EU. We predict the emergence of internal tensions in reaching consensus for some stages of Ukraine's integration process. We cannot exclude that these tensions can lead, in the end, to the modification of the voting system in the European institutions, mainly at the level of the Council of the European Union. There may be changes leading to the denunciation of the principle of unanimity voting in

the Council on issues related to enlargement/accession to the EU. Holding on to the principle/system of unanimity on topics that will generate relevant differences at the level of the Council regarding Ukraine (common foreign and security policy, EU accession, EU finances – own resources, multiannual financial framework, harmonisation of national legislation in the field of social security and social protection, etc.) seems to be a difficult goal to achieve.

Ukraine's relations with the neighbouring countries will undergo major changes. The large-scale aggression against Ukraine generated constant, coherent and credible multidimensional support of Romania for the neighbouring country. This situation generates positive paradigmatic changes in the bilateral relationship between Romania and Ukraine, creating favourable conditions for the articulation and consolidation of a strategic partnership/relationship between the two states. Both countries are available to achieve this goal.

There is a need to sign a comprehensive bilateral Agreement on the strategic partnership between Romania and Ukraine, which will meet the mutually assumed objectives of raising the bilateral relationship to the strategic level. In this sense, there is a need for solutions agreed for the long term in the so-called *sensitive files*, especially in the field of protection of the rights of persons belonging to national minorities. There is a need for a systematic assessment of the needs and solutions that the Romanian community in Ukraine and the Ukrainian community in Romania have in this field. Permanent consultation of their representatives to improve the guaranteeing of the rights of persons belonging to national minorities is mandatory. The respective field may experience radical transformations in Ukraine in the coming years; the challenges are commensurate: Ukraine will face the dilemma to improve the rights system for persons belonging to national minorities in the conditions of the related need to reduce the influence of that part of the minority in society on the territory of Ukraine, which remained captive to the mirage of the Russian world and which directly opposes the objectives and reform measures specific to the European integration of Ukraine.

Given the objectively limited analytical duration of our study (relevant factors limit the length of the analytical validity of this research, such as the duration and intensity of the war of aggression, the *black swans* that this war may generate for European security in the broad sense, the reconfiguration of European security and the system of international relations at the regional and global level in the post-conflict period, the risk of uncontrolled developments of the current war, the risk of a wider, traditional and hybrid conflict in Europe, the risk of the reconfiguration of the world order, the risk of an oversized role of the Russian Federation in the new regional security architecture from the Black Sea, etc.), the authors recommend to carry out an annual study on this topic ("The European agenda of Ukraine. The impact of the integration of Ukraine on the functioning of the policies and institutional structure of the EU"), at the level of the European Institute of Romania.

A similar recommendation concerns the drafting of an annual study on Romanian-Ukrainian bilateral relations (until a stable framework of strategic partnership between the two countries is operationalised), with an emphasis on short, medium and long-term opportunities, a similar study on the effects of the war of aggression against Ukraine on the interests and national security of Romania and, respectively, on the evolution of the security environment and hegemonic relations in the extended Black Sea region.

The study is available [here](#) (in Romanian).

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Study No. 3. The future of work in the context of demographic changes and technological advancements. Perspectives from Romania

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The study aims to analyse the future of work in Romania in the context of demographic changes and technological progress challenges towards 2040, assessing their impact on the labour market and making recommendations regarding public policies with an implementation potential. The analysis considered the strategies of the European Union (EU) regarding the perspectives of the double transition (the green and digital transition) achievable under great demographic challenges and upholding just, inclusive, and equitable transformations.

Our paper is structured in five distinct chapters, providing answers for all the three objectives of the *Terms of Reference*. To be able to formulate proposals for appropriate directions of action and policies, this study begins with an analysis of the current strategic framework in Romania and the EU, regarding the achievement of a green and digital economy. The analysis of these strategies was done in order to develop a reference base regarding the context in which the demographic and technological transitions will occur, with a major impact on the future of work towards 2040. Some of these strategies already constitute the development vision of the EU and Romania and, accordingly, approach policies to implement this vision.

Romania already has a well-defined strategic framework, but its long-term implementation and expansion require additional impetus to successfully respond to the challenges of the future of work by 2040. Among the main policies and strategies that will define the labour market in the coming decades, we find the *Educated Romania Project*, the *National Strategy for Research, Innovation and Smart Specialisation*, and the *Strategy for Green Jobs*, all with the role of supporting adaptation to technological change and the green transition. There is a discrepancy between the current strategies and the need to extend the action plans up to 2040 for the future needs of the labour market.

The **National Strategy in Artificial Intelligence (SN-IA) 2024-2027** is identified as a central pillar in this transformation process. Although it had initially been focused on the period 2024-2027, this strategy has long-term implications, preparing Romania for the fundamental transformations determined by the integration of AI within the economy. The strategy's objectives include building skills in AI, developing digital infrastructure and promoting research and innovation in this field. As anticipated, AI will greatly revolutionize the structure of jobs and the skill requirements, requiring that the workforce need to reskill in order to meet with the new challenges and opportunities.

In the EU, the **European Green Deal** and the **Digital Agenda for Europe** are the two key initiatives, which aim to support the transition to a digital and sustainable economy. The European Green Deal aims at climate neutrality by 2050, and the Digital Agenda aims to digitise infrastructure and public services by 2030. In this context, the **European Pillar of Social Rights** plays a crucial role, ensuring fair working conditions and equal access to the labour market, for a just transition to the new economic realities.

As part of the analysis of the **Global Mega Trends** defined by JRC in 2023, the report highlights the long-term impact of key trends such as **accelerated technological change**, **demographic change**, and **climate change**. They will redefine the labour market structure and deeply influence the way we work and live. Disruptive technologies, including AI and automation, are predicted to change the nature of work, demanding new skills and adaptability from the workforce.

In conclusion, we will provide an overview of the challenges and opportunities related to the future of work in Romania and Europe. The transition to a digitised and green economy is inevitable, and its success depends on Romania's ability to adapt its strategies and policies to the new economic and technological realities. Implementing artificial intelligence and other emerging technologies will require a concerted effort to reskill the workforce and create a work environment adapted to new economic and social demands.

Analysis of the impact of demographic changes on the future of the labour market in Romania, until the year 2040, carried out in the **second chapter** highlighted the following aspects:

Population decline. According to Eurostat projections, the population of Romania tends to decrease significantly until 2040, with an estimated reduction of approximately 2.5 million people. The negative natural increase and the continuous emigration of the young and active population influence this decline. The most pessimistic scenarios suggest an even sharper population decline without effective migration policies. Within the European Union, Romania is among the countries that will face the most severe demographic decline, thus, affecting its economic position and long-term competitiveness.

Demographic ageing. Ageing is another key demographic challenge. By 2040, The median age population will increase significantly, exceeding the EU average. The increase in the share of people aged over 65 years in the working population will lead to increasing demographic dependency rates. This will put additional pressure on social assistance and retirement pension system and negatively affect the potential for economic growth, in the absence of adequate measures to boost labour market participation.

Dependency rates and regional disparities. According to Eurostat projections, the rate of economic dependency tends to increase considerably until 2040, both at national and European levels. In Romania, such dependency rates are relatively lower than the EU average, but the upward trend is evident. There are significant gaps within the country, with some urban regions being more economically diversified. For instance, Cluj and Timiș counties have lower dependency rates, while mono-industrial and predominantly rural counties, such as Teleorman and Vâlcea, face high dependency rates and major economic and social challenges.

Impact of exogenous factors. **Random exogenous factors, such as the COVID-19 pandemic and Russia's war of aggression against Ukraine, have had a disruptive impact** on demographic and migration behaviours. These events accelerated some negative trends, such as the decrease in life expectancy and the change in migration flows, thus influencing the population structure in the short and long term.

The cumulative effects of the pronounced decrease in total population, (even in the case of the most optimistic scenario - with zero balance of migration), and the accentuated tendency of the ageing, will be reflected in available labour resources and their productivity. According to Eurostat forecasts, the working-age population (20-64 years) will decrease by 2040 by approximately 1722 thousand people, which means a drop of approx. 15.4%. In the EU, this decrease will be by only 6.4%. The share of the working-age population, 20-64 years, in the total population, will represent approx. 54.9% both in Romania, and in the EU. This population is also ageing, so the share of the 25-54-year-old population in the total working-age population will supposedly decrease in Romania from 41.8% in 2022 to 34.9% in 2040.

The active share of the people of Romania is projected to decrease by approx. 15%, based on the decrease in the working-age population and maintaining constant the activity rate, at a value of approx. 72.4%, far below the one registered in the EU (81.5%). Although there will be a greater increase in the activity rates for the elderly (55-64 years and 65-74 years) segments of the population, this is insufficient to increase the overall activity rates and compensate to a greater extent for the loss of the working-age population.

The employment rates of the population aged 20-64 may remain roughly constant or even experience a slight loss. The loss of labour resources and the increase in the demographic dependency rates reveal great differences between the country's countries. All counties register a decrease in the share of the working-age population (15-64 years) until 2040.

Taking into account these trends and the impact that demographic evolution has on the labour market, several directions of action have been identified:

- **Slowing population decline through better migration management** and achieving the *zero-migration balance* scenario. This is possible, on the one hand, if the population that has already migrated in the last decades would return to Romania and resume their economic activity, and on the other hand, if the number of immigrants who will enter the market will compensate for the losses of the population which will continue to emigrate. In order not to affect productivity, it would be desirable for the new immigrants to be integrated into sectors with high productivity.
- **Effective migration management to stabilize the population:** Adopting policies to attract skilled migrants and encourage the return of Romanian emigrants could help to counter the demographic decline and revitalize the workforce.
- **Romania may continue** its policy of activating the population who are not participating in the labour market so that the activity rate equals or exceeds the EU average in 2040 (81.5%). This can be achieved by increasing such rates for all age groups, especially for the 25-54-year-old population. Emphasis will have to be placed on vocational training measures, but also on stimulating the attractiveness of work through more adequate employment protection and an increase in wages.
- **Promoting women's participation in the field of labour:** Through support measures, such as work-life balance programmes and the improvement in the accession to career opportunities, Romania can increase the women's activity rate, thus helping to maintain a more robust and equal work market.
- **Increasing the activity rates for women**, at least until reaching the EU average. Romania has a growth potential in this segment of the population by applying policies better, balanced between increasing fertility and entering the labour market.
- **Attracting investment in the sectors of the future:** Development of innovative industries, such as information technology, artificial intelligence and green energy, can create attractive jobs for young people and help retain the talented and specialised ones in the country.
- **Attracting additional EU funding to develop continuous education and retraining programmes.** Investments in education and vocational training will prepare the workforce to adapt to the demands of labour market in 2040, increasing productivity and economic competitiveness.

In conclusion, the anticipated demographic changes until 2040 will require adaptation of the economic and social strategies to maintain the stability of the labour market and ensure the general well-being of the population. An integrated approach, including demographic, economic and social measures, is essential to meet these profound and interconnected challenges.

Technological progress and the future of work

Globally, one of the mega trends with a major impact on the labour market is considered to be the acceleration of technological progress and, also, the hyper-connectivity, with technological progress influencing the economic sectors and the labour market through substitution, creation and productivity effects. In the current context of the digital and green transition, Romania faces significant challenges related to the integration of new technologies in the labour market, so various studies have shown that their introduction and absorption in Romania are uneven. Among other factors, the lack of digital infrastructure, together with regional and urban-rural discrepancies, created a significant gap with other EU member states.

The analysis of the current state of digitalization in Romania and the implications on labour market highlighted the following aspects:

Digitalization in Romania is still in its early stages, with a low score in terms of digital public services and citizens' skills in this field. According to DESI 2022, Romania is among the last countries in the EU, with regard to the use of e-government services and digitisation of companies.

Digital public services: In Romania, only 24% of the online population actively uses e-government services, compared to the EU average of 74%. This is a consequence of the weak institutional interconnection, high bureaucracy and incompatibilities with the mobile phone software services. Romania's score for providing digital services for citizens and companies is well below the European average.

Digital skills: The digital skills are significantly below the EU average. Only 28% of the population have basic digital skills and only 9% have advanced skills. Regarding the labour market, only 2.6% of all employees are ICT specialists, well below the EU average of 4.5%. Based on the historical evolution of the DESI score, starting from 2016, it is predicted that, the share of the Romanian citizens with basic digital skills will reach 38% by 2030 (representing a growth rate of 1% yearly). To achieve the assumed target of 50%, an average annual growth rate of 3.1 percentage points would be required, which calls for the implementation of systematic policy measures in the coming years able to have effects at the level of the largest part of the population and to close the existing gaps in basic digital skills. It has been estimated that 6.71 million people aged 16-74 will acquire basic digital skills by 2030, which is 50% of the total of 13.4 million people aged 16-74 years, predicted by the demographic projections for the year 2030 (MCID, ADR, 2023). *However, the estimates of 40% of the number of employees in the private sector and of the number of people engaged in independent activities and other categories and 15% of employees in agriculture that will acquire digital skills by 2030 may be too low for increasing the level of digital intensity of businesses compatible with the convergence towards technological frontiers not only current but, above all, perspective and with the need to reduce the digital gaps both regarding basic and advanced skills.*

In this context, for all time horizons, an *intensification of investments is essential*, especially in workforce training and reskilling programmes, due to the existing significant gap, especially in terms of basic skills of the adult population. The adult professional training system must thus react quickly to skills challenges, increase the attractiveness and quality of learning, offer rapid retraining programs in partnership with public and private sector employers, promote new learning environments, new pedagogies especially related to digitization, targeting education and training programmes and specific and cross-sectorial professional contents.

Under circumstances of fierce global competition for labour resources with qualification and/or specialization of the highest possible level, *one of the most important problems in the case of ICT domain is the difficulty (even the inability) to keep the ICT specialists and/or graduates in Romania and to strengthen the national IT talent base* (an estimated 10,000 specialist shortage at industry level), although possible measures to address the perpetuation of the ICT specialists

shortage have been identified, both at the level of the education system, as well as at political and administrative levels (see ANIS, 2021, MCID, ADR, 2023).

Romania is committed to maintaining its 2% contribution to the number of ICT specialists in the EU by 2030, translating into a target of 400,000 ICT specialists by 2030. To this end, it is expected that the *digital transformation among enterprises will increase the need for ICT specialists in the labour market and will cause a significant increase in their number, towards the mentioned time horizon* (MCID, ADR, 2023).

Evolution stage of Romania's Research-Development-Innovation system: According to the *European Innovation Score (EIS)*, Romania is included in the “emerging innovators” group, with only 34% of the EU average in 2024. The main weaknesses of the innovation system in Romania include the lack of the qualified human resources and inter-institutional and industrial connections. In addition, the absorption rate of research and innovation in companies is very low, negatively affecting the capacity for economic growth. Both the strong points and, above all, the weak ones, regarding the performance (or anti-performance) of the national innovation system, can be found both at the national and territorial levels: the *shortcomings of the national innovation system are systemic and characterised by underdevelopment at the territorial level*. In this context, the punctual favourable performances only highlight even more the *need for aggressive approaches, both systemic and localised*, to, at least, try to change the current inadequate foundations to the needs of accelerating technological progress and absorption of technologies leading to the highest possible productivity of the national system, and also of the regional innovation systems.

It should be mentioned in this point that *scientific and technological progress means that currently, the field of science, research, innovation and development can register significant progress only if digital technologies and tools are familiar to researchers and academics and intensively used by them, and large amounts of scientific and technical data are accessed and managed digitally for scientific discovery*. There is an increasing intensity of the use of digital tools in research and also a direct link between digitalisation and Open Science practices, including data reuse, rigour and elimination of redundant research, alongside research transparency and cross-border connectivity. In the case of Romania, however, there is also a *lack of knowledge regarding the EU's scientific digital platforms* (such as the *European Cloud for Open Science*) and *HPC infrastructures throughout Europe*, contributing to the fragmented nature of scientific research in Romania, as well as the *non-existence of dedicated platforms that allow access to digital resources generated by publicly funded scientific research* and, also, the *absence of a standard management plan for scientific research data, which limits the possibility of their reuse* (MCID, ADR, 2023).

The Total Productivity Factor (TFP), the basic component of economic growth, depends primarily on the quality of human capital and high technology input. In this sense, analyses were carried out regarding the relationship between the population's education level, productivity, and demographic dependency rates.

According to the 2021 data Population Census, the highly skilled population in Romania, necessary to increase the quality input in obtaining productivity, reveals large differences at the territorial level. The share of the population with bachelor's (ISCED6) and master's (ISCED7) degrees is high in developed regions, such as Bucharest, Cluj, Iași and Timiș, while rural and poorer regions, such as Vaslui and Teleorman, have a high share of people with just the primary education (ISCED0) or illiterates.

The negative correlation (-0.5676) between productivity (W2021) and demographic dependency ratio (ADR1, 2021) shows that regions with a large dependent population have lower productivity. Counties with a high level of education (especially bachelor's and master's degree)

have significantly higher productivity. At the same time, fields such as engineering and social sciences make a major contribution to productivity growth.

The education levels that contribute the most to productivity growth are **Bachelor's and Master's degrees in engineering sciences and social sciences**. In contrast, PhD degrees and, in opposition, illiteracy have a negative contribution, suggesting that both intensive integration of advanced research into the economy and the reduction of illiteracy are needed to increase productivity.

The education level of the population shows a high correlation with productivity, as follows:

- Counties with a well-educated population generally have higher economic productivity. **Bucharest, Cluj, Timiș, and Iași** are educational and economic centres that benefit from a high number of people with higher education (ISCED6, ISCED7, ISCED8), and productivity in these regions is high.
- In contrast, counties such as **Vaslui, Botoșani and Teleorman**, with a increased share of people without education (ISCED0) or illiterates, have low productivity. These regions face challenges in attracting investment and developing the economic infrastructure.

Therefore, the gaps between urban and rural areas are obvious. Urban centres, such as Bucharest and Cluj, attract an educated and qualified population, which boosts productivity. On the other hand, rural areas lag with limited access to education and economic infrastructure, leading to economic stagnation. Thus, the differences are reinforced.

In this context, we consider the following general recommendations to be particularly useful:

1. **Promotion of education in social sciences and engineering:** These are the sectors that make the greatest contributions to increasing productivity, and educational and economic policies should support these fields.
2. **Increasing access to higher education (especially bachelor's and master's level):** Strong correlations show that the increasing of the number of graduates in these fields will lead to higher productivity.
3. **Adapting the education system to the labour market demands:** Areas that have a negative impact or do not have a strong positive correlation with productivity could be re-evaluated and adjusted to ensure that they contribute to the needs of the contemporary economy.
4. **Education is a critical factor in determining productivity and regional economic development.** Investments in education, especially in less developed counties, along with programmes to reduce illiteracy and increase technical and digital skills, will be essential for decreasing economic gaps and for stimulating sustainable economic growth in Romania.
5. Our analyses highlight that **continuous education and training** must be a priority in regional development strategies, especially to support the transition from an economy based on unskilled labour and agriculture to one based on knowledge, innovation and technology.
6. At the same time, **focused and "custom-made" local, regional and entrepreneurial development policies** are equally necessary to respond to the particular needs of local and regional economic development and to start, drive and lead such economic processes at all administrative-territorial levels (in correlation, cooperation and concurrently with policies aimed at sector-level actions – e.g. industrial policy, agricultural policy, etc.).

So, we recommend the following actions at a policy level that have an impact at the territorial level:

1. Investments in basic education:

- Counties with a large share of illiterate and with primary education individuals must be targeted for literacy and basic education programmes. A national programme to reduce school dropout and increase access to basic education and vocational specialisation in underdeveloped counties is needed.
- These programs should be funded and supported by the government and international organizations, to ensure access to educational resources even in the most isolated communities.
- Such counties (Vaslui, Teleorman, Botoşani, Suceava) also require improvement of educational infrastructure and teaching resources. Such programmes should also include incentives for teachers to establish in these regions.

2. Development of the technical and professional education:

- In counties with a predominantly agricultural or industrial economy, an expansion of technical and vocational education would be necessary (ISCED5-6) to prepare the workforce following the requirements of the local economy. This type of education can contribute to the development of the industrial sector and increasing productivity in less-developed regions.
- Expansion of vocational schools and vocational training centres may have a direct impact in counties such as Mehedinţi, Caraş-Severin or Olt.

3. Creation of regional university centres:

- **Expanding the network of academic centres and developing local universities in less developed counties may contribute to attracting and retaining young people in the respective regions. Iaşi, Constanţa, Arad and Bihor** have the potential to become stronger regional economic centres. Investments in transport infrastructure, services, research and development facilities could boost economic growth and attract funding.
- **Development of partnerships between Academia and the private sector** in these counties may contribute to creating innovative ecosystems and increase productivity.
- **By creating programmes of study adapted to the necessity of the local economy** (e.g. agronomy, forestry, renewable energy), counties with a higher share of rural population could become more attractive from an economic and educational point of view.

4. Retraining and continuous education programmes:

- To help the *transition to a knowledge-based economy*, it is important to have accessible retraining programmes for adults, especially in regions where the adult population has a low level of education. These programmes should be available not only in urban centres, but also in rural ones.

5. Reducing the urban-rural differences:

- In rural areas, policies should be implemented to support local economic development through high-tech agriculture and sustainable tourism. These policies should be accompanied by continuous education and digitisation initiatives to better integrate these communities into the national economy.

6. Promoting academic mobility and knowledge exchanges:

- Encouraging academic mobility between large universities in developed counties and educational centres in rural areas can help transfer knowledge and improve the quality of education. This can also stimulate innovation and contribute to better integrating the local labour market into the national economic dynamics.

7. Internal mobility and investment attraction:

- To combat internal migration and poverty in underdeveloped regions, it is necessary to promote programmes to stimulate investments in the counties in such areas, through tax facilities and subsidies for companies that create jobs locally.

8. Development of digital infrastructure:

- The digitalisation and development of ICT skills in counties with low educational and economic performance should be a national priority. Digital education programmes could provide opportunities for economic development and access to remote jobs that would reduce migration towards the urban centres.

9. Integration of technology and digitisation in education:

- In the context of digital development, it is essential to invest in IT infrastructure in rural areas and integrate technology into the educational process. This can facilitate access to quality education in more isolated counties and help reduce digital skills gaps.

By implementing these recommendations, educational and economic differences between counties can be reduced, and national productivity can increase in a balanced way, contributing to a more sustainable and inclusive economy.

Up to 2040, in Romania, the transition of the economy towards a green and digital structure, which preserves or increases the level of well-being of the population (GDP per capita), under the circumstances of the announced demographic decline, implies the implementation of growth policies based on the massive integration of new technologies, in an economic structure that allows process efficiency and inclusion. The transition to a high-performance green and digital economy is based, as previously announced, on two main pillars: the energy transition and the digital one. Any model of economic growth considered can only be designed and applied taking into account the principles of long-term sustainability. In this context, the evaluation of the contribution of the work factor (occupation), productivity factor and changes in the economic structure on the desirable economic growth is a justified and appropriate approach in this paper. For this, the authors considered it necessary to use a model, which would value the influence that productivity and a new sectorial distribution of economy and employment, under circumstances of population decline and ageing, may have on maintaining and increasing the well-being of the population (expressed as *GDP/capita*). Also, understanding the sources of productivity change, such as growth in total factor productivity (TFP), population movements from one sector to another, or changes in the labour-to-capital *ratio*, allows for the determination of a profile of desirable growth, given the conditions and demographic context. **The lower the contribution of the labour factor to growth, the more productivity must increase, especially through the contribution of technological and human capital .**

Taking into account the above, the obtained results highlighted the following aspects:

Conceptualizing the green and digital economy: The green economy focuses on the transition to renewable energy sources and reducing carbon emissions. The EU aims to become climate neutral by 2050, with a 55% reduction in emissions by 2030 compared to the 1990 levels. In Romania, the renewable energy share will increase from 19% in 2019 to 28% in 2030 in total

energy sources. Between 2000 and 2021, energy production from fossil sources declined significantly, while productivity increased steadily. The digital economy is evaluated by the DESI Index, which places Romania, with a score of 32,9 in 2021, below the EU average score of 50,70. Romania has a significant deficit in the field of digital skills and in the digitisation of public services, as compared to Denmark, which is the leader in this field with a DESI score of 70,9.

Economic scenarios until 2040: The scenarios for 2040 analyse the economic transition of Romania and the EU towards a structure based on renewable energy and digitalisation. In the EU, total energy consumption will decrease from 19,197 TWh in 2005 to 13,333 TWh in 2050. In Romania, total energy use is expected to decrease from 454,000 TWh in 2005 to 371,000 TWh in 2050. Renewable energy, especially biofuels and wind power, will experience the highest growth, with an estimated contribution of around 12,000 TWh from solar power in 2030.

First, a sectorial economic structure with a distribution of the employed population similar to Denmark in 2021. The scenario is normative and intended to estimate Romania's efforts in terms of employment and productivity, as to reach Denmark's current performance in the transition to a green and digital economy. So, two of the possible economic structures are designed for the continuation of already existing trends (natural trends), and the last one is the scenario which preserves the current status (the scenario which shows what would happen if nothing were to change).

Model results:

Regarding the structure of the economy, the scenario, considered moderate, that of the economic structure of Denmark, with an employment rate of 75% (M15_Dk m7) indicates an increase in 2040 in the income *per capita* to 40,241 euros (2015 prices), as compared to 9,145 euros in 2021. **This increase will be based on productivity and employment rates, under a decrease in labour resources. The evolution of labour resources was considered for three demographic scenarios (the base scenario, the scenario with zero migration balance, and the scenario without inter-sectorial mobility).**

Impact on employment and productivity: The employed population in Romania decreased by 20.8% between 2000 and 2021, and labour productivity increased by 169.7% in the same period. **According to the realised scenarios, it is expected that by 2040 the employed population will slow down its rate of decrease (between -13.0% and -7.0%), and productivity will increase by up to 330%.** For example, in the industrial sector, productivity is expected to rise from €15,882 in 2021 to €24,477 in 2040. This growth will be driven by the reallocation of labour to more energy-efficient sectors and the transition to a digital and green economy.

Contribution of productivity, employment rate and share of the working-age population in the total population to the projected increases in per capita income (GVA/capita) highlighted the following aspects:

1. Contribution of productivity (\acute{o}):

- The highest contributions to per capita income growth are related to productivity in the *m7* scenarios (based on the Denmark model) for both age groups (15-64 years and 20-64 years). The \acute{o} values vary between 29,391 and 30,584 euros (2015¹), indicating robust growth.
- In the more moderate scenarios based on the natural evolutions of the employment distribution by economic sectors (*m4*), the \acute{o} contributions are also significant (over 13,000 euros), showing a high potential for productivity-based economic growth.

¹ Note – in the text we kept the short form Euro, but we refer to deflated values, respectively Euro in 2015 prices. (Notă – în text am păstrat forma scurtă Euro, dar ne referim la valori mai scăzute, respectiv Euro în prețurile anului 2015.)

- The more pessimistic scenarios, such as *m1* (“nothing changes” scenario) and *m5* (*small structural changes*), present negative contributions to productivity, reflecting a stagnation or decrease in economic efficiency.

2. Contribution of employment rate (\dot{e}):

- The highest positive contributions of employment rate are in scenarios *m5* and *m6*, with values up to 3,218 euros, suggesting a substantial increase in employment, potentially through policies to stimulate the labour market.
- In the most of the other scenarios, the contribution of \dot{e} is positive, but much lower, suggesting that, while changes in the employment rate may support economic growth, they are not the dominant factor in all scenarios.

3. Contribution of changes in the share of the working-age population (\dot{a}):

- In scenarios *m7* and *m4*, negative values of \dot{a} (e.g. -1,644 to -3,799 euros) indicate that a decrease in the share of the working-age population contributes negatively to income *per capita* growth, suggesting important demographic challenges.

Regarding the decomposition of the change in productivity ($\Delta\omega$) into different components for the period 2021-2040, i.e., the contribution of inter-sectorial labour reallocation ($\Delta\omega B$), the total productivity factor ($\Delta\omega TFP$) and the capital/labour ratio ($\Delta\omega k$), based on models and scenarios previously discussed it was highlighted:

1. Dominance of the Total Productivity Factor ($\Delta\omega TFP$):

- In most models, the $\Delta\omega TFP$ component dominates the other components, indicating that increasing efficiency in the use of production factors is the main driver of productivity growth. This suggests a strong focus on innovation and improvement of technological processes, but also an improvement of human capital.

2. Variable contribution of inter-sectorial reallocation ($\Delta\omega B$):

- $\Delta\omega B$ varies significantly between models, showing that labour reallocation between sectors contributes differently to productivity change, depending on the economic and political context specific to each scenario.

3. Moderation of the capital/labour ratio ($\Delta\omega k$):

- $\Delta\omega k$, although present, contributes less to the total productivity change in most models. This suggests that, although capital investment is important, it is not the main driver of productivity growth in this data set.

The role of technology and digitalization: Digitalization and new technologies will play a crucial role in increasing productivity and employment. In the agricultural sector, productivity is expected to increase nine fold by 2040, from a base of €3,000 (2015 prices) *per* worker to around €27,000 *per* worker. In the industrial sector, productivity is estimated to increase 6.4 times, from 15,882 euros in 2021 to 102,540 euros in 2040. This growth will be supported by technologies, such as artificial intelligence, automation and digital transformation.

Challenges and opportunities: Romania faces major challenges, such as an out dated energy infrastructure and low digital skills. For example, only 31.7% of the working population has basic digital skills, compared to an EU average of 55.0%. At the same time, there are significant opportunities due to the access to European funds, such as those for the green transition, and a high potential for growth in the renewable energy sector. Access to European funds, such as the *Just Transition Fund*, can facilitate the investments needed to modernise the energy infrastructure and increase digitalisation. At the same time, foreign direct investment in the

technology and IT&C sectors may contribute to developing an economy based on knowledge and innovation.

The convergence analysis towards the green and digital economy model led to the formulation of the following recommendations, respectively for the creation and development of:

1. Policies differentiated by economic structures

- **Counties with high convergence** (e.g., Bucharest, Cluj, Timiș) require investments in technology and education to accelerate the digital and green transformation.
- **Counties with medium convergence** (e.g., Ilfov, Arad, Brașov) need support for upgrading traditional industries and economic cohesion policies.
- **Counties with low convergence** (e.g., Vaslui, Teleorman) require rapid interventions for developing digital infrastructure and boosting sustainable agriculture.

2. Policies to support productivity. The proposal to create special economic zones (SEZs) and to automate manufacturing industries in the low-productivity regions could boost economic growth.

3. Demographic and immigration promotion policies. To counter the demographic decline, policies are proposed to stimulate the birth rate and to attract skilled migrants to regions with high economic potential.

4. Education and professional training. The development of regional centres of excellence and retraining programmes, with a focus on digital and green skills, is recommended.

5. Green and digital investments. Innovation funds and public-private partnerships are essential to stimulate research and development in green and digital technologies, especially in counties approaching the green and digital model.

Conclusion: Each region needs customised policies, taking into account the level of convergence with the green and digital models. A well-directed strategy focused on education, digitisation, productivity and investment, may accelerate the transition to a sustainable and competitive economy at the territorial level.

The study is available [here](#) (in Romanian).

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