

# **STRATEGII MANAGERIALE**

## **MANAGEMENT STRATEGIES**

---

**Revistă editată de  
Universitatea „Constantin Brâncoveanu”  
Pitești**

**Anul XIV, nr. 4 (58) / 2022**

**Editura  
Independența Economică**

**COLECTIV EDITORIAL:**

**Prof. univ. dr. Alexandru Puiu** – Fondatorul revistei și Președinte al consiliului științific,  
Fondatorul Universității „Constantin Brâncoveanu”

**Consiliul științific:**

**Raymundas Kalesnykas** – International School of Law and Business, Vilnius, Lituania  
**Vergil Voineagu**, ASE București  
**Dumitru Miron**, ASE București  
**Viorel Lefter**, ASE București  
**Victor Manole**, ASE București  
**Ovidiu Puiu**, Universitatea „Constantin Brancoveanu”  
**Ion Scurtu**, Universitatea „Constantin Brâncoveanu”  
**Marius Gust**, Universitatea „Constantin Brâncoveanu”  
**Dumitru Ciucur**, Universitatea „Constantin Brâncoveanu”  
**Iuliana Ciochină**, Universitatea „Constantin Brâncoveanu”  
**Radu Pârvu**, Universitatea „Constantin Brâncoveanu”  
**Elena Enache**, Universitatea „Constantin Brâncoveanu”  
**Mihaela Asandei**, Universitatea „Constantin Brâncoveanu”  
**Silvia Dugan**, Universitatea „Constantin Brancoveanu”  
**Nicolae Grădinaru**, Universitatea „Constantin Brancoveanu”  
**Dorian Rais**, Universitatea „Constantin Brâncoveanu”  
**Camelia Vechiu**, Universitatea „Constantin Brâncoveanu”  
**Sebastian Ene**, Universitatea „Constantin Brâncoveanu”

**CONSILIUL EDITORIAL:**

**Redactor Șef:**

*Dan Micudă*

**Redactori:**

*Cristina Șerbanică*  
*Cristian Morozan*  
*Razvan Decuseară*

*Georgiana Mândreci (Referent limba engleză)*  
*Cristinel Munteanu (Referent limba română)*

**Autorii își asumă deplina responsabilitate  
în ceea ce privește materialele publicate.**

**© Editura „Independența Economică”**  
Pitești, Calea Bascovului nr. 2A  
Tel./Fax: 0248/21.64.27

Editură acreditată de către C.N.C.S.I.S.

*Niciun material nu poate fi reprodus fără permisiunea scrisă a Editurii.*

**ISSN 2392 – 8123**  
**ISSN–L 1844 – 668X**

## CUPRINS

### SECTION I REGIONAL DEVELOPMENT STRATEGIES AND POLICIES

<b>NATIONAL RECOVERY AND RESILIENCE PLAN - OPPORTUNITIES AND CHALLENGES .....</b>	<b>5</b>
Daniela Antonescu Ioana Cristina Florescu	
<b>REGIONAL DEVELOPMENT STRATEGIES AND THE GROWTH OF THE RENEWABLE ENERGY SECTOR: AN APPLICATION OF SWOT METHODOLOGY..</b>	<b>15</b>
Elena Cigu Anca Florentina Vatamanu	
<b>MARKETS EVOLUTION AND COMMERCIAL CONSOLIDATION OF ROMANIA (1878 – 1914).....</b>	<b>23</b>
Cornoiu, Daniela Borandă, Monica	
<b>REGIONAL APPROACHES TO THE AGEING OF THE POPULATION.....</b>	<b>29</b>
Florian Guramultă	
<b>THE ROLE OF TRADE IN PROMOTING SUSTAINABLE DEVELOPMENT - THE CASE OF THE EUROPEAN UNION .....</b>	<b>34</b>
Corneliu-George, Iacob	
<b>NEW DIMENSIONS OF ECONOMIC TRANSFORMATION – A EUROPEAN PERSPECTIVE .....</b>	<b>44</b>
Corneliu-George, Iacob Emilia, Iordache	
<b>ECONOMIC THINKING IN ROMANIA AND ITS ADAPTATION TO HISTORICAL STAGES (1848 – 1914) .....</b>	<b>53</b>
Ionescu, Ion Gr. Bocănete, Oana	
<b>AGRARIAN TRANSFORMATION AND THE EVOLUTION OF AGRICULTURAL PRODUCTION FROM ROMANIA (1864 – 1921) .....</b>	<b>59</b>
Ionescu, Ion Gr. Anuța, Lia Maria	
<b>INTEGRATED LOGISTICS IN THE DEVELOPMENT OF THE CONSTANTA PORT..</b>	<b>67</b>
Florin Iordanoaia	
<b>EVALUATION OF THE CONTRIBUTION OF QUALITY EDUCATION TO THE ACHIEVEMENT OF SUSTAINABLE DEVELOPMENT GOALS.....</b>	<b>77</b>
Radu Rusu Camelia Oprean-Stan	

<b>SMALL AND MEDIUM SIZE ENTERPRISES ROMANIAN’S CHANCE TO GET OUT OF A NEVERENDING CRISIS .....</b>	<b>86</b>
Țâmpu Diana Larisa	

<b>THE EFFECTS OF PANDEMIC CRISIS CAUSED BY THE COVID-19 REGARDING HUMAN RESOURCES .....</b>	<b>94</b>
Adriana Monica, Țegledi Boni Mihaela, Straoanu George, Enescu	

## **SECTION VI SOCIAL AND EDUCATIONAL POLICIES**

<b>ECONOMIC APPROACHES REGARDING ROMANIAN CRAFTSMAN'S GUILDS, AT THE BEGINNING OF THE 20TH CENTURY .....</b>	<b>99</b>
Diaconu Camelia Manuela	

<b>SCHOOL ORGANIZATIONS IN THE PANDEMIC CRISIS COVID-19. CHALLENGES AND OPPORTUNITIES.....</b>	<b>106</b>
Nicușor, Diaconu Melania-Andreea, Stănciulescu (Diaconu)	

<b>THE EDUCATIONAL PROCESS UNDER THE IMPACT OF THE COVID-19 PANDEMIC .....</b>	<b>114</b>
Moisevici - Serb, Diana Lazarescu, Stefania Ilie, Suzana Camelia	

<b>URBAN EDUCATION VERSUS RURAL EDUCATION IN ROMANIA.....</b>	<b>118</b>
Irina-Denisa, Munteanu	

<b>QUALITY MANAGEMENT IN ONLINE EDUCATION.....</b>	<b>124</b>
Iuliana Pârvu Cristina Ciami	

<b>ANALYSIS OF THE COMPETITIVENESS OF LABOUR MARKET IN THE REPUBLIC OF MOLDOVA.....</b>	<b>131</b>
Galina Savelieva Svetlana Zaharov	

<b>IMPACT OF DIGITALIZATION ON THE NEW COMPETENCES FOR ACCESS TO THE LABOR MARKET – POINT OF VIEW FOR VOCATIONAL AND TECHNICAL EDUCATION .....</b>	<b>143</b>
Maria Cristina, Șerb (Tanislav)	

<b>THE NEED FOR EDUCATION FOR SUSTAINABLE DEVELOPMENT IN ROMANIA ..</b>	<b>152</b>
Alina, Voiculeț Sorin, Manole	

# SECTION I

## REGIONAL DEVELOPMENT STRATEGIES AND POLICIES

### NATIONAL RECOVERY AND RESILIENCE PLAN - OPPORTUNITIES AND CHALLENGES

Daniela Antonescu<sup>1</sup>  
Ioana Cristina Florescu<sup>2</sup>

#### **Abstract**

*The health crisis caused by COVID-19, together with previous crises, has shown that sustainable and resilient economies alongside strong financial and social protection systems have helped Member States to react more effectively and efficiently to shocks and recover faster. At the same time, resilience can lead to negative effects of shock propagation between Member States, affecting the process of convergence and cohesion in the European Union (EU). Falling expenditure on education, culture, healthcare can also affect the rapid recovery of economies. At the same time, investment and reforms can help build resilience and lead, in the medium and long term, to bringing back inequalities of all kinds.*

*In the context of the health crisis, an innovative instrument – the Recovery and Resilience Mechanism – has been proposed and promoted at EU level to support recovery and resilience in regions and Member States, with the stated aim of providing financial support in order to accelerate sustainable reforms and related public investment. Although new in nature, this mechanism builds on the experience gained by Member States from using other instruments and programs launched and funded by the EU but this plan also comes with several opportunities and challenges that will be discussed in this article.*

**Keywords:** *National Recovery and Resilience Plan, opportunities, challenges*

#### **Literature review**

The concept of resilience can describe a linear or non-linear reality, in which the processes within complex systems register relatively wide variations under the effect of changes in context or other transformations. Resilience targets disturbances and how the entities studied are affected by certain external phenomena (whether they resisted or not).

The definitions of resilience can take on different meanings depending on the field to which it is referred and the general perspective on reality. Originally used to assess the ability of a system to return to equilibrium after a disturbance, over time it adapted to new challenges, taking on new meanings, ending up covering not only the return to a certain state, but also the processes of adaptation to changes and transformations of the field referred to, as follows:

1. environmental resilience can be expressed by the amount of disturbance that can be absorbed before the system changes its structure and functions, moving into another state or mode of operation; starting from ecology and renewable resource management, another framework was envisioned for analyzing the identified disturbances in a system where the ecological system is interconnected with the socio-economic system (environment and society);

2. socio-ecological resilience is regarded as “a property of the system, which targets the magnitude of change or disturbance that a system can endure without passing into an alternate state, characterized by different structural and functional properties.” (Resilience Alliance, 2010, p. 5); in the case of socio-ecological systems, the adaptation capacity of the human component and the management of resources become the most important aspects of resilience.

---

<sup>1</sup> Institute of National Economy – Romanian Academy, daniela.antonescu@hotmail.com

<sup>2</sup> Institute of National Economy – Romanian Academy, ioanaflorescu2001@yahoo.com

Extending the use of the term to systems where the role of the human factor is decisive (urban regions) has aimed at an adequate response to disturbances of various types while preserving the opportunity for future development intact.

*The Stockholm resilience Center* defines resilience as “the ability of a system to cope with change and continue to develop – it involves the ability to withstand shocks and disturbances or use such events to catalyze renewal and innovation.” (Stockholm Resilience Centre, 2015, p. 18). This ability has also been called “evolutionary resilience”. (Davoudi, 2012) or “adaptive resilience” (Bristow and Healy, 2014). Thus, the concept is assimilated with long-term flexibility, through structural and functional adaptation and transformation. Also, if in ecology resilience was a descriptive concept, as it is applied in the social sciences it begins to take on normative nuances, expressing what should be or what is desirable (Brand and Jax, 2007).

There is also an obvious difference between two types of response to disturbances:

1. one that ensures immediate recovery after a shock one that involves a capacity that ensures long-term persistence and development.

Hamdouch et al. (2012) define territorial resilience through the two components of it: “static resilience” and “dynamic resilience”. If the former involves a certain defensive capacity of the territory to absorb shocks and adapt to preserve the foundations of development and its own specificity, the latter involves the capacity of some territories to create new resources, capacities and values that will lead to their transformation.

In the literature, other differences are made between specific resilience and general resilience (Resilience Alliance, 2010):

1. specific resilience involves an adaptation of systems (or some of the components) to a specific disturbance, identified and analyzed (such as forest resilience to fires, a coastal city’s resilience to tsunamis or the resilience of an economy to a financial crisis);
2. overall resilience is the ability to persist within a changing environment, but without taking into account a particular type of disturbance. In identifying it, a certain structure and functioning of the system is of major importance, which can ensure adaptability and transformability over time.

The conceptual approach to resilience by researchers in various fields of the social sciences has varied. Authors in the field of natural resource management emphasize the human-environment interdependence that this theory promotes in the study of regions (Folke et al., 2002), those in the field of economic geography support its usefulness for an evolutionary view on the regional economy (Simmie and Martin, 2010), While from the practice of territorial planning is noted the role of linking various sectoral areas of planning and between systems theory that this concept can play by providing a common scientific vocabulary (Wilkinson, 2012, Sellberg et al., 2015).

However, there is a dilution of the meaning of the concept of resilience and the increasing uncertainty that makes operationalization problematic (Brand and Jax, 2007, Davoudi, 2012). The estimation of resilience to economic crises based on the speed of return of some economic indicators to the pre-crisis situation was carried out within the Economic crisis: Resilience of Regions project, financed by the European Union ESPON Program. It investigates how EU regions reacted to the 2007-2009 economic crisis. The project analyzed the variation of gross domestic product and employment during the pre-crisis period, in the type of economic crisis and the following years, until 2011. Based on the difference between pre-crisis and current values, European regions have been classified as resilient, recovered, recovering and unrecovered, or on an upward path (ECR2, 2014).

Based on studies and analyzes of territorial resilience, a number of recommendations for long-term strategies that can be applied in crisis areas have emerged (OECD, 2013):

- Short-term decisions should not block long-term options. It is very important to think of a long-term strategy for the economic and social reconstruction of the region as soon as possible after the disaster, so that the reconstruction actions do not sabotage the future development.
- Identifying the economic base and the main social and economic factors specific to the region that can sustain its resilience is defining in order to support the stimulation of development from the local resources and the capital that can ensure a faster and more visible recovery of the region.
- Designing an integrated strategy for regional recovery based on dialog between key stakeholders to identify the necessary reforms and increase the quality of decision-making.
- The strategic decisions must be coordinated from a local level.
- The local crisis must be used to introduce reforms and national standards.
- Promoting public participation to support decision-making is very important because the recovery strategy should take into account the vision of the local Community.
- Public deliberation must be an essential component of the implementation of the regional development strategy as it helps to monitor progress.
- Building trust, increasing support for adopted policies and improving administrative capacity is based on broad access to information, dialog with civil society and the private sector to evaluate the strategy and improve it when implementing the envisaged measures.

In order to implement the above proposals, a maximum attention needs to be paid to the local context and have a thorough knowledge of the system on which to intervene. “There are no panacea for increasing resilience. All aspects presented require a nuanced understanding of how, where and when to apply them and how they interact and how they depend on each other” (Stockholm Resilience Centre, 2015, p. 3).

### **Resilience after the health crisis**

At the level of the European Union, from the first signs of a global crisis, discussions / questions related to recovery and resilience began, summarized below:

Question 1: How robust the economic recovery will be after the crisis: Analyzed indicators: GDP growth (by sectors), total number of hours worked, household incomes, business dynamics, health risk;

Question 2: Will recovery create equal opportunities for all? - Indicators: Income inequalities, underemployment, young people not included in education or the labor market, financial insecurity, low satisfaction in living;

Question 3: Will recovery affect the environment/climate? - 1. Gas emissions, 2. Share of renewable energy, 3. Material consumption, 4. Natural cover of the land, 5. Exposure to outdoor air pollution.

Question 4: Why is it necessary to resist the crisis and prepare for future challenges? 1. Debt in the institutional sector, - By government, households, non-financial institutions, 2. Investments, 3. Broadband coverage – By regions, 4. Trust in government – by gender, 5. COVID-19 vaccination coverage.

As the EU economy moved from recovery to expansion, attention shifted from crisis management to transformational and inclusive recovery in the medium term. EU policy priorities remain structured around the dimensions of competitiveness and sustainability. The development goals are:

- The launch of the Recovery and resilience Facility, which will be the key tool for implementing the policy agenda in 2021-2022.

- The 2022 European Semester cycle integrated the recovery and resilience Facility, continuing the transition to a “new normality”, resuming the issuance of country-specific reports and recommendations.

Sustainable and resilient economies, together with strong financial and social protection systems, have helped Member States to react more effectively and efficiently to shocks and recover faster. At the same time, resilience can lead to negative effects of shock propagation between Member States, affecting the process of convergence and cohesion in the EU. Falling expenditure on education, culture, healthcare can also affect the rapid recovery of economies. At the same time, investment and reforms can help build resilience and lead, in the medium and long term, to reducing the inequalities of all kinds.

Past experience has shown that investments are often drastically reduced during crises and it is vital to support them in order to accelerate the recovery and valorisation of endogenous growth potential in the long term.

A functioning internal market and investment in green and digital technologies, innovation and research, including in a knowledge-based economy, in the clean energy transition and in increasing energy efficiency in the housing sector and other key sectors of the economy are important to achieve fair, inclusive and sustainable growth, in order to contribute to job creation and achieve EU climate neutrality by 2050.

### **Opportunities and constraints within the NRDP**

Each major crisis, such as the coronavirus pandemic (COVID-19), offers opportunities to rethink national systems, resilience and recovery. In order to support these opportunities, a European Union-wide instrument called the *Recovery and Resilience Facility* has been devised, which aims to support the economies of the Member States affected by the health crisis and to provide support for the reforms and investments they propose. To this end, EUR 723,8 billion (current prices) are allocated in loans (€385,8 billion) and grants (€338 billion) to mitigate the economic and social impact of the coronavirus pandemic, in order to make them more sustainable and resilient to the challenges and to the opportunities arising from the green and digital transition. In the context of the health crisis, an innovative instrument – the Recovery and Resilience Mechanism – has been proposed and promoted at EU level to support recovery and resilience in regions and Member States, with the stated aim of providing financial support to accelerate sustainable reforms and related public investment. Although new in nature, this mechanism builds on the experience gained by Member States from using other instruments and programs launched and funded by the EU.

As the EU economy moved from recovery to expansion, attention shifted from crisis management to transformational and inclusive recovery in the medium term.

EU policy priorities remain structured around the dimensions of competitiveness and sustainability. The targeted development goals are:

- The launch of the Recovery and Resilience Facility, which will be the key instrument for implementing the policy agenda in 2021-2022.
- The 2022 European Semester cycle integrated the recovery and resilience Facility, continuing the transition to a "new normal", resuming country-specific and country-specific reports and recommendations.

In the EU, resilience is achieved on the basis of six pillars (table 1):

1. Green transition
2. Digital transformation
3. Smart, sustainable and inclusive growth including economic cohesion, jobs, productivity, competitiveness, research, development and innovation, and a well-functioning internal market with strong SMEs
4. Social and territorial cohesion



5. Health, and economic, social and institutional resilience, including with a view of increasing crisis reaction capacity and crisis preparedness
6. Policies for the next generation, children and youth, including education and skill

**Table 1: The estimate of expenditure on the six pillars of the resilience mechanism (%)**

Pillars	First pillar	Second pillar	Total
Green transition	38,22%	11,67%	<b>49,88%</b>
Digital transformation	24,17%	4,67%	<b>28,84%</b>
Smart, sustainable and inclusive growth	13,53%	35,92%	<b>49,45%</b>
Social and territorial cohesion	9,90%	33,07%	<b>42,97%</b>
Health	6,74%	10,61%	<b>17,36%</b>
Policies for the next generations	7,44%	4,06%	<b>11,50%</b>

Source: [https://ec.europa.eu/economy\\_finance/recovery-and-resilience-scoreboard/thematic\\_analysis.html?lang=en](https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/thematic_analysis.html?lang=en)

According to EU Regulation No 241 of 12 February 2021 (Article 3), the Recovery and Resilience Mechanism aims to promote a type of integrated and sustainable intervention, built on six pillars, thus:

Pillar 1. *Green transition* – supports reforms and investment in green technologies and capacities, including biodiversity, energy efficiency, buildings renovation and the circular economy, while contributing to the Union’s climate objectives, promoting sustainable growth, creating jobs and maintaining energy security.

This pillar covers 1.834 investments and 480 reforms and the breakdown of expenditure is presented in table 2.

**Table 2: Breakdown of expenditure on climate objectives by policy areas – Pillar 1 (%)**

Category of expenditure	Breakdown of expenditure for climate objectives by policy areas	Category	Pillar of the Green transition: Breakdown of expenditure supporting the green transition by policy area
Sustainable mobility	35%	Sustainable mobility	30%
Energy efficiency	27%	Energy efficiency	29%
Renewable energy	15%	Renewable energy	14%
RDI in green investments	6%	RDI in green investments	6%
Adaptation to climate change	6%	Adaptation to climate change	5%
Further mitigation of climate change	2%	Sustainable use and protection of water and marine resources	4%
Sustainable use and protection of water and marine resources	2%	Transition to a circular economy, waste prevention and recycling	3%
Transition to a circular economy	2%	Prevention and control of pollution (such as air, water, noise pollution)	3%
Protection and restoration of biodiversity and ecosystems	1%	Other measures to mitigate climate change (e.g. sustainable industry)	3%
Green skills and jobs	1%	Protection and restoration of biodiversity and ecosystems	3%
Pollution prevention	1%	Green skills and jobs	1%

Source: [https://ec.europa.eu/economy\\_finance/recovery-and-resilience-scoreboard/green.html](https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/green.html)

Pillar 2. *Digital transformation* – contributes to increasing the EU’s global competitiveness and increasing resilience and innovation by diversifying key supply chains. Reforms and investments support the digitalization of digital and data services and infrastructure, clusters and digital innovation centers, as well as open digital solutions. The digital transition stimulates the digitalization of SMEs. This pillar comprises 639 reforms and 1570 targets (table 3).

**Table 3: Breakdown of expenditure for digital intervention targets – Pillar 2 (%)**

Category of expenditure	Expenditure structure on digital objectives in Policy areas	Category	Structure on expenditure supporting digital transformation and on Policy areas
E-government, digital public services (including transport digitalisation) and local digital ecosystems	37%	E-government, digital public services (including transport digitalisation) and local digital ecosystems	36%
Digitalization of business	19%	Digitalization of business	22%
Digitalization in human capital	17%	Digitalization in human capital	17%
Connectivity	13%	Connectivity	11%
Digital capabilities and the development of advanced technologies	11%	Digital capabilities and the development of advanced technologies	11%
Digitalization measures in RDI	3%	Digitalization measures in RDI	4%

Source: [https://ec.europa.eu/economy\\_finance/recovery-and-resilience-scoreboard/green.html](https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/green.html)

Pillar 3. *Smart, sustainable and inclusive growth, including economic cohesion, jobs, productivity, competitiveness, Research, development and innovation, as well as a functioning internal market with strong small and medium-sized enterprises (SMEs)*. Reforms and investment must promote entrepreneurship, the social economy, the development of sustainable transport and infrastructure, industrialization and reindustrialization, and mitigate the effect of the COVID-19 crisis on the economy. It includes 1053 measures, 950 reforms and 2647 targets across all Member States (table 4).

**Table 4: Breakdown by category of expenditure — Pillar 3 (%)**

Category of expenditure	%
Renovation and construction of buildings	22%
Support for SMEs	19%
Research, Development and Innovation	16%
Competitiveness	13%
Business environment/Entrepreneurship	8%
Industrialization and reindustrialization	6%
Business infrastructure	6%
Cultural sector	4%
Regulatory changes for smart, sustainable and inclusive growth	3%
Support for large businesses	2%
Transnational cooperation	1%
Total	100%

Source: [https://ec.europa.eu/economy\\_finance/recovery-and-resilience-scoreboard/smart.html](https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/smart.html)

Pillar 4. *Social and territorial cohesion*. Reforms and investment in social and territorial cohesion will reduce territorial disparities, increase quality of life and economic opportunities, combat poverty and unemployment to help Member States' economies recover without leaving anyone behind. The reforms and investments will create stable and high-quality jobs, include and integrate disadvantaged groups, and enable the strengthening of social dialog, infrastructure and services, as well as social protection and welfare systems. This pillar covers 968 measures, 2283 targets and 767 reforms (table 5).

**Table 5: Breakdown of Pillar 4 by categories of policy areas (%)**

Category of expenditure	The policy area
Territorial infrastructure and services	66%
*Adult learning, including continuing vocational education and training; recognition and validation of skills	8%
*Social housing and other social infrastructure	7%
*Social protection, including social services and integration of vulnerable groups	6%
Development of rural and remote areas (e.g. island areas)	6%
*Modernization of labor market institutions, including employment services and skills forecasting and labor inspectorates; protection and organization of work; social dialog and wage-setting mechanisms; adaptation of jobs	3%
*Support for employment (non-youth) and job creation, including incentives for employment and transition and support for self-employment	3%

Source: [https://ec.europa.eu/economy\\_finance/recovery-and-resilience-scoreboard/smart.html](https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/smart.html)

Pillar 5. *Health, as well as economic, social and institutional resilience, with the objective, among others, to increase the crisis preparedness and crisis response capacity* – The investments will improve public services, the accessibility and capacity of health and care systems, the effectiveness of public administration and national systems, including by reducing to a minimum the administrative burden, as well as the effectiveness of judicial systems, as well as the prevention of fraud and anti-money laundering supervision. It covers 870 measures, 2043 targets and 480 reforms (table 6).

**Table 6: Breakdown of funds by Pillar 5 and policy areas (%)**

Category of expenditure	The policy area
*Health: Resilience, sustainability, adequacy, availability, accessibility and quality, including digitalisation and infrastructure	47,80%
The effectiveness of public administration and national systems, including minimizing the administrative burden	27,78%
Long-term: Resilience, durability, adequacy, availability, accessibility and quality, including digitalisation and infrastructure	9,09%
Preparation for the crisis	5,19%
Effectiveness of the judicial system	3,76%
Strategic autonomy	3,11%
Ability to respond to crisis	0,91%
Tax measures, including measures pertaining to aggressive tax planning	0,83%
Business and public services – continuity (in crisis)	0,61%
Fiscal and government policies	0,44%
Fraud prevention	0,40%
Prevention of money laundering	0,04%
Reforms of the financial sector	0,03%
Rules on legal reform	0,02%

Source: [https://ec.europa.eu/economy\\_finance/recovery-and-resilience-scoreboard/smart.html](https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/smart.html)

Pillar 6. *Policies for the next generation, children and youth, such as education and skills* – Reforms and investments in the next generation, children and young people, are essential to promote education and skills, including digital skills, upgrading competencies, retraining and reconversion of the active labor force, integration programs for the unemployed, investment policies in access and the opportunities offered to children and young people in education, health, nutrition, jobs and housing, as well as policies that bridge the generational gap, in line with the objectives of the children’s guarantee and the youth guarantee. Those actions should ensure that the next generation of Europeans will not be permanently affected by the impact of the COVID-19 crisis and that the generation gap does not deepen further (table 7).

**Table 7: Breakdown of Pillar 6 by categories of policy areas (%)**

Category of expenditure	The policy areas
General, vocational and higher education: accessibility, quality and inclusion, including digitalisation and infrastructure	75%
Early childhood education and care: accessibility, quality and inclusion, including digitalisation and infrastructure	14%
Support for youth employment and job creation for young people, including incentives for employment and job transition and support for self-employment	11%

Source: [https://ec.europa.eu/economy\\_finance/recovery-and-resilience-scoreboard/smart.html](https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/smart.html)

Seven other key sectors are added to this classification (flagship):

1. Energy (clean and renewable technologies)
2. Renovation (Energy efficiency of buildings)
3. Charging and replenishment (sustainable transport and electric charging stations)
4. Internet connectivity (Roll-out of the fast broadband services)
5. Modernization (digitalisation of public administration)
6. Scale-Up (sustainable data cloud capabilities and processors)
7. Retraining and improvement (education and training to support digital skills)

The most important constraints are due to poor asset quality, low energy efficiency, citing the need for replacement or improvement. The financial health of companies limits their access to credit. Romania has a large percentage of companies under-capitalized, with a level of capital below legal limits or even negative. So, only 20% of active companies are bankable (World Bank, 2018). As a result of the high indebtedness level, above the acceptable limits for banks, the investments of Romanian companies for example, are limited by the level of reinvested profits or that of the new capital (equity) they manage to attract. These constraints also manifest themselves in the case of profitable companies with good growth prospects, but with a higher risk profile and a low level of collateral. Rapid growth, high innovation and high share of intangible assets make bank financing difficult. Underfinancing of these innovative and growth-potential companies also limits the possibility of increasing private investments in the Romanian economy, contributing, along with the operational barriers, the lack of specialized personnel and instability to the deepening investment gap.

Diversification of funding sources, by using financial instruments to address these imbalances in addition to bank financing, could help to alleviate some of the constraints and significantly improve access to finance.

## Conclusions

In conclusion, the policies that support resilience aim at rapid recovery after the crisis period (economic, social or natural disasters, pandemic crisis, etc.) and effective adaptation to the changing conditions of the external environment.

The main forms of resilience supported by the EU-27 Recovery and Resilience Mechanism are as follows:

- *Social and economic resilience* - the pandemic deepened inequalities, increased the demographic imbalances and poverty, accelerated automation and had a disproportionate impact on jobs in the service sector. The strategic perspective identifies the skills for the future in which to invest.
- *Geopolitical resilience* - The crisis has highlighted the EU's excessive dependence on third countries for raw materials essential for the key technologies needed to achieve a digital and carbon-neutral society. The strategic perspective can help identify possible scenarios and define policy options to boost the EU's strategic autonomy.
- *Green resilience* - a shift to a greener economy could create 24 million new jobs globally, and its impact on the recovery from the COVID-19 crisis could be significantly greater than previously thought. The strategic perspective contributes to exploring the drivers of change, understanding future structural changes in the labor market, retraining people who lost their jobs during the crisis or are likely to do so in the future due to technological developments and automatization.
- *Digital resilience* - The crisis has accelerated hyper-connectivity and the integration of new technologies that affect the human condition and the way of life of EU residents. The strategic perspective helps anticipate how emerging technologies could develop, their impact on all spheres of life and ways to seize the future opportunities.

Implementing a strategy to increase regional resilience involves a major collaborative effort between institutions and other stakeholders: research on adaptive governance of complex social systems shows that increasing resilience in such systems is a difficult and complex activity that cannot be easily planned and controlled by a single government-type institution. Local or regional authorities seeking to increase territorial resilience to economic shocks need to work with a number of other territorial actors and develop plans for response to disturbances within a collaborative and fluid governance network (Bristow and Healy, 2014, p.100).

Although the concept of resilience has become almost as widely used in scientific literature and international organizations' documents as that of sustainable development, the mechanisms by which a field or region becomes resilient still need the attention of researchers. However, we can break down some elements that play an important role in increasing resilience:

- assuming the change and uncertainty inherent in complex systems;
- awareness of the dependence of human communities on ecosystem goods and services;
- preserving diversity and relativizing competitiveness and optimization;
- reception of disturbances as opportunities to create new directions of development;
- creating opportunities for self-organization, experimentation and innovation;
- making learning processes more efficient by combining multiple sources of knowledge;
- adopting perspectives on the regional system over various time periods and at different spatial scales;
- taking a flexible way to manage an area/region.

## References

- Brand, F. S., Jax, K., 2007, Focusing the Meaning(s) of Resilience: Resilience as a Descriptive Concept and a Boundary Object, *Ecology and Society*, 12 (1)
- Bristow, G., Healy, A., 2014, Building Resilient Regions: Complex Adaptive Systems and the Role of Policy Intervention, *Raumforsch Raumordn*
- Davoudi, S., 2012, Resilience: A Bridging Concept or a Dead End?, *The Politics of Resilience for Planning: A Cautionary Note*, *Planning Theory & Practice*, 13(2), pages 299-333

- <https://www.researchgate.net/publication/284625826> The politics of resilience for planning A cautionary note
- [ECR2, 2014, ECR2 Economic Crisis: Resilience of Regions, https://www.espon.eu/sites/default/files/attachments/Scientific\\_report.pdf](https://www.espon.eu/sites/default/files/attachments/Scientific_report.pdf)
  - European Commission, 2021, [https://ec.europa.eu/economy\\_finance/recovery-and-resilience-scoreboard/green.html](https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/green.html)
  - European Parliament,
  - Folke, C., Carpenter, S., Elmqvist, T., Gunderson, L., Holling, C. S., Walker, B., 2002, Resilience and sustainable development: building adaptive capacity in a world of transformations, 31(5) pages 437-40, <https://pubmed.ncbi.nlm.nih.gov/12374053/>
  - Hamdouch A., Depret H.B., Tanguy C., 2012, Modialisation et resilience des territoires, Presses de l'Université du Québec
  - OECD, 2013, Resilience Systems Analysis – Learning & recommendations report, [https://www.oecd.org/dac/conflict-fragility-resilience/docs/SwedenLearning\\_Recommendationsreport.pdf](https://www.oecd.org/dac/conflict-fragility-resilience/docs/SwedenLearning_Recommendationsreport.pdf)
  - Resilience Alliance, 2010, Assessing resilience in social-ecological systems: Workbook for practitioners. Version 2.0., [https://www.resalliance.org/files/ResilienceAssessmentV2\\_2.pdf](https://www.resalliance.org/files/ResilienceAssessmentV2_2.pdf)
  - Sellberg, M. M., Wilkinson C., Peterson, G. D., 2015, Resilience assessment: a useful approach to navigate urban sustainability challenges, Ecology and Society, 20(1): 43, <https://www.ecologyandsociety.org/vol20/iss1/art43/>
  - Simmie, J., Martin, R., 2010, The economic resilience of regions: towards an evolutionary approach, *Cambridge Journal of Regions, Economy and Society*, 3(1), pages 27–43, <https://academic.oup.com/cjres/article/3/1/27/339274>
  - Stockholm Resilience Centre, 2015, Annual report, <https://www.mistra.org/wp-content/uploads/2017/10/Stockholm-Resilience-Center-AnnualReport-2015-ENG.pdf>
  - Wilkinson, C., 2012, Social-ecological resilience: Insights and issues for planning theory, 11(2), <https://journals.sagepub.com/doi/abs/10.1177/1473095211426274>
  - World Bank, 2018, Annual Report,
  - <https://thedocs.worldbank.org/en/doc/910121540568523454-0340022018/original/worldbankannualreport2018.pdf>

# REGIONAL DEVELOPMENT STRATEGIES AND THE GROWTH OF THE RENEWABLE ENERGY SECTOR: AN APPLICATION OF SWOT METHODOLOGY

Elena Cigu<sup>1</sup>  
Anca Florentina Vatamanu<sup>2</sup>

## Abstract

*The current development strategies are oriented towards the development of the green economy, where the energy sector plays an important role. In this sense, including at the regional level, development strategies are being built that primarily support the growth of the renewable energy sector. Thus, strengthening the economic environment of regions in society should lead directly to economic growth. This paper focuses on regional development strategies and renewable energy consumption in the European countries. Firstly, the paper will present sustainability of regional development strategies and renewable energy consumption from the perspective of the literature. The second objective is to analyse the environment of the renewable energy sector of European countries at the regional level with the help of SWOT methodology. The analysis reveals a maturity of renewable energy sector in Sweden based on national and regional development strategies and a transition process of most of the European Union countries from the conventional energy to the renewable energy.*

**Keywords:** regional development, strategy, growth, renewable energy, SWOT methodology

**JEL Classification:** O13, P18, P28, Q42, F68

**Acknowledgments:** This work was supported by a grant of the “Alexandru Ioan Cuza” University of Iasi, within the Research Grants program, Grant UAIC, code GI-UAIC-2021-08”.

## 1. Introduction

Energy is one of the most important factors determining the development of civilization, all actions of human beings and each management process must be powered by energy. At the same time, global climate change has been a commonly recognized challenge worldwide and one of the most important steps involved in combating this phenomenon represents the transition from conventional energy to the renewable energy. In this sense, there is a global mobilization to create the necessary infrastructure for the development of the renewable energy sector and each country develops green economy strategies, in which the energy sector plays an important role. The development of the state starts primarily from the perspective of the principle of subsidiarity, where the authority closest to the citizen establishes and implements the development directions, so that the green economy starts from the basic level of the state's organization, namely the local communities. In this sense, including at the regional level, development strategies are being built that primarily support the growth of local communities and renewable energy sector. Thus, strengthening the economic environment of regions in society should lead directly to economic growth of the entire state. Given that sustainable energy technology innovation and consolidated public mechanisms are instruments capable of removing financing barriers and supporting clean energy sector growth, increasing the consumption of renewable energy is a major priority where both companies and public authorities are involved.

This paper focuses on regional development strategies and renewable energy consumption in the European countries. Firstly, the paper will present sustainability of regional development strategies and renewable energy consumption from the perspective of the literature. The second objective, based on SWOT methodology, is to analyse the internal

---

<sup>1</sup> Faculty of Economics and Business Administration, Alexandru Ioan Cuza University of Iasi, Romania, [elena.chelaru@uaic.ro](mailto:elena.chelaru@uaic.ro)

<sup>2</sup> Faculty of Economics and Business Administration, Alexandru Ioan Cuza University of Iasi, Romania, [anca.vatamanu@uaic.ro](mailto:anca.vatamanu@uaic.ro)



and the external environment of the renewable energy sector of European countries with the help of SWOT methodology to explore such factors that are key drivers of or impediments to the adoption of renewable energy strategies at both the local/regional levels.

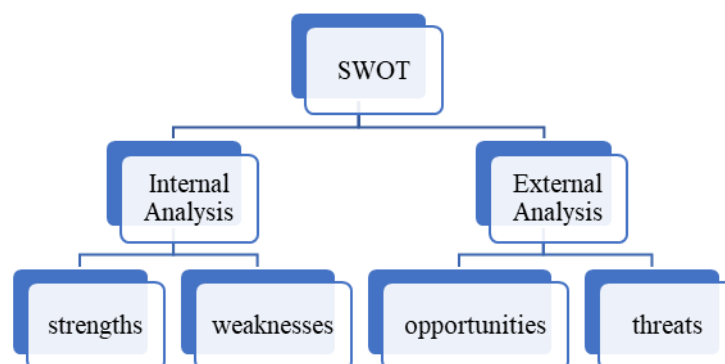
## 2. Literature review

Along with the awareness of sustainable development from an economic, social and environmental perspective, special attention was paid to environmental protection from the perspective of the energy sector and the identification of ways to develop the renewable energy sector. As we identify a maturation of the renewable energy sector in each state, on the one hand, (De Laurentis and Pearson 2021, Köhler et al. 2019, Chlebna and Mattes 2020) and of the decentralization process based on the principle of subsidiarity, on the other part, we can consider that the center of gravity of decision-making falls at the level of local/regional authorities in the form of local/regional development strategies where the transition to the renewable energy sector has a priority place (De Laurentis and Pearson 2021, Fuchs and Hinderer 2014). Of course, according to the authors (De Laurentis and Pearson 2021), each region presents particularities from the perspective of human, institutional, industrial, infrastructural, and material assets that local/regional public authorities must be aware of and should be taken into consideration in their strategies, because local/regional public policies and the vision of local/regional development can support or create barriers in the development of the renewable energy sector.

The SWOT methodology is used by every strategy to identify the strengths and weaknesses of the internal environment and the opportunities and threats of the external environment of the development. Several studies are using SWOT methodology for the development of renewable energy sector strategies in different countries or regions (Qaiser 2022, Igliński et al. 2022, Markovska et al. 2009, Chen et al. 2014, Jaber et al. 2015, Madurai Elavarasan et al. 2020, etc.). Each study highlighted that each country presents a degree of sustainability in the implementation of renewable energy, but this is conditioned by a series of threats that should be eliminated and the correction of weaknesses.

## 3. Data and methodology

The SWOT methodology is used by management domain to evaluate projects, strategies, policies, or businesses. The acronym (SWOT) defines the identification of strengths, weaknesses, opportunities, and threats associated with the aspects that are under research, which in our case is related to renewable energy sector. The block diagram representing the framework of SWOT methodology is presented by Figure 1.



**Figure 1. Block diagram representing the SWOT methodology**

Source: computed by authors



The SWOT analysis was conducted on the European Union countries at the regional level by reviewing various studies, such as development strategies (European Commission 2022a, 2022b), research papers and institutional reports on the state of sustainable energy in European countries at national and regional level. For European Union the most ambitious strategies are REPowerEU Plan, EU solar energy strategy (European Commission 2022a, 2022b). Furthermore, personal observation can be included in the analysis.

To support the SWOT methodology, we will use the descriptive analysis as a methodology to highlight the status of the European Union countries in terms of the renewable energy sector according to a series of economic indicators. The database is created with the help of indicators taken from EUROSTAT (European Commission 2022c) in the period 2000-2020.

#### **4. Results and discussion**

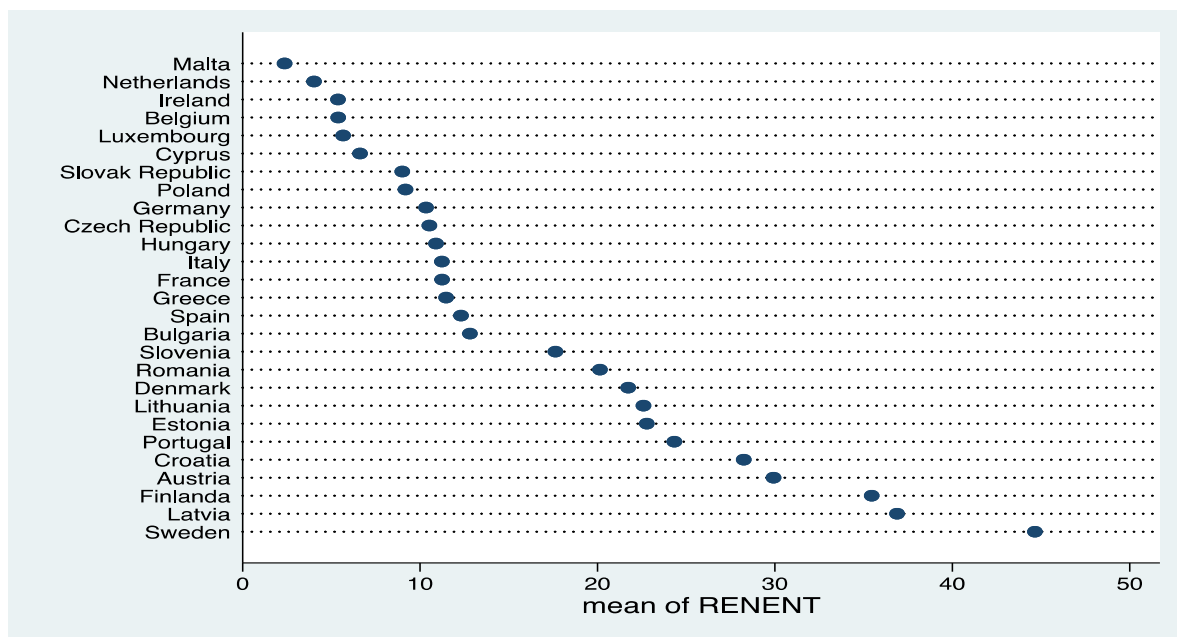
Renewables are the cheapest and cleanest energy available, and can be generated by each community, reducing the use of centralized conventional energy based for some countries on high energy imports. The Commission (European Commission 2022a) is proposing to increase the EU's 2030 target for renewable energy sector from the current 40% to 45%. The REPowerEU Plan (European Commission 2022a) should bring the total renewable energy generation capacities to 1236 GW by 2030, in comparison to the 1067 GW. As part of the REPowerEU plan (European Commission 2022a) is the EU solar energy strategy (European Commission 2022b) that outlines a comprehensive vision to drastically accelerate the deployment of solar power across the European Union countries. The target is over 320 GW of newly installed solar photovoltaic capacity by 2025, and almost 600 GW by 2030. These frontloaded additional capacities should displace the consumption of 9 bcm of natural gas annually by 2027.

To achieve these targets, the Strategy presents three concrete initiatives (European Commission 2022b):

- i) A European Solar Rooftop Initiative anchored around a legally binding EU solar rooftop obligation to ensure accelerated installation of solar panels on buildings;
- ii) an EU large-scale skills partnership to develop the necessary skilled workforce to produce, install and maintain these panels; and
- iii) an EU Solar Industry Alliance to support the EU industry in expanding the domestic production of PV panels.

These initiatives are necessary to be included inclusively in the local/regional strategies as part of the national strategies, so that to encourage citizens to engage in the energy transition, either as individual prosumers or via energy communities to self-produce, consume and sell or share renewable energy.

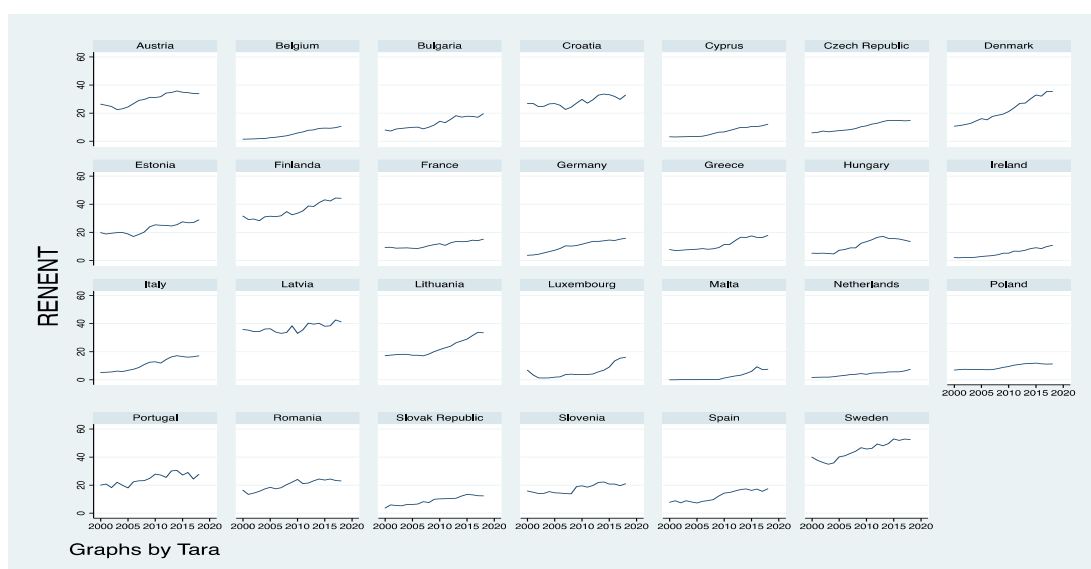
Regarding the status of each European Union country on the share of renewable energy in gross final energy consumption over the period 2000-2020, Figure 2 is suggestive.



**Figure 2. Mean of share of renewable energy in gross final energy consumption in the EU countries over the period 2000-2020**

Source: computed by authors using Stata 15.1

According to the results, it can be observed that the mean of the renewable energy sector in gross final energy consumption over the period 2000-2020 is different in the states of the European Union. The country that registers a consolidation of the renewable energy sector and stands out significantly from the level of the other countries, with over 40%, is Sweden. A good status is registered by Latvia and Finland, which is located after Sweden, with an average very close to 40%. The renewable energy sector is the least developed in Malta and the Netherlands. This state status can also be viewed via the evolution of the energy sector in each country over the period under analysis.



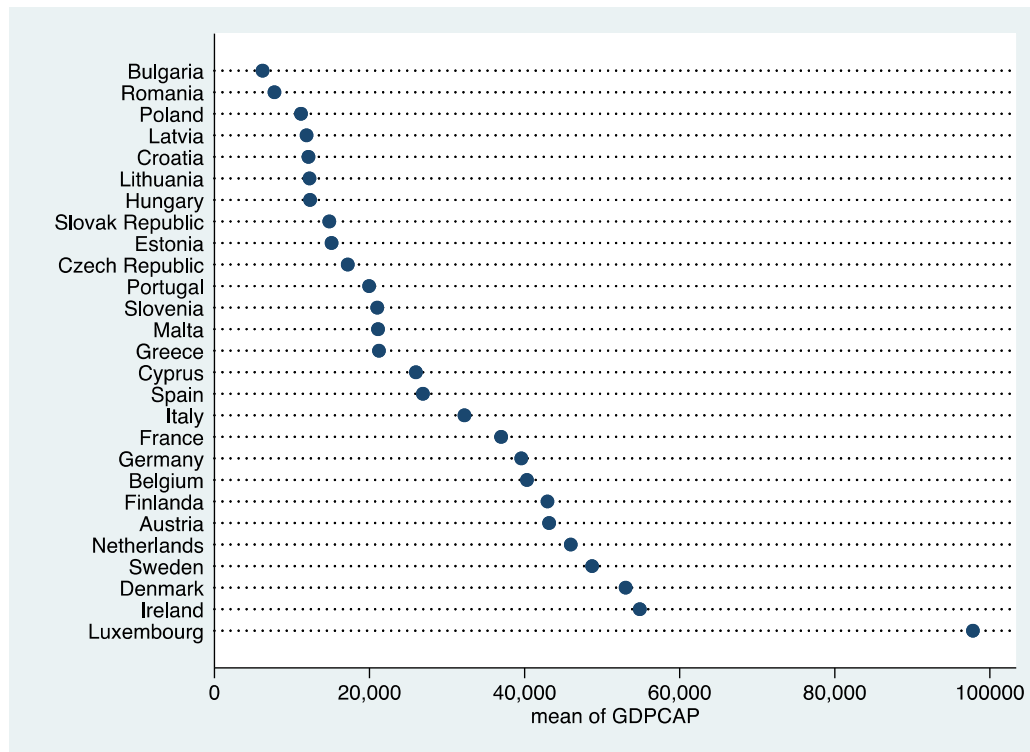
**Figure 3. Evolution of share of renewable energy in gross final energy consumption in the EU countries over the period 2000-2020**

Source: computed by authors using Stata 15.1

According to [Figure 3](#), Sweden is the only country that presents a maturity of the renewable energy sector right from the beginning of the period under analysis, followed by a high level and in

the process of consolidation the renewable energy sector by Latvia and Finland. The states that currently have a share of less than 20% of renewable energy in gross final energy consumption and we consider that should be made significant efforts to comply with the targets proposed by the European Commission (European Commission, 2022a) are Germany, France, Slovakia, Czechia, Cyprus, Ireland, Poland, Netherlands, Hungary, Belgium, Luxembourg, and Malta. Romania has a level of 24.48% of renewable energy in gross final energy consumption.

It is also important to identify and consider the economic status of the states based on GDP per capita (Figure 4).



**Figure 4. Mean of GDP per capita in the EU countries over the period 2000-2020**  
Source: computed by authors using Stata 15.1

According to Figure 4, we can consider that the states that exceed a level of GDP per capita above the European Union average, have the necessary financial capacity to implement renewable energy sector development strategies in the shortest possible time. Cyprus, Spain, Italy, France, Germany, Belgium, Finland, Austria, Netherlands, Sweden, Denmark, and Luxembourg register a high percentage and are eligible for rapid development. Of course, this financial capacity is not sufficient, but must be accompanied by coherent public policies, high administrative capacity of the governing institutions. States with a lower status of economic development are in a position to make the entire governance and management system efficient at national and local level based on the 3E principle: efficiency, effectiveness, economy.

Next, we will apply the SWOT analysis and the results can be highlighted in Table 1.

**Table 1. SWOT analysis**

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>Each Region develops a regional strategy where renewable energy sector is a priority</li> <li>The renewable energy is the cheapest and cleanest energy available that can be generated by each community</li> <li>There is an enormous potential of renewable energy for European countries: solar, hydro, wind, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Economic and social Inequalities between regions in the same country</li> <li>Different geographic infrastructure for each region</li> <li>The public network of renewable energy transport and distribution is inadequate</li> <li>Financial inability of local public authorities to generate their own revenues to cover major investment expenses</li> </ul>

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Can be generated domestically (especially solar energy), reducing the need of centralized conventional energy based for some countries on energy imports</li> <li>• REPowerEU plan (<a href="#">European Commission 2022a</a>) and The EU solar energy strategy (<a href="#">European Commission 2022b</a>) are under implementation</li> <li>• Best practices regarding a sustainable renewable energy sector in other European countries: Iceland, Norway, and Sweden</li> </ul>	<ul style="list-style-type: none"> <li>• Dependence of local authorities on transfers from state budgets</li> <li>• Low investment of the private sector in transmission and distribution network for public</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• European Union countries based on their regions can use EU funds: The Recovery and Resilience Facility- RRF (as the heart of the REPowerEU Plan implementation), Cohesion Policy funds, European Agricultural Fund for Rural Development, Connecting Europe Facility, Innovation Fund, National and EU funding in support of REPowerEU objectives, etc.</li> <li>• European countries can develop National fiscal measures and can use Private investment</li> <li>• The European Investment Bank and other international financial institutions are involved in the development of renewable energy sectors of the EU countries</li> <li>• Tax exemption for individuals and companies developed by each region in accord with region economic strategy</li> </ul>	<ul style="list-style-type: none"> <li>• Macroeconomic and microeconomic instability based on energy crises especially</li> <li>• Inflation and depreciating exchange rate making imported renewable energy equipment expensive</li> <li>• Insecurity because of the war in the East of Europe</li> </ul>

Source: computed by authors

Regarding the Strengths, one can take into account the enormous potential of the existing natural resources on the territory of each state and each region, such as sun, water and wind that are the main resources for renewable energy sector. At the same time, this type of natural resources requires minimal exploitation costs and a very clean infrastructure in their processing and transformation into renewable energy. The awareness of these natural resources is made by the European Union and appears in Europe's development strategies such as REPowerEU plan ([European Commission 2022a](#)) or The EU solar energy strategy ([European Commission 2022b](#)).

From the perspective of the main weak points, we can list the specificity of each region in terms of geographical infrastructure (mountains, plateaus, plains, waters, sun) and therefore the type of renewable energy that could be produced, which differs from one region to another to another. Another important aspect is the disparities between regions regarding the level of economic and social development that led to a different management of budgets. The regions cannot generate sufficient own revenues to create an efficient public distribution network of renewable energy and are forced to use transfers from the state budget. From the perspective of the private sector, the interest is limited to its own renewable energy supply, with network investments being very low.

From the perspective of external factors on the line of opportunities, we can specify that there are numerous national and European Union funds sources that can be accessed by regions for financing the renewable energy sector through sustainable projects included as

objectives in regional development strategies. From the perspective of the threats, the most important is the economic crisis that started based on the tensions in Eastern Europe.

The analysis highlights the possibility of developing the renewable energy sector under the conditions of effective governance at the national and regional level.

## 5. Conclusion

The paper presented the sustainability of regional development strategies regarding renewable energy consumption in the European countries with the help of SWOT methodology. The analysis reveals a maturity of renewable energy sector in Sweden based on national and regional development strategies and a transition process of most of the European Union countries from the conventional energy to the renewable energy.

## References

- Chen, W.-M., Kim, H., Yamaguchi, H. (2014). Renewable energy in eastern Asia: renewable energy policy review and comparative SWOT analysis for promoting renewable energy in Japan, South Korea, and Taiwan. *Energy Policy* 74C, pp. 319-329. <https://doi.org/10.1016/j.enpol.2014.08.019>.
- Chlebna C, Mattes J (2020). The fragility of regional energy transitions. *Environmental Innovation and Societal Transitions* 37, pp. 66–78. <https://doi.org/10.1016/j.eist.2020.07.009>.
- De Laurentis, C., Pearson J.G., P. (2021). Policy-relevant insights for regional renewable energy deployment. *Energy, Sustainability and Society* 11, 19, <https://doi.org/10.1186/s13705-021-00295-4>.
- European Commission (2022a). REPowerEU plan. Available at: [https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/repowereu-affordable-secure-and-sustainable-energy-europe\\_en](https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/repowereu-affordable-secure-and-sustainable-energy-europe_en) [Accessed 5.11.2022].
- European Commission (2022b). The EU solar energy strategy. Available at: [https://energy.ec.europa.eu/topics/renewable-energy/solar-energy\\_en#eu-solar-energy-strategy](https://energy.ec.europa.eu/topics/renewable-energy/solar-energy_en#eu-solar-energy-strategy) [Accessed 5.11.2022].
- European Commission, 2022c. EUROSTAT database. Available at: <https://ec.europa.eu/eurostat/data/database> [Accessed 25.10.2022].
- Fuchs G, Hinderer N (2014). Situative governance and energy transitions in a spatial context: case studies from Germany. *Energy, Sustainability and Society* 4(1), 16. <https://doi.org/10.1186/s13705-014-0016-6>.
- Igliński, B., Skrzatek, M., Kujawski, W., Cichosz, M., Buczkowski, R. (2022). SWOT analysis of renewable energy sector in Mazowieckie Voivodeship (Poland): current progress, prospects and policy implications. *Environment, Development and Sustainability* 24, pp. 77–111. <https://doi.org/10.1007/s10668-021-01490-1>.
- Jaber, J., Elkarmi, F., Alasis, E., Kostas, A., (2015). Employment of renewable energy in Jordan: current status, SWOT and problem analysis. *Renewable and Sustainable Energy Reviews* 49, pp. 490-499. <https://doi.org/10.1016/j.rser.2015.04.050>.
- Köhler J, Geels FW, Kern F, Markard J, Onsongo E, Wieczorek A, Alkemade F, Avelino F, Bergek A, Boons F et al (2019) An agenda for sustainability transitions research: state of the art and future directions. *Environmental Innovation and Societal Transitions* 31, pp. 1–32. <https://doi.org/10.1016/j.eist.2019.01.004>.
- Madurai Elavarasan, R., Afridhis, S., Rajan Vijayaraghavan, R., Subramaniam, U., Nurunnabi, M. (2020). SWOT analysis: A framework for comprehensive evaluation of drivers and barriers for renewable energy development in significant countries. *Energy Reports* 6, pp. 1838-1864, <https://doi.org/10.1016/j.egy.2020.07.007>.

- Markovska, N., Taseska-Gjorgievska, V., Pop-Jordanov, J. (2009). SWOT analyses of the national energy sector for sustainable energy development. *Energy* 34, pp. 752-756. <https://doi.org/10.1016/j.energy.2009.02.006>.
- Qaiser, I (2022). A comparison of renewable and sustainable energy sector of the South Asian countries: An application of SWOT methodology. *Renewable Energy* 181, pp. 417-425, <https://doi.org/10.1016/j.renene.2021.09.066>.

# MARKETS EVOLUTION AND COMMERCIAL CONSOLIDATION OF ROMANIA (1878 – 1914)

Cornoiu, Daniela<sup>1</sup>  
Borandă, Monica<sup>2</sup>

## Abstract

*We proposed to develop the subject related to the evolution of markets and commercial consolidation in Romania, at a time when almost everything was at the beginning and the national economy was in greater need of fundamental support measures, and we are not referring to the national market, even if they still met a series of pre-capitalist elements that were assimilated quite quickly. The role played by the emergence of a national market, compatible with Romanian interests, at the macro-economic level, allowed the development of production and trade and allowed the growth of the pace, in almost all sectors of the national economy. There is a greater centralization of commercial capital, a fact attested by the appearance of joint stock companies. The first company of this kind was founded in 1894. On the eve of the First World War, there were 60 such companies with a capital of about 43.4 million lei; of these, 42 were established after 1910.*

**Keywords:** piață internă, comerț, import, export

**JEL Codes:** B30, C15

## Introduction

It is known that the industrial evolution was not a political revolution, but produced a transformation of the economy, first slowly, then much faster. In this way, the development of capitalism, that is, the exploitation of collective labor by an entrepreneur, fully began. For example, this trend towards large enterprises was stimulated by the increase in the number of consumers and implicitly, by the opening of new markets and by mechanical interventions.

This model was followed everywhere, because applying the same principles, the same laws acted and as a result, there were the same effects. This great leap of Western European production forces, later extended to other countries, will generate a process of gradual economic growth.

On the territory of Romania, the consolidation of the internal market was based on the growth and diversification of production, stimulated by the growth of the population, in general and of the urban population, in particular. Also, of particular importance was the realization of the customs union between Muntenia and Moldova.

The permanent, ancient ties between the Romanian provinces continued with increased intensity, foreshadowing, beyond the political vicissitudes, that economic unity that was the basis of the national unity of the Romanians. Transylvania's economic ties were and remained until 1918, stemming from the organic and complementary character of the Romanian territory. Even when the government from Vienna introduced Transylvania (since 1850), into the customs system of the empire, these ties could not even be limited.

### 1. The internal market

Although embarrassed by some pre-capitalist remains, the internal market marked an increase in activity, as a consequence of the acquisition of state independence, through the increase in the social division of labor which, after 1878, materialized in new industrial branches, the differentiation of the peasantry, the specialization of some areas in certain agricultural products and the wider use of wage labor. In 1890, in the Kingdom (without Bucharest and Brăila and Iași counties) the number of merchants amounted to 55,726, and the number of commercial companies will increase, reaching a capital of 28 million lei. In 1903, the number of merchants was 107,332.

---

<sup>1</sup> Doctorate. Student, University from Craiova, Email - cornoitudaniela@yahoo.com

<sup>2</sup> Student, Ovidius University of Constanta Email – monicaboranda@yahoo.com

## **2. Forms of trade**

Retail trade was the most widespread form, until 1900, practiced in barns and weekly fairs - in the county residences where regional trade was concentrated, but also in the countryside where balciu, iarmaroaca were organized, these being historical forms of trade which fulfilled, equally, the functions of wholesale trade.

The development of production and trade would determine the opening of exhibitions that, by making known the production of industry and agriculture, aimed to facilitate sales.

Along with the development of trade, a process of concentration and centralization of capital took place in this field as well.

In Transylvania and Banat, internal trade also marked an increase, although it was hampered by the feudal remnants of agriculture. There is an important trade in cities like Brasov, Sibiu, Oradea, Arad, Timisoara.

Starting with the new decade, as a result of the development of the transport routes, some of the mentioned forms of trade are losing their importance due to the much easier access of the peasants to the urban trade, they keeping their commercial, but also social-cultural and ethnographic role.

In the Romanian villages, during the period 1874-1914, itinerant trade was also practiced - with small items, either by merchants or by craftsmen who sold their products roaming the villages. There were numerous mixed stores, in the sense of taverns and/or grocers, which had a wide range of products needed by peasant households.

## **3. New, modern forms of trade**

Modern forms of trade appeared, first, in the urban world, starting with the seven-eighth decades of the 19th century, when the forms of manifestation of trade multiplied and diversified. Along with the mixed, traditional stores, specialized stores or specialized general stores have also become present. The modernization of internal trade has contributed to the diversification of forms and ways of manifestation of competition, methods of attracting customers.

Characteristic of the internal trade activity, during this period, was the increase in circulation expenses, both those caused by the sorting, conditioning and packaging of the goods, as well as those with advertising and publicity.

At the end of the 19th century, there was a greater centralization of commercial capital, a fact attested by the appearance of joint-stock companies. The first company of this kind was founded in 1894. On the eve of the First World War, there were 60 such companies with a capital of about 43.4 million lei; of these, 42 were established after 1910.

Comparatively, urban trade was much more developed than rural trade. For larger purchases, the peasants had to go to the city, as well as for the sale of products specific to urban needs. In the world of villages, there were a number of intermediaries, samsari, merchants, usurers who bought peasant products at prices lower than those on the market. Commercial capital also brought its share of "contribution" to the exploitation of the village by the city.

The length of the working day was not regulated, and the weekly rest (until 1897) was non-existent. Not by chance, many trade employees joined the socialist movement, and from 1905, the professional unions.

## **4. Commercial legislation**

The development of commercial activity made necessary a more sustained training of trade workers, as well as the adoption of commercial legislation (Mureşan, 1995). Thus, in 1887, a new commercial code was adopted that replaced the one from 1840. Chambers of commerce and industry and employers' organizations gained greater influence after 1878, when their activity became more sustained. The issue of trademarks and trade marks, the way to resolve disputes, the procedure to be followed in case of bankruptcy, the sanitary control of



goods, the verification of measures and weights were also regulated. It has become mandatory to keep accounting records. Without removing all the shortcomings, Romania's internal trade took steps forward on the path of modernization.

### **5. Commodity exchanges**

In the era, a particularly important aspect was the promotion of grain trade through the emergence of a normative act called the "Law on general stores-docks", adopted in June 1881, also known as the "law of silos", which appeared with the aim of increasing the degree of capitalization and profitability of grain production. In fact, the law came to meet the simplification of the process of storage, selection and sale of cereals in large batches.

As a novelty in the field, also based on the law of 1881, was the appearance of the stock market, as a form of wholesale trade, but which, in Romania, did not know the extent of other parts of the world. According to this act, the Bucharest Stock Exchange was established in 1881, and in 1882 a similar institution was established in Iasi. Grain exchanges existed, before this law, in the port cities of Brăila, Galati and Constanța.

### **6. Trade links between historical provinces**

Commercial links with the country's provinces were both production and consumption. There were, at least, 15 customs points through which large quantities of raw materials needed for Transylvanian industries and crafts, as well as finished products, required by the Kingdom's internal market, were passed. The reports of the chambers of commerce and industry in Brasov, Cluj, Timișoara, Reghin, Sfântu Gheorghe, Odorhei and Arad reveal the links between them and Romania. (Puia, 1991)

Foreign trade and commercial policy have really experienced an obvious growth, determined, first of all, by the conquest of state independence but also by the consolidation of capitalist relations.

### **7. Commercial policy**

Until 1886, Romania's commercial policy was based on free exchange principles, then on protectionist ones. Illustrative in this respect was the commercial and customs convention with Austria-Hungary, concluded for ten years and entered into force on July 1/13, 1876. The conservative government, in power, motivated the conclusion of the convention by two considerations: a) obtaining a safe market for cereals, animals and animal products - in the conditions where the global agrarian crisis created difficulties in sales and b) the affirmation of Romania's right to conclude conventions, by virtue of its autonomy status, a right disputed by the Ottoman Empire. (Mehmed, 1976)

According to the convention, the two parties ensured each other the most favored nation clause (Dumitrașcu, 1995). Apparently, the equality between the contracting parties was respected. In fact, however, Austria-Hungary reserved the right to increase tariffs, while Romania was not stipulated to do so. The 32 articles stipulated, among other things, the freedom of trade and navigation between the two states, the right of merchants and manufacturers from both states - to export, the rights regarding the possibility of buying movable and immovable goods, on the territory of the other state. The provisions of the convention created greater advantages for landlords and merchants. As a result, a number of manufacturing enterprises and many craft workshops have closed. The Austro-Hungarian economic expansion was so great, with such profits, that as N. Iorga pointed out, it gradually became an "exploitative economic annexation".

At the beginning, conventions were concluded, in 1876 - with Russia, in 1877 - with Germany, then in 1878 - with Switzerland and Greece, in 1880 - with England, in 1881 - with the Netherlands, etc., on the same principle of free trade.

As the convention with Austria-Hungary was applied, its negative consequences became more and more apparent. After the expiration of the ten years of validity, the Romanian government did not renew it.

### **8. The customs war with Austria-Hungary (1886-1891)**

This war has broken out which broke out under the conditions presented above, damaged not only bilateral relations, but also the relations of the Kingdom's comet, with Transylvania and Bucovina.

In this regard, the problem was complex, first of all, because from an economic point of view, the protectionist policy in favor of Austria-Hungary could not be continued. Secondly, the repressive measures of Austria-Hungary had a negative impact on the economy of Transylvania and Bucovina and thirdly, even though we had concluded a friendship treaty with Austria-Hungary in 1883, it showed that Romania did not feel excessively long associated with this treaty.

Expiring the ten years of the commercial convention, in 1885, Austria-Hungary, on July 1, 1886, arbitrarily ordered the introduction of a 30% tax for Romanian goods, along with the total cancellation of animal imports. Under these conditions, Romania fought back (we were in a period when protectionism spread throughout Europe) because it too had to defend the interests of its inhabitants and its own economy, and the consequences for the economy of Transylvania and Bucovina were disastrous. In 1887, Romania concluded a new economic convention with Austria-Hungary, but under different conditions.

The episode with the customs war demonstrated the necessary organic connection between the economy of the Romanian provinces outside the borders and that of Romania.

### **9. Customs tariffs**

After 1886, a general protectionist tariff was adopted, the provisions of which will work in parallel with the measures to encourage the national industry. The taxes established, by the tariff of 1886, on the import of goods, concerned almost 600 articles. They represented, on average, 10-15% of the value of the goods. At the same time, the government had the right to levy a 30% surcharge on the value of products imported from countries that subject Romanian products to additional taxes. The 1886 tariff was reduced in 1891, but in 1893 a Liberal government raised customs duties again. On the basis of the 1886 tariff, in 1891 new commercial conventions were revised or concluded with Switzerland, Russia, England, Germany, thus introducing protectionist principles into commercial policy.

After almost two decades, in 1904, a new customs tariff (the Costinescu tariff) was developed and in 1906, it was implemented.

### **10. Foreign trade and exports**

Between the years 1878 and 1914, the total volume of foreign trade (calculated as the total amount of import and export), compared to the annual average of the period 1872-1876 (=100), increased to 225% - in 1901 and to 439% - in 1913. Compared to the same base period, in 1913, the value of export rose to 399.6%, and that of import to 494.3%. Regarding the trade balance, until 1877, it was surplus; between 1877 and 1899, it was deficit year after year. In the period 1900-1913 (with the exception of 1904 and 1908) the trade balance became surplus again.

Romania attaches importance to foreign trade, having the most diverse business partners. Until 1880, inclusive, the Romanian export with England (especially with grains) doubled, reaching 18% of the total export, and the import from England (textiles, metallurgical products, coal, colonial articles) amounted to 17.8% of the total the Romanian import. Trade with Turkey, once dominant, has continuously decreased, both in terms of import and export.

With the settlement of accounts with Austria-Hungary, the introduction of protectionist customs tariffs and the conclusion of conventions on new bases, the situation changed for the better, but to begin with, it did not lead to a significant removal of the Romanian market from the domination of foreign industry. A telling example is the convention concluded with Germany, from 1893 and entered into force the following year, which allowed the economic expansion of Berlin on the Romanian domestic market, and the other conventions, having the most favored nation clause, also took over the advantages granted to Germany.

After 1886, as a result of the introduction of the general customs tariff, the first signs of recovery were seen in Romania's trade balance.

During this period, England became the most important partner in Romania's exports. If in 1882 the export to England represented 39.9% of the total, in 1892 it reached 42.2%. Towards the end of the 19th century and the beginning of the 20th century, the first place in the Romanian export was occupied by Belgium, which, from 0.2% - as much as it absorbed in 1882, reached 54.5% - in 1902.

Agricultural products predominated in Romania's exports (cereals alone represented 70% of the entire export). In the last two decades of the 19th century, the export of wood and oil also increased.

### **11. Romania's import**

In the period 1880-1900, consisted of 75% of industrial products (in the last decade there was an increase in the import of metal, metallurgical products and machines), 15% - various food items, 4% - raw materials intended for domestic industry and 6% - various other products. (Puia, 1991)

The causes that explain Romania's trade balance deficits, in the last quarter of the last century, are the following: the effects of conventions practiced on the principle of free trade, the customs war with Austria-Hungary, the world agrarian crisis of the last decades of the 19th century, competition American, the differences between the prices of exported and imported products, the obtaining of poor harvests and, as a result, the reduction of grain exports.

The 1900-1914 stage was characterized by a positive trade activity, it being known that there was also a process of modernization of foreign trade forms. With the stronger development of means of transport and communications, trade based on samples began to develop, both for export and import. The creation of "bulk" trade conditions and the emergence of commodity exchanges, also called "trade exchanges", with the appropriate legislative support, represented other causes of emancipation of Romanian foreign trade.

Although in Transylvania, Banat and Bucovina this kind of trade had to face a more complicated situation, over time, capitalist type relations settled down and a Romanian market was created supported by the economic and financial interests of capital from all the provinces history of the country. (Daicoviciu et al, 1963).

### **Conclusions**

The decree of free trade as the only exchange system represented a very brave measure to support the national market, but the action was blocked by the guarantor powers (Zane, 1980)

The process of consolidation of the internal market was also accentuated by other factors of an economic nature: the modernization of transports, the abolition of internal customs, the creation of the national monetary system. Against this background of market consolidation, there was a gradual transition towards modern forms of internal trade. Thus, the chambers of commerce played a very important role, especially after Romania produced its modern legislation, which it needed, a fact that helped it enormously.

At that time, the leaders were patriots, they thought and acted, overwhelmingly in the spirit of national interests, so that, over time, the demarcation between wholesale and retail trade deepened, feeling, more and more, the need to cross to forms of stable and profitable trade. Although the forms of periodic trade continued to maintain some economic importance, towards the end of the 19th century, the new forms of modern trade, based on samples, began to appear, through the participation with increasing frequency of companies Romanians, at international fairs and exhibitions, but also at the organization of national exhibitions.

Foreign trade represented an essential link, both in the process of capital formation and accumulation, as well as in the changes in the agrarian structure. In the conditions favorable to the sale of grain, from the last decade of the 19th century and in the first fifteen years of the following century, prices increased, exchanges evolved and Romania benefited from a prosperous economy, for that time.

### **Bibliography**

Daicoviciu, Constantin și colectiv, *Din istoria Transilvaniei* [*From the history of Transylvania*], ediția a II-a, vol. II, București, 1963.

Dumitrașcu, Gheorghe, *Istoria modernă a României Note de curs* [*Modern history of Romania Course notes*], Constanța, 1995.

Mehmed, Mustafa Ali, *Istoria turcilor* [*History of the Turks*], București, Editura Științifică și Enciclopedică, 1976..

Mureșan, Maria, *Istorie economică* [*Economic history*], Editura Economică, București, 1995.

Puia, ilie, *Istorie economiei naționale*, București, f.e., 1991..

Zane, Gheorghe, *Studii* [*Studies*], București, Editura Eminescu, 1980.

# REGIONAL APPROACHES TO THE AGEING OF THE POPULATION

*Some people, no matter how old they get,  
they never lose their beauty: they just move it from face to heart.*

**Martin Buxbaum** (1912-1991) was an American poet, author and editor

**Florian Guramultă**<sup>1</sup>

## **Abstract**

*The phenomenon of population aging has become internationally and regionally a current one and which is of great importance because it concerns the evolution of the population throughout the world over an important period. As a result of some research, studies and analyses, it has been revealed that the world's population is facing an aging process that is to take place over a long period of time.*

*The evolution of the share of the elderly population will show a long-term upward trend especially in countries where the birth rate is higher than the replacement rate. It is important to note that the ageing phenomenon we are experiencing can be analyzed from the perspective of the population included in the three main categories or groups of the population, namely the young, adult and elderly population.*

*A new concept has therefore been developed to ensure intergenerational convergence, namely active ageing, which implies that solidarity between generations must be seen as a result of active ageing, which is an essential opportunity for maintaining solidarity between generations.*

**Keywords:** demographic, population aging, young population

**JEL classification:** O15, O43, R11

## **Introduction**

Demographic change is a process that highlights that populations are going down a path from a previous demographic regime, which reveals that birth rates and mortality were at high levels, to a current demographic regime that points out that these phenomena are experiencing a reduction.

The demographic change takes place as a result of the evolution of the population that takes into account a series of factors of which the most important are the social and economic ones, but also the legislative, or educational ones, respectively the sanitary and psychological ones, including the cultural ones.

Demographic changes have always preoccupied both theorists and experts, but also researchers and academia, especially when the transition from the society from the pre-industrial economy to the modern economy took place and who revealed that the birth rates and mortality recorded decreases.

Demographic changes were conceptualized in the theory of "demographic transitions" as which it was based on the reflexive behavior of classification and statistical systematization of the change in mortality and birth rate especially in Europe in the second part of the eighteenth century and especially in the nineteenth century, as a result of the process of industrial progress but also of various associated processes, which revealed the decline of the death rates, continuing with the reduction of the birth rate.

The aspects related to the demographic transition have a major importance both internationally and nationally, for Romania. Social and economic changes have exerted an influence on its population, its structure, and on demographic trends. The evolution of economic and social development is, based on technical progress, the introduction of new technologies, the continuation of industrialization, the development of new fields of activity will be fast paced. Taking into account these realities, it appears as normal questions such as:

---

<sup>1</sup> PhD Student in Economics, NIER, "C.C. Kiritescu", Romanian Academy, email:floring14@yahoo.com

what is the demographic act of such development, how demographic development can be correlated with the economic one, what are the components on which social policy and demographics can use them in the future?

The research of the demographic transition in the case of Romania, under the specific national conditions, can lead to conclusions that have an impact on the modification of the legislation and regulations in the field, can influence the public policies that will be elaborated, can indicate the way of allocating the state's resources to investments that will help the young population but also the elderly, especially the active ageing population.

Following a U.N. study (1973), the French demographer Adolphe Landry described, in 1909, for the first time, the demographic stages, as primitive, intermediate and modern, respectively.

Among those who participated in the constitution of a theory and demographic transition, we can mention Warren S. Thompson (1929) but also Frank W. Notestein (1954). The theory was later extended by other researchers in the sphere of their demographers, their sociologists but also their economists, among whom we mention: C. P. Blacker (1947), G. Mackenroth (1953), E. Hoover (1958), A. J. Coale (1972), Francis O. Okediji (1974), J. C. Caldwell (1976).

### **1. The importance of the evolution of the demographic transition**

The research of the papers and studies on the theories of the demographic transition, especially those published by the aforementioned authors, allows the formulation of general assessments, as follows:

- The theory of demographic transition – from a scientific point of view – has evolved a lot and the cooperation between sociologists and demographers can contribute to the consolidation of the theory that is capable of formulating an explanatory model – taking into account the social, economic and cultural component – but also a predictive model, based on the discovery of a rule, as a result of an objective need.

- The approach only from the perspective of biologists they were considered simplistic, which is why the problem was dropped and approached in a more comprehensive and rigorous way, on a scientific basis, but also appealing to the contribution of several sciences from which they concern: the economic theory that, the study of the description of the structure and physiology of society, of the interpersonal relations within the social groups, as well as of the institutions in the society, the study of origins, its evolution and various physical types of man, in correlation with the natural and social-cultural conditions, the study and analysis of its social psychologists but it's also demography. Such an approach allows a use of demographic variables correlated with those in the social, cultural, economic and behavioral spheres, of the approach both from a macro and micro perspective in terms of demographs, between independent, dependent, endogenous and exogenous but also intermediate variables.

- The theory of demographic transition tries to find solutions taking into account the cultural model that affects reproductive behavior and that uses cultural variables, intermediate variables that take into account the specific characteristics of a national population, regions or classes and categories.

- The use of systemic interpretation has been done more and more in the research and study of the demographic transition, which has led to an increase in efficiency; about these elements is spoken in the researches and works of the authors: Mackenroth (1953), K. Davis (1963), Irene Taeuber (1958), Cowgill (1949, 1953). Therefore, the benefits of these researches lead us to a coherent use of concepts and tools within the general theory of systems.

- The organization and grouping of statistical information puts us in a position to model developments to make better predictions to improve estimates to make the transition from the explanatory model of demographic transition to a predictive model.

- Apart from the general model, we have a number of specific peculiarities of the demographic transition for each country; which revealed in some situations either the decrease in

mortality was preceded by the decrease in fertility; either in others, the process of subtraction was at the same time. There are also situations from the past that when the decrease in fertility was prior to the decrease in mortality. There may also be situations when, during the transition, fertility has experienced growth for a limited period of time. Significant changes can also be found with regard to the length of the periods of time of the transition.

The national population can be likened to a system that reacts according to the state, more simply a system of self-regulation, which means that its condition is presented at each moment  $t$  by the population number corresponding to that moment.  $P(t)$ : represents the size of entry or command is the number of live births:  $N(t) = n(t) P(t)$ , where  $n(t)$  = birth rate; the output size is the number of deaths:  $M(t) = m(t) P(t)$ .

Therefore, the key that reveals the evolution of the system is:

$$P'(t) = m(t) P(t) + n(t) P(t),$$

what can still be expressed in the form of:

$$P = N - M.$$

The two rates  $n(t)$  and  $m(t)$  – the rate of birth rate and the mortality rate – can be influenced by factors external to the population system; they describe the interaction of the population system with other systems. We mention that the sizes  $n(t)$  and  $m(t)$  can be affected by demographic policy but especially by social policy.

## **2. Active ageing and solidarity between generations – components of development**

The concept of active ageing is not a new one, as it is defined by the World Health Organization (WHO) as the process of optimizing health, participation and safety opportunities to improve quality of life.

Active ageing brings benefits to all and maintains a concrete link between generations, brings gain for the whole of society and promotes care and interest in human resources and its experience in all areas of activity.

All this should be done at the same time as ensuring that adequate protection measures are taken. The promotion of active ageing should be approached on a multi-dimensional basis and based on mutual support between generations.

The problem of an ageing population is also topical at European level, the European Commission is showing solidarity and responsibilities between generations by adopting on 27.01.2021 in this area a document entitled *Green Paper on the ageing of the population*.

The aim of the document is to promote a debate in order to design directions on aging, to identify and analyze options on how to foresee but also to respond to the problems and opportunities required arising from this, especially since there are some elements in the The UN 2030 Agenda for Sustainable Development and the UN Decade for Healthy Ageing.

In order to promote the protection of the rights of the elderly, in the context of the change in the age structure of the Romanian society and the decline of the population, it is necessary to structure the main directions of action of the national authorities.

They are aimed at changing the perception of elderly people, improving legislation and regulations on social assistance measures, supporting local public administrative authorities and civil society as providers of social services addressed to this category of people.

According to the estimates made<sup>1</sup> in Romania, it is facing a profound socio-economic transformation due to the unprecedented demographic changes. The estimates made indicate that the share of the population aged 65 and over will double from 15 percent to 30 percent by 2060, with the possibility of exerting a strong pressure on the costs of pensions, health services and long-term care services.

Among the effects of population ageing can be identified:

---

<sup>1</sup> World Bank - *LONG, ACTIVE AND STRONG LIFE Promoting active ageing in Romania*, which can be consulted to address <http://www.mmuncii.ro/j33/index.php/ro/politici-familiale-incluziune-si-asistenta-sociala/3995>

- affect the basic conditions for the functioning of the labour market,
- the decrease of the potential GDP, by reducing the contribution of the labor force, but also of the capital, in the conditions of affecting the internal savings,
- the increasing pressure on the state budget, both on the revenue side, by affecting the economic growth, and on the expenditure side, by increasing the expenditures for social assistance and health,
- the effect on the internal savings rate and, by extension, on investments,
- increasing the number of elderly people seeking specific health care and care

### **Conclusions and proposals**

We can say that the evolution of the demographic transition has been researched and analyzed over time, following the contribution of several researchers and experts and with the support of several sciences, which brought a major improvement in the transition from the explanatory model regarding the demographic transition to a predictive model.

An active ageing offers the opportunity for the elderly to structure throughout their lives, all the essential conditions for achieving and strengthening the welfare of the countries, and even more to participate concretely in the life of the society in accordance with the needs, the desires it's also their capabilities.

We propose to the enterprise research studies and analyses that take into account:

- Finding ways to support healthy and active ageing contributes to the generation of new social and economic models, based on solidarity including intergenerational cooperation,
- Society must take into account the socio-economic potential that older people can provide. Here we are considering both increasing the quality of life and dignity of the elderly, as well as by offering new opportunities and methods to mitigate the anticipated effects of demographic change and transition,
- Removing barriers to the employment of the older population and finding solutions so that the elderly population is no longer a poorly used resource of the Romanian economy,
- Increasing the v eniturilor the older population by increasing the occupancy rate,
- Removing significant political, cultural and socio-demographic barriers to more frequent and broader social participation,
- Enhancing independence in long-term care.

### **Bibliography**

Blaker C. P., (1947) - *Stages in Population Growth*, in "The Eugenics review". 39, No. 3 (October 1947).

Caldwell John C, (1976) – *Toward a Restatement of Demographic Transition Theory*, in "Population and Development Review", September/December 1976, volume 2, Numbers 3 and 4, The Population Council.

Coale Ansley J., Hoover Edgar M., (1958) – *Population Growth and Economic Development in Low-Income Countries: A Case Study of India's Prospects*, Princeton University Press, Princeton, 1958.

Coale A. J., (1972) – *The Demographic Transition Reconsidered*, in "International Population Conference", Liège, 1973, volumes 1, pp. 55–72.

Cowgill D. O., (1949) – *The Theory of Population Growth Cycles*, in "American Journal of Sociology", 55 (1949), 128.

Cowgill D. O., (1953) – *Transition Theory as General Population Theory*, in "Social Forces", 4, 3 (March 1953), 271–274



Davis K., (1963) – *The Theory of Change and Response in Modern Demographic History*, in "Population Index", 29, Oct. 1963, pp. 315–366.

Irene B. Taeuber (1958) - *The Population of Japan*. Princeton University Press, Princeton, N.J., 1958.

Mackenroth G., *Bevölkerungslehre* (1953) – *Theorie. Soziologie und Statistik der Bevölkerung*, Berlin, Göttingen, Heidelberg. 1953.

O.N.U. (1973) - *The Determinants and Consequences of Population Trends. New Summary of findings on Interaction of Demographic, Economic and Social Factors*, volume I, New York, 1973 (The Theory of Demographic Transition, p. 58 et seq.) .

Okediji Francis O., (1974) – *Changement dans le comportement individuel en matière de procréation et valeurs culturelles*. U.I.E.S.P.. Série de conférences sur la population, Bucarest, 1974.

Mackenroth G., *Bevölkerungslehre* (1953) – *Theorie. Soziologie und Statistik der Bevölkerung*, Berlin, Göttingen, Heidelberg. 1953.

Notestein Frank W. (1915) - *Population: The long view*, in Theodore W. Schultz (ed), *Food for the World*, University of Chicago Press, Chicago, 1915, p. 41.

Thompson Warren S., (1929) - *Population*, in "The American Journal of Sociology". 34, no. 6 (May 1929), pp. 959–975.

# THE ROLE OF TRADE IN PROMOTING SUSTAINABLE DEVELOPMENT - THE CASE OF THE EUROPEAN UNION

Corneliu-George, Iacob<sup>1</sup>

## Abstract

*Adopted in 2015 by the United Nations General Assembly, the 2030 Agenda for Sustainable Development has been hailed as "a defining moment for humanity and the planet", a "victory for multilateralism" and a "blueprint for a better future". The Agenda contains the Sustainable Development Goals (SDGs), which set targets to be achieved by 2030 in 17 areas, including poverty, health, education and the environment. The 2030 Agenda recognizes that trade is an engine of economic growth for all and a means of reducing poverty and contributing to the sustainable development of countries. Eradicating poverty is high on the 2030 Agenda as the first Sustainable Development Goal, and trade continues to be a key factor in progressing towards this goal. Trade and the World Trade Organization have contributed greatly to the unprecedented economic development of the past 15 years. The purpose of this article is to highlight how trade contributes to the achievement of the main objectives of sustainable development, from the perspective of the European Union, highlighting the main directions of action of the European Union in this regard.*

**Keywords:** *European Union, 2030 Agenda for Sustainable Development, Sustainable Development Goals, trade, World Trade Organization*

**JEL classification:** F50, F63

## 1. Agenda 2030 – the general framework of sustainable development

The UN's 2030 Agenda, adopted in 2015, represents the new global framework for sustainable development; setting 17 Sustainable Development Goals (SDGs), it is a commitment to eradicate poverty and ensure sustainable development worldwide by 2030. The Sustainable Development Goals aim to balance the three dimensions of sustainable development - the economic, the social and the environmental component - through concrete actions foreseen for the next 15 years, focused in particular on regional and global stability, resilient and equitable societies and economies prosper.

### **Sustainable Development Goals:**

Goal 1. End poverty in all its forms everywhere

Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 3. Ensure healthy lives and promote well-being for all at all ages

Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Goal 5. Achieve gender equality and empower all women and girls

Goal 6. Ensure availability and sustainable management of water and sanitation for all

Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all

Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Goal 10. Reduce inequality within and among countries

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

Goal 12. Ensure sustainable consumption and production patterns

Goal 13. Take urgent action to combat climate change and its impacts

---

<sup>1</sup> PhD Candidate, University of Economic Studies, Doctoral School: Economics and International Business, Bucharest, Romania; emi66vl@yahoo.fr

Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development. (UN,2015).

The 2030 Agenda is a commitment to eradicating poverty and achieving results towards sustainable development worldwide by 2030, ensuring that no one is left behind. The 17 Sustainable Development Goals and their 169 related targets are global in nature, generally applicable and interconnected. All countries, both developed and developing, have a shared responsibility to achieve the Sustainable Development Goals (SDGs). The 2030 Agenda integrates in a balanced way the three dimensions of sustainable development - economic, social and environmental - and reflects for the first time an international consensus that peace, security, justice for all and social inclusion should not be pursued only in separately, but must support each other.

## **2. Integrating trade to expand economic opportunities for poverty reduction**

The 2030 Agenda and the SDGs reflect the convergence of two previously separate processes: 1) the Millennium Development Goals (MDGs); and 2) global discussions on sustainable development. The 2030 Agenda calls for completing unfinished business within the framework of the MDGs while integrating the concept of sustainable development. To this end, there is an urgent need to ensure that economic growth, environmental protection and social inclusion are seen as part of an integrated and indivisible development agenda. The 2030 Agenda calls for “universal” action by poor and rich countries alike, which deviates from the MDGs’ emphasis on donor-recipient relationships. Compared to the framework provided by the MDGs, the 2030 Agenda brings another crucial innovation: the conception that if environmental sustainability is not taken into account, any gain relating to poverty or economic growth will be at best ephemeral, at worst unobtainable. (WTO,2018)

Climate change is having profound impacts on international trade, which differ across regions and sectors. Trade can be part of the solution to help countries adapt to climate change because it fosters investment and economic development and provides opportunities for investment in adaptation actions. It can facilitate access to adaptation technologies, contribute to tackling food security challenges, and support countries in preparing for, responding to and recovering from climate shocks. Greater international cooperation, including at the WTO, is key to strengthen the climate resilience of supply chains, address climate-related food security challenges, and deliver the technical assistance and investment required to climate-proof infrastructure and upgrade productive capacities.(WTO, 2022)

Trade is recognized as an engine for inclusive economic growth and poverty reduction that contributes to the promotion of sustainable development both by the 2030 Agenda and its accompanying SDGs as well as the Addis Ababa Agenda. International trade can be an important source of finance to both the private sector and the public sector in developing countries. Trade growth enhances a country’s income-generating capacity, which is one of the essential prerequisites for achieving sustainable development. The opportunities that trade generates for greater economic growth, for improved social development and for reducing poverty are well established. Trade contributes to the realization of the SDGs and, as an enabler, serves as a foundation from which to build national, regional and international policies for sustainable development. More concretely, the WTO has already started to deliver on specific

SDG targets, such as Target 2.B in SDG 2 on zero hunger, which calls for the elimination of trade distortions in agriculture markets, including the phase-out of export subsidies. In December 2015 at the WTO's 10th Ministerial Conference held in Nairobi, ministers adopted the Decision on Export Competition in Agriculture which, among other disciplines, prohibits the use of export subsidies in agriculture largely delivering on Target 2.B. This was among the first targets to be achieved just a few months after the adoption of the SDGs. The decision eliminates agricultural export subsidies and sets out new rules for export credits, international food aid and exporting state trading enterprises. By prohibiting the use of trade-distorting export subsidies and measures of equivalent effect, this decision helps to level the playing field in agriculture, aiding farmers in many developing and least developed countries. This is the most significant reform of global agricultural trade in the history of the WTO – and one which will help to improve the quality of life of future generations, particularly in low-income countries that depend on trade in agricultural products. These recent WTO negotiating successes prove that the trading system does deliver for development. Mainstreaming trade, however, requires a deliberate effort to integrate trade into the various dimensions of government activity and policy making. Trade is a fundamental component of the 2030 Development Agenda, most prominently anchored through Goal 17 on global partnerships as a key means of implementation for delivering on the main goal of eradicating poverty (Goal 1). The true value of trade, however, is essentially interwoven throughout the SDGs, with explicit trade targets across SDG 2 on zero hunger, SDG 3 on good health and well-being, SDG 8 on decent work and economic growth, SDG 10 on reduced inequalities, SDG 12 on responsible consumption and production, and SDG 14 on life below water, and even more deeply underpinning targets in almost all of the SDGs. This is clearly seen in the role of trade in stimulating economic growth, investments into productive capacity including agriculture, supporting clean energy, public health and education, infrastructure development and innovation as well as key linkages to investments. (WTO,2018)

Sustainable development and environmental protection and conservation are fundamental objectives of the WTO. They are enshrined in the Marrakesh Agreement establishing the WTO and complement the Organization's objective of reducing barriers to trade and eliminating discrimination in international trade relations. Although there is no specific agreement on the environment, under WTO rules, members can take trade-related measures to protect the environment, provided that several conditions are met to avoid abuse of these measures for protectionist purposes. The WTO contributes to the protection and preservation of the environment through its objective of trade openness, its rules and enforcement mechanism, the work carried out by its various bodies and its ongoing efforts under the Doha Development Agenda. The Doha Agenda provides for specific trade and environment negotiations and certain tasks are assigned to the Committee on Trade and Environment in regular session.

Multilateral Environmental Agreements (MEAs) are an important means for countries to tackle environmental problems, particularly those international or global in scope. There are, currently in force, over 250 multilateral environmental agreements (MEAs) dealing with various environmental issues. About 15 of these MEAs include provisions to control trade in order to prevent damage to the environment:

- [Convention on International Trade in Endangered Species of Wild Fauna and Flora \(CITES\)](#)
- [United Nations Fish Stocks Agreement \(UNFSA\)](#)
- [Agreement on Port State Measures to prevent, deter and eliminate illegal, unreported, and unregulated fishing \(PSMA\)](#)
- [International Tropical Timber Agreement \(ITTA\)](#)
- [International Plant Protection Convention \(IPPC\)](#)

- [Convention on Biological Diversity \(CBD\)](#)
- [Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity](#)
- [Cartagena Protocol on Biosafety to the Convention on Biological Diversity](#)
- [Nagoya – Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety](#)
- [Montreal Protocol and the Vienna Convention on Substances that Deplete the Ozone Layer](#)
- [United Nations Framework Convention on Climate Change \(UNFCCC\), the Kyoto Protocol and the Paris Agreement](#)
- [Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal](#)
- [Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade](#)
- [Stockholm Convention on Persistent Organic Pollutants](#)
- [Minamata Convention on Mercury](#). (WTO,2022)

An effective strategy to combat global warming cannot succeed if governments ignore the important role of trade in achieving climate goals, the WTO Director-General said at the COP27 summit in 2022 at the launch of the World Trade Report, which focuses on the relationship between climate change and international trade. The World Trade Report maps out pathways for governments on how to use trade to support national action plans — known as nationally determined contributions (NDCs) — for tackling climate change. Each party to the UN's 2015 Paris Agreement, which sets the target of limiting global warming to 1.5°C, is required to establish an NDC and update it every five years. The World Trade Report indicates trade actions that can help countries meet the challenge of moving to net-zero emissions by mid-century and harnessing trade as a force multiplier for climate mitigation and adaptation efforts. Examples of such trade actions include opening up trade in environmental goods and services, improving cooperation on carbon measurement and verification, and transforming the WTO's Aid-for-Trade initiative into an investment programme that expands opportunities for sustainable trade in less affluent nations.

### ***2.1 Ways and means by which international trade and trade policy can support climate change adaptation strategies***

According to the World Trade Report 2022, climate change adaptation strategies encompass actions that reduce the negative impact of climate change, while taking advantage of potential new opportunities that climate change might create. Reducing the consequences of climate change can be achieved by identifying, preventing and reducing actual or expected climate risks, exposure and vulnerabilities, and by being prepared to cope with the effects of climate change and to minimize unavoidable losses and damages from climate change by adjusting existing systems. In practice, adjusting existing systems means adapting the behaviours of people, firms and governments, and modifying infrastructure to deal with the current and future changing climate. Common examples of adaptation strategies include early warning and information-sharing systems, flood risk control, insurance, the introduction of new crop varieties, livelihood diversification, soil and water conservation, and sustainable forest management. Given the urgency to scale-up climate change actions, synergies between climate change adaptation and mitigation can help achieve climate resilience more effectively. While international trade affects climate change, it can also play an important role in climate risk prevention, reduction and preparedness, and in climate disaster recovery and

rehabilitation, even though the consequences of climate change will remain disruptive and costly. Trade can help strengthen food security, and facilitate access to essential goods and services after EWEs hit. In that context, trade policies can also be integrated into climate change adaptation strategies. However, other coordinated policies and actions are important to mitigate the costly adjustment to changes caused by climate change. (WTO, 2022)

(a) Trade can support climate change adaptation actions through economic growth

Adapting to climate change requires important investment in infrastructure to increase resilience and reduce vulnerability at the community, local, regional, sectoral and national level. Although developing countries are considered to be those most vulnerable to a rapidly changing climate, progress in climate change adaptation strategies tends to be more frequently and rapidly achieved in advanced economies. For many developing countries, lack of finance remains an obstacle to invest in climate change adaptation. In this context, international trade, as a driving force for sustained economic prosperity, can indirectly help economies steer some of their financial resources towards climate change adaptation strategies. Higher economic growth can, in turn, provide financial support and material preparation for essential climate change adaptation, such as investment in climate-resilient infrastructure.

(b) Trade can enhance economic resilience to climate change shocks

International trade can help countries prepare for, cope with and recover from climate-related shocks more effectively. Risk prevention and reduction can be achieved by explicitly integrating risk management into decision-making, including financial appraisal of risks and early warning systems. Climate risk screening, resilience performance rating or sustainability standard can be used to identify climate risks and evaluate and reward resilience attributes of public and private investments. In parallel, preparedness encompasses strategies and actions effectively designed to anticipate, respond to and enable recovery from the impacts of likely, imminent or current climate-related shocks. Some of these strategies can include developing disaster responses and contingency plans, identifying priorities and reviewing insurance coverage. When an extreme weather-related shock hits, international trade can, under certain conditions, spread its effects across countries, but at the same time it can contribute to making economies more resilient by ensuring the timely availability of essential goods and services. Imports provide a vital channel for increasing the availability of goods and services that may be in short supply in a disaster-struck country. Such goods and services include food, medical supplies, emergency equipment and expertise to aid relief and recovery efforts. Efficient customs clearance, transit procedures and public procurement processes are essential for trade to play this role effectively. Allowing trade to resume faster in the aftermath of climate-induced shocks and disruptions can be an important economic stimulus that supports economic recovery. For instance, facilitating imports of construction materials can contribute to sustaining infrastructure and post-disaster reconstruction.

(c) Trade can contribute to improving food security arising from changing comparative advantages

Open trade can help countries to adapt to changes in comparative advantages caused by climate change, and to benefit from potential new opportunities, although systemic cascading risks from climate change will remain. Policies aimed at reducing trade costs can support part of the adjustment caused by changes in comparative advantages due to climate change, while minimizing changes in patterns of consumption through imports, and thus potentially minimizing welfare losses. Simulations suggest that reducing trade costs in lower-income economies would, all things being equal, reduce their welfare losses caused by climate change by up to 68 per cent. Promoting trade could also reduce the incidence of climate-induced migrations, as trade and international labour mobility tend to be substitutes rather than complements. Trade and well-functioning markets can contribute to improving food security across multiple dimensions, including food availability, nutrition, access and utilization.

Trade can directly contribute to improving the availability of food by easing its movement between surplus and deficit economies. However, low levels of purchasing power among vulnerable population groups are likely to be further exacerbated by climate change and continue to compromise people’s access to food.

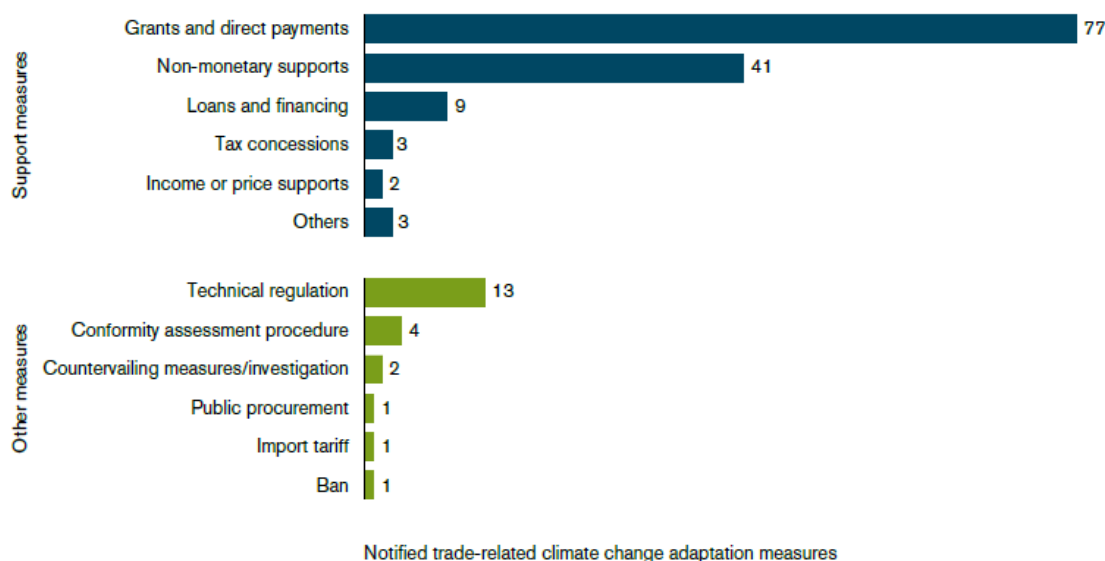
(d) Trade can facilitate the acquisition and deployment of technologies that can contribute to climate change adaptation

Adapting to climate change can require adopting specific technologies to adjust existing systems to deal with current and future consequences of climate change. For instance, technologies that can offset negative agricultural yield shocks include crop varieties with higher heat or salinity tolerance, early warning system for biopesticide use, fertilizers and machinery, as well as irrigation, water conservation and storage systems. Trade and trade policies can increase access to these technologies, especially in countries most vulnerable to climate shocks. The removal of unnecessary barriers to trade could improve farmers’ access to new technologies and reduce their exposure to climate-induced shocks.

(e) Trade policies can be integrated into climate change adaptation strategies

By their very nature, climate change adaptation policies are varied. Although there is no comprehensive typology of climate change policies, they can be broadly classified into three types: structural, social and institutional. Structural and physical measures include, among other things, the application of technologies and the use of ecosystems and their services to serve adaptation needs (e.g., reforestation). Social measures target the specific vulnerabilities of disadvantaged groups and propose solutions (e.g., increasing investment in education and improving labour mobility). Institutional measures relate to specific economic and regulatory policies, which foster investments in adaptation to climate change. In that context, trade policy can also support climate change adaptation actions. Trade-related climate change adaptation measures predominantly take the form of support measures, with more than three-quarters of notified measures covering grants and direct payments, non-monetary support and/or loans and financing. Technical regulations and conformity assessment measures are other common types of adaptation measures.(WTO, 2022)

**Figure no.1: Financial support and technical regulations are the most common trade-related climate change adaptation measures**



Source: (WTO, 2022)

More than half of the notified climate change adaptation measures cover the agricultural sector, illustrating its vulnerability to climate change and its need to adapt. While international trade can be an important component of climate change adaptation strategies, trade policies alone cannot reduce the negative impact of climate change and help take advantage of potential new opportunities. Other policies and actions are essential to adjust to current or expected effects of climate change. Macro-fiscal policy planning is important to address climate adaptation, such as identifying contingent liabilities from natural disasters and environmental shocks, developing a financial strategy to manage contingent liabilities and evaluating climate and disaster risks of the financial system. In that context, ensuring mutual supportiveness between economic policies, including trade policies, and climate change adaptation policies is essential to strengthen the role of trade while addressing broader challenges of adaptation. P.37

## ***2.2 International trade cooperation can help to make climate adaptation strategies more ambitious and viable***

International cooperation on climate adaptation is broad and diverse. While the United Nations Framework Convention on Climate Change (UNFCCC) is at the forefront of coordinating global climate change adaptation efforts, the UN 2030 Sustainable Development Agenda has recognized the need for the widest possible international cooperation to combat climate change. **International cooperation on trade can further support and enhance climate change adaptation actions.** A limited but increasing number of trade agreements explicitly addresses climate change adaptation, covering various commitments, from adopting adaptation measures to facilitating the removal of trade and investment barriers to goods and services that can contribute to adaptation. Provisions on climate change adaptation are sometimes complemented by other explicit provisions addressing natural disasters. The WTO, through its different functions, can also help to support climate adaptation efforts by promoting the transparency and predictability of trade policies related to climate change adaptation and by limiting unnecessarily trade-restrictive policies.

The WTO can improve the climate resilience of supply chains by helping to make trade more open, predictable and diversified. A broad range of strategies can be adopted to support resilience. Substituting critical inputs, stockpiling, maintaining redundancy in the production process (i.e., additional production capacity in case of need), and diversifying products, suppliers and markets are potential strategies. Pooling information and sharing expertise can also contribute to making supply chains more resilient to climate change. The WTO supports the conditions underpinning the climate resilience of supply chains by reducing trade barriers, streamlining customs procedures, and encouraging the transparency and predictability of trade policies, including those related to climate change adaptation. Several WTO bodies, in particular the Committee on Trade and Environment (CTE), also provide a forum to support policy dialogue and experience-sharing in trade-related climate change adaptation strategies. Strengthening discussions in the WTO on the trade-related adaptation needs of developing countries and LDCs could also contribute to a higher degree of alignment and coherence between Aid for Trade and climate finance programmes. (WTO, 2022)



**Figure no. 2 Selected examples of resilience policies under WTO agreements and decisions**

<p><b>General Agreement on Tariffs and Trade (GATT) and Trade Facilitation Agreement (TFA)</b></p> <ul style="list-style-type: none"> <li>• Define in advance domestic customs disciplines to be implemented during an emergency.</li> <li>• Temporarily suspend regular customs charges on the entry of imported goods.</li> <li>• Facilitate customs processes and procedures to speed up imports of relief goods and other necessities.</li> </ul>
<p><b>Technical Barriers to Trade (TBT) Agreement and WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS)</b></p> <ul style="list-style-type: none"> <li>• Ensure quality and safety of imported relief goods, including foodstuffs.</li> <li>• Adapt technical standards for construction and building materials to local environmental constraints.</li> </ul>
<p><b>Agreement on Agriculture (AoA)</b></p> <ul style="list-style-type: none"> <li>• Ensure access to goods of primary necessity, including food supplies.</li> <li>• Provide financial support and government services for relief from natural disasters.</li> </ul>
<p><b>Agreement on Subsidies and Countervailing Measures (SCM)</b></p> <ul style="list-style-type: none"> <li>• Provide financial support to enterprises to recover from climate-related natural disasters.</li> </ul>
<p><b>Enabling Clause, Decisions on waivers for preferential treatment for LDCs, Waivers under the Marrakesh Agreement</b></p> <ul style="list-style-type: none"> <li>• Grant non-reciprocal preferences to support export diversification and, following EWEs, to promote the recovery of exports.</li> </ul>
<p><b>General Agreement on Trade in Services (GATS)</b></p> <ul style="list-style-type: none"> <li>• Automatically recognize the professional qualification of foreign service providers for relief services and reconstruction.</li> <li>• Improve access for the population and for businesses to cash aid resources.</li> <li>• Improve the supply of weather-related services to build capacity to anticipate EWEs.</li> </ul>
<p><b>WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)</b></p> <ul style="list-style-type: none"> <li>• Ensure balanced framework for innovation and diffusion of climate adaptation technologies.</li> <li>• Support technology transfer to LDCs.</li> </ul>
<p><b>Agreement on Government Procurement 2012 (GPA 2012) (Plurilateral)</b></p> <ul style="list-style-type: none"> <li>• Use emergency government procurement flexibilities to accelerate procurement processes for goods and services needed for recovery.</li> </ul>

Source: (WTO, 2022)

### **3. The European Union – global partner engaged in the promotion and implementation of the 2030 Agenda**

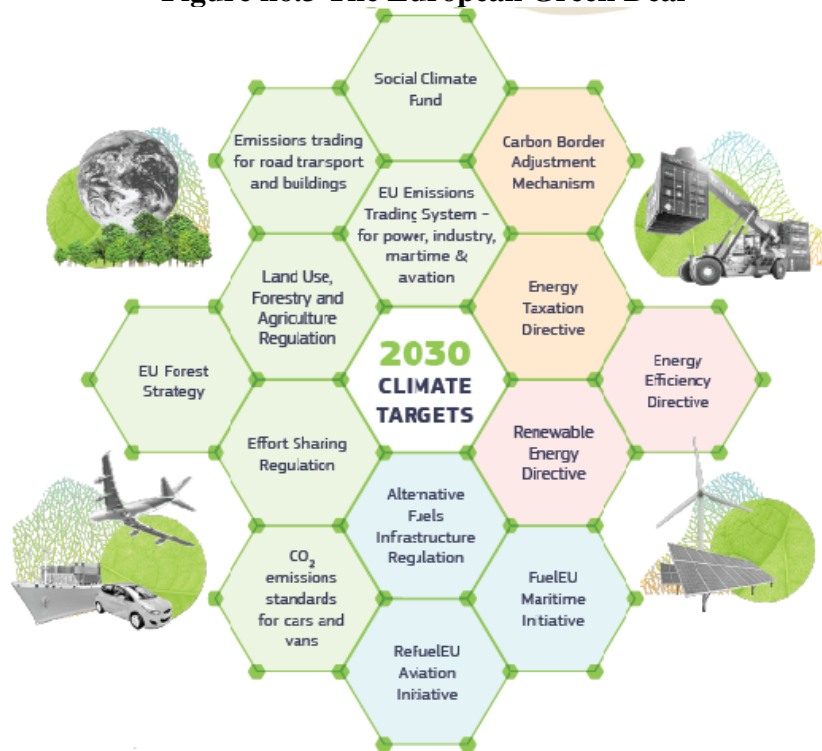
Being in an advanced position in the field of sustainable development, the European Union is determined to, together with its member states, be among the first actors to implement the UN 2030 Agenda. Sustainable development objectives are integrated in all 6 action priorities of the current European Commission.

Sustainable development has long been at the heart of the European project. The EU Treaties recognize its economic, social and environmental dimensions, which must be considered together. The European Union is committed to development that meets present needs without compromising the ability of future generations to meet their own needs. The essence of sustainable development involves a dignified life for all, respecting the limits of the planet, bringing together economic prosperity and efficiency, peaceful societies, social inclusion and environmental responsibility. In the past, a European Union Sustainable Development Strategy was launched in 2001, revised in 2006 and in 2009. Since 2010, sustainable development has been integrated into the Europe 2020 Strategy, a strategy based on education and innovation ('smart'), on low carbon emissions, climate change resilience and environmental impact ('sustainable'), as well as job creation and poverty reduction ('inclusion-friendly'). As early as 2016, the European Commission presented its strategic approach to the implementation of the 2030 Agenda and the achievement of the Sustainable

Development Goals. The 2030 Agenda provides an opportunity for the EU to firmly anchor its strategic orientation in the global effort to build a sustainable future. The main measures for the implementation of the 2030 Agenda:

- the integration of the SDGs into absolutely all the policies and initiatives of the European Union – sustainable development is the essential guiding principle for all the policies of the European Commission
  - periodic reports, starting in 2017, on the progress of the European Union
  - promoting the 2030 Agenda, so that its application becomes a priority for the governments of the member states, for the European Parliament and the other European institutions, as well as for various international organizations, civil society organizations and other interested parties
  - establishing a high-level multi-stakeholder platform to support the exchange of good practices in order to achieve the objectives in all sectors and at all levels (national and European)
  - launching a longer-term vision for the period after 2020.( Eurostat, 2016)

**Figure no.3 The European Green Deal**



Source: (European Commission, 2021)

In order to promote sustainable development around the world, the EU will continue to cooperate with external partners, using all available instruments within its external policies and supporting, in particular, the efforts of developing countries.

The EU is committed to being a leader in the implementation of the 2030 Agenda and the Sustainable Development Goals (SDGs), together with its Member States, respecting the principle of subsidiarity. The 2030 Agenda will continue to encourage a common approach between the EU's external actions and its other policies, as well as better coherence between the different EU financial instruments.

#### **4. Conclusion**

An imperative of sustainable development is finding ways to adapt to climate change and its current and future consequences. Climate change can affect international trade through changes in productivity, supply chain disruptions, changes in trade costs and changes in comparative

advantage. International trade and trade policy can support climate change adaptation strategies. Climate change is not only an environmental problem, but also a systemic risk affecting people and the global economy. The complex set of linkages that exist within and across economies makes it particularly difficult to predict to what extent an economy will gain or lose competitiveness in a given sector in response to a climate-related shock.

Because productivity losses and gains tend to be geographically concentrated, and neighboring economies tend to trade more with each other than with more distant economies, trade losses and gains are likely to be shaped by geographic patterns of productivity changes, which could increase international inequalities. In particular, climate change can affect strategically important junctures on transport routes through which exceptional volumes of trade pass in the global trade network,<sup>4</sup> and this can create vulnerabilities for the trade system. Climate change is also likely to increase agricultural trade volatility. By increasing the risk of simultaneous failure of crop systems in multiple grain- or foodproducing economies, climate change increases concerns about food security. Manufacturing sectors tend to be less vulnerable to climate change, partially because of a lower sensitivity and higher adaptive capacity to climatic variability. However, industrial sectors dependent on climate-sensitive inputs (such as food processing), labour-intensive sectors and sectors highly integrated into global value chains (GVCs) are likely to be affected. Climate change will also affect the manufacturing sectors through disruptions in supply chains.

A mapping of the Sustainable Development Goals (SDGs) contained in the 2030 Agenda indicates that current EU policies address all 17 goals. The 2030 Agenda provides an opportunity for the EU to firmly anchor its strategic orientation in the global effort to build a sustainable future, which the Union has defined in collaboration with its partners. The EU is committed to being a leader in the implementation of the 2030 Agenda and the Sustainable Development Goals (SDGs), together with its Member States, respecting the principle of subsidiarity. The 2030 Agenda will continue to encourage a common approach between the EU's external actions and its other policies, as well as better coherence between the different EU financial instruments.

## References

1. European Commission, (2021), Delivering the **European green deal**. The decisive decade, Architecture\_Factsheet\_EN, [https://ec.europa.eu/commission/presscorner/detail/en/fs\\_21\\_3671](https://ec.europa.eu/commission/presscorner/detail/en/fs_21_3671)
2. Eurostat, (2016), Dezvoltarea durabilă în Uniunea Europeană - O perspectivă statistică din punctul de vedere al obiectivelor de dezvoltare durabilă ale ONU, Page: 1-5, <https://eur-lex.europa.eu/legal-content/RO/TXT/HTML/?uri=CELEX:52016DC0739&from=PL>
3. United Nations, General Assembly, (2015), Transforming our world: the 2030 Agenda for Sustainable Development, [A/RES/70/1](https://www.un.org/en/content/dam/secure-generalassembly/un_docs/A/RES/70/1), <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N15/291/89/PDF/N1529189.pdf?OpenElement>
4. World Trade Organization (WTO), (2018), Mainstreaming trade to attain the Sustainable Development Goals, [https://www.wto.org/english/res\\_e/publications\\_e/sdg\\_e.htm](https://www.wto.org/english/res_e/publications_e/sdg_e.htm)
5. World Trade Organization (WTO) (2022), World Trade Report 2022, Geneva, WTO, Page:28-44, [https://www.wto.org/english/res\\_e/booksp\\_e/wtr22\\_e/wtr22\\_e.pdf](https://www.wto.org/english/res_e/booksp_e/wtr22_e/wtr22_e.pdf)

# NEW DIMENSIONS OF ECONOMIC TRANSFORMATION – A EUROPEAN PERSPECTIVE

Corneliu-George, Iacob<sup>1</sup>  
Emilia, Iordache<sup>2</sup>

## Abstract

*The 2020 Competitiveness Report published by the World Economic Forum brings up the notion of economic transformation of economies. The report identifies the main emerging priorities for countries to achieve economic transformation: moving towards full integration of social, environmental and institutional objectives into their economic systems over the next five years (approximately). At the same time, it is also trying to measure the degree of readiness of the countries to achieve such a transformation. The purpose of this endeavor is multifold: first, it maps priority areas against available data points in an effort to better define the actions and/or policies needed to "build better economies" that are productive, sustainable and inclusive; second, it provides a snapshot of the current situation in each country, assessing the extent to which countries today are on track to transform their economies, and third, it highlights where the main data gaps lie in policy evaluation and current national performance. In the light of these considerations, the purpose of this article is to highlight the European perspective on these new dimensions of economic transformation, on the inclusion of sustainable development objectives in the economic architecture of the European Union.*

**Keywords:** European Union, competitiveness, economic transformation, sustainable development, economic growth

**JEL classification:** F18, F43

## 1. Introduction

Sustainable economic growth was considered one of the fundamental objectives of the economic policy. Economic growth is not seen as an objective in itself, but only as a means to achieve the satisfaction of people's needs at the highest possible level. Recent developments reveal the fact that the emphasis seems to shift more and more towards the quality of life, economic growth being increasingly contested as the central objective of economic policy.

It is generally recognized that, with the globalisation of the economy, competitiveness has become one of the prime concerns of governments and firms. (OECD, 1996)

At the macroeconomic level, the competitiveness of a nation can be seen as the country's ability to achieve long-term economic growth in such a way that its economic structure adapts effectively to global economic evolution.

In 2001, within the World Economic Forum (WEF), it was proposed to calculate a competitiveness index, in order to determine the competitiveness of different states at the international level. After the analysis of the main elements to be evaluated, the Global Competitiveness Index (GCI) was established as a competitiveness evaluation indicator. GCI provides an integrative picture of the main factors that intervene in the formation of national competitiveness. These essential factors (pillars of competitiveness) depending on which the GCI is determined are grouped into three categories as follows: (1) basic requirements (institutions, infrastructure, macroeconomics, health services and education), (2) factors for increasing efficiency (higher education and human resources training, market efficiency, responsiveness to new technologies) and (3) innovation factors (quality of the business environment and innovation). (Ionciă et.al, 2008)

The *Global Competitiveness Report Special Edition 2020* series has, since its first edition, aimed to move focus beyond the growth-only paradigm and has been central at pointing out the need for public-private collaboration. The Global Competitiveness Index (GCI) contained in the report has continued to evolve along with the latest economic thinking,

---

<sup>1</sup> PhD Candidate, University of Economic Studies, Doctoral School: Economics and International Business, Bucharest, Romania;

<sup>2</sup> PhD Lecturer, Constantin Brâncoveanu University, Pitești, Faculty of Marketing Management in Economic Affairs Râmnicu Vâlcea, Romania; emi66vl@yahoo.fr

the needs of society and technological developments. The Global Competitiveness Index 4.0—launched in 2018—incorporates a wide-ranging focus on a broad range of factors of productivity. That year, we demonstrated that in the longer run there is a win-win-win between driving growth, creating better functioning societies and enacting measures to improve the environment.

The 2020 special edition of *The Global Competitiveness Report (GCR)* series comes out at a very difficult and uncertain historical moment. The outbreak of the COVID-19 pandemic has not only led to a global health crisis and deep economic recession—deeper than the downturn during the 2008–2009 financial crisis—but has also created a climate of profound uncertainty about the future outlook.

At this pivotal moment, there are growing calls for “building back better”. While the immediate priority is to respond to the health crisis, this moment in time also offers a unique opportunity to reflect on the fundamental drivers of growth and productivity that have degraded since the financial crisis. It is also a moment to determine how we may shape our economic systems in the future so that they are not just productive but also lead to environmental sustainability and shared prosperity.

The *Global Competitiveness Report* series has since its first edition aimed to prompt policy-makers beyond short term growth and to aim for long-run prosperity. The 2019 edition of the *Global Competitiveness Report* showed how declining trends in fundamental aspects of productivity have been masked by long-standing accommodative monetary policy but have remained bottlenecks for strengthening economic development.

This unusual moment calls for innovative and much-needed shifts in policy. Therefore, in 2020 the long-standing Global Competitiveness Index (GCI) rankings have been paused. Instead, this special edition is dedicated to elaborating on the priorities for recovery and revival, and considering the building blocks of a transformation towards new economic systems that combine “productivity”, “people” and “planet” targets. (WEF, 2020)

This special edition analyses historical trends on factors of competitiveness as well as the latest thinking on future priorities. It provides recommendations against three timelines: a) those priorities that emerge from the historical analysis before the health crisis; b) those priorities needed to restart the economy, beyond immediate responses to the COVID-19 crisis, while embedding people and planet into economic policies (revival over the next 1-2 years); and c) those priorities and policies needed to reboot economic systems in the longer run to achieve sustainable and inclusive prosperity in the future (transformation over the next 3-5 years). Recommendations and timeframes are grouped into four broad areas of action: 1) reviving and transforming the enabling environment, 2) reviving and transforming human capital, 3) reviving and transforming markets, and 4) reviving and transforming the innovation ecosystem. An initial assessment of countries on readiness for transformation is also provided that converts key priorities into quantitative measures for 37 economies. (WEF, 2020)

## **2. Emerging priorities for countries to achieve economic transformation**

The *Global Competitiveness Report* is structured around six sections. The first four sections analyse past and current trends by broad thematic areas that are the key building blocks of an economy: Enabling Environment, Human Capital, Markets, and Innovation Ecosystem. Within each of these thematic areas, priorities are presented for policy-makers to consider in order to develop productive, shared prosperity-enhancing and environmentally compatible economic systems. These priorities are organized into three timeframes: i) the past 12 years, assessing the evolution of key drivers of sustainable and inclusive productivity since the financial crisis, including the short-term shock impact of the COVID-19 crisis; ii) the next two years (revival), which looks at priorities to restart the economy while embedding criteria for longer-term productivity, inclusion and sustainability beyond immediate responses to the

COVID-19 crisis; iii) the next 3-5 years (transformation), which looks at the priorities for economic systems that fully integrate social and environmental targets into policy design. The fifth section of the report presents a first attempt to assess countries' readiness to achieve future transformation across all four thematic areas. The sixth section, through the lens of the Executive Opinion Survey, examines the disruptions caused by the crisis and identifies common elements of countries' resilience.

The key findings of the report are:

➤ Reviving and transforming the enabling environment

Before the COVID-19 crisis, a long-standing issue had been the ongoing and consistent erosion of institutions, as shown by declining or stalling checks and balances and transparency indicators. Against this backdrop, in the revival phase governments should prioritize improving long-term thinking capacity within governments and enhance mechanisms to deliver public services, including greater digitalization of public services. In the transformation phase, governments should work to ensure that public institutions embed strong governance principles and to regain public trust by serving their citizens. A second area of concern before the 2020 pandemic was high levels of debt in selected economies as well as widening inequalities. The emergency and stimulus measures have pushed already high public debt to unprecedented levels, while tax bases have continued eroding or shifting. To respond to these issues, in the revival phase, the priority should be on preparing support measures for highly indebted low-income countries and plan for future public debt deleveraging. In the longer run (transformation phase) countries should focus on shifting to more progressive taxation, rethinking how corporations, wealth and labour are taxed. This will require both national reforms and setting an international cooperative framework. Before the COVID-19 crisis, despite the significant expansions of ICT access, ICT availability and use remained far from universal. The COVID-19 crisis has accelerated digitalization in advanced economies and made catching up more difficult for countries or regions that were lagging before the crisis. To address this challenge, in the revival phase, countries should upgrade utilities and other infrastructure as well as closing the digital divide within and across countries for both firms and households. In the transformation phase, the priority should be on upgrading infrastructure to broaden access to electricity and ICT, while, at the same time, accelerating energy transition. (WEF,2020)

➤ Reviving and transforming human capital

For several years before the crisis, skills mismatches, talent shortages and increasing misalignment between incentives and rewards for workers had been flagged as problematic for advancing productivity, prosperity and inclusion. Because of the pandemic and subsequent acceleration of technology adoption, these challenges have become even more pronounced and compounded further by permanent and temporary losses of employment and income. To address these issues, countries should focus in the revival phase on gradually transitioning from furlough schemes to new labour market opportunities, scaling up reskilling and upskilling programmes and rethinking active labour market policies. In the transformation phase, leaders should work to update education curricula and expand investment in the skills needed for jobs in “markets of tomorrow”, and in parallel rethink labour laws for the new economy and use new talent management technologies to adapt to the new needs of the workforce. The COVID-19 crisis has highlighted a second issue: how healthcare systems' capacity has lagged behind increasing populations in the developing world and ageing populations in the developed world. To respond to this trend, countries should in the revival phase expand health system capacity to manage the dual burden of current pandemic and future healthcare needs. In the longer run (transformation) there should be an effort to expand eldercare, childcare and healthcare infrastructure and innovation. (WEF,2020)

➤ Reviving and transforming markets

Over the past decade, while financial systems have become sounder compared to the pre-financial crisis situation, they continued to display some fragility, including increased corporate debt risks and liquidity mismatches. In addition, access to finance, despite efforts to increase inclusion in recent years (including through fintech applications), is not sufficiently widespread. Against this backdrop, countries should in the revival phase prioritize reinforcing financial markets stability, while starting to introduce financial incentives for companies to engage in sustainable and inclusive investments. In the transformation phase, the attention should shift to create incentives to direct financial resources towards long-term investments, strengthening stability while continuing to expand inclusion. Pre-crisis, there was increasing market concentration, with large productivity and profitability gaps between the top companies in each sector and all others; and the fallout from the pandemic and associated recession is likely to exacerbate these trends. To address this issue, countries should in the revival phase strike a balance between continuing measures to support firms and prevent excessive industry consolidation with sufficient flexibility to avoid keeping “zombie-firms” in the system. In the transformation phase, countries should rethink competition and anti-trust frameworks needed in the Fourth Industrial Revolution, ensuring market access, both locally and internationally. As a complementary policy, countries should facilitate the creation of “markets of tomorrow”, especially in areas that require public-private collaboration. A third trend that has emerged in this area is the ongoing reduction on trade openness and the international movement of people, now vastly stalled due to the pandemic. In both the revival and transformation phases, countries should lay the foundations for better balancing the international movement of goods and people with local prosperity and strategic local resilience in supply chains. (WEF,2020)

➤ Reviving and transforming the innovation ecosystem

In this area, a paradox had recently emerged: a positive evolution of entrepreneurial culture in the past decade, but the creation of new firms and breakthrough technologies had stalled. Technology has lagged especially in the capacity to delivering solutions to energy consumption, emissions and meeting the demand for inclusive social services. To manage these complexities, countries should in the revival phase expand public investments in R&D, incentivize venture capital and R&D in private sector, and promote the diffusion of existing technologies that support the creation of new firms and employment in “markets of tomorrow”. In the longer run (transformation) countries should create incentives that favour patient investments in research, innovation and invention, support the creation of new “markets of tomorrow” and incentivize firms to embrace diversity, equity and inclusion to enhance creativity. (WEF,2020)

**Table 1. Priorities identified in the recovery and transformation phase**

	<b>Trends and Crisis Impact</b> <i>From the financial crisis to the pandemic crisis</i>	<b>Revival</b> <i>Priorities for the next 1-2 years</i>	<b>Transformation</b> <i>Priorities for the next 3-5 years</i>
Reviving and transforming the enabling environment	There has been a consistent erosion of institutions across regions, including weaker checks and balances and less transparency.	Improve the long-term thinking capacity within governments and mechanisms to deliver public services and support policy interventions digitally.	Ensure public institutions embed strong governance principles and along-term vision and build trust by serving their citizens

	<b>Trends and Crisis Impact</b> <i>From the financial crisis to the pandemic crisis</i>	<b>Revival</b> <i>Priorities for the next 1-2 years</i>	<b>Transformation</b> <i>Priorities for the next 3-5 years</i>
	ICT access and use have been improving globally but remain far from universal, and the COVID-19 crisis has made catching up more difficult for developing economies while deepening advanced economies' digitalization.	Upgrade utilities and other infrastructure.  Prioritize closing the digital divide within and across countries for both firms and households	Upgrade infrastructure to accelerate the energy transition and broaden access to electricity and ICT.
	Emergency and stimulus measures have pushed already high public debt to unprecedented levels, against a backdrop of shifting tax bases.	Prepare support measures for highly-indebted, low-income countries and plan for future public debt deleveraging.	Shift to more progressive taxation, rethinking how corporations, wealth and labour are taxed, nationally and in an international cooperative framework.
Reviving and transforming human capital	Talent shortages have become more pronounced, underpinned by outdated education systems. There is a particular shortfall in digital skills and other skills of the new economy as technology disrupts labour markets.	Scale up reskilling and upskilling in emerging skills, combined with active labour market policies.	Update education curricula and expand investment in the skills needed for jobs and "markets of tomorrow".
	There are misaligned incentives and rewards for workers.	Manage a gradual transition from furlough schemes to new labour market opportunities.	Rethink labour laws and social protection for the new economy and the new needs of the workforce.
	Health services, infrastructure and talent have lagged behind two dominant demographic trends: increasing population in the developing world and ageing populations in the developed world.	Expand health system capacity to manage the dual burden of current pandemic and future healthcare needs.	Expand eldercare, childcare and healthcare infrastructure, access and innovation for the benefit of people and the economy.
Reviving and transforming markets	Financial systems after the 2007–2008 crisis have become sounder but continue to have some sources of fragility, including increased corporate debt risks and liquidity mismatches, and are not sufficiently inclusive.	Ensure stable financial markets, a sound financial system and expand access and inclusion.  Create financial incentives for companies to engage in sustainable and inclusive practices and investments.	Increase incentives to direct financial resources towards long-term investments, strengthen stability and expand inclusion.



	<b>Trends and Crisis Impact</b> <i>From the financial crisis to the pandemic crisis</i>	<b>Revival</b> <i>Priorities for the next 1-2 years</i>	<b>Transformation</b> <i>Priorities for the next 3-5 years</i>
	Market concentration has been on an increasing trend in advanced economies, with large productivity and profitability gaps between the top companies and all others in each sector.  Trade openness and the international movement of people have been on a declining trend since the financial crisis.	Lay the foundations for better balancing the international movement of goods and people with local prosperity and strategic local resilience in supply chains.	Rethink competition and anti-trust frameworks needed in the Fourth Industrial Revolution, ensuring market access, both locally and internationally. Facilitate the creation of “markets of tomorrow”, especially in areas that require public-private collaboration.
Reviving and transforming the innovation ecosystem	Entrepreneurial culture has strengthened in the past decade but has not resulted fully in the creation of new firms.  There is a lack of sustained creation of breakthrough technologies and, where there has been innovation, it has not been widely successful at delivering solutions to increasing energy consumption, managing emissions and meeting the demand for inclusive social services.	Expand public investments in R&D, and incentivize venture capital, R&D in private sector and the diffusion of existing technologies that support the creation of new firms and employment in "markets of tomorrow".	Incentivize and expand patient investments in research, innovation and invention that can create new “markets of tomorrow”.  Incentivize firms to embrace diversity, equity and inclusion to enhance creativity.

Source: (WEF, 2020)

### 3. Assessing the degree of readiness of countries for economic transformation

For a country, achieving economic transformation means moving towards a full integration of social, environmental and institutional objectives into economic systems. Measuring the degree of readiness of countries to achieve such a transformation involves identifying a preliminary set of concepts to break down the 11 emergent priorities identified by the authors of the report, then the indicators compared to them were identified, data were collected and the results were calculated for the 37 economies analyzed.

The 11 emerging priorities identified are:

1. Ensure public institutions embed strong governance principles and a long-term vision and build trust by serving their citizens
2. Upgrade infrastructure to accelerate the energy transition and broaden access to electricity and ICT
3. Shift to more progressive taxation, rethinking how corporations, wealth and labour are taxed, nationally and in an international cooperative framework
4. Update education curricula and expand investment in the skills needed for the jobs and “markets of tomorrow”
5. Rethink labour laws and social protection for the new economy and the new needs of the workforce

6. Expand eldercare, childcare and healthcare infrastructure, access and innovation for the benefit of people and the economy
7. Increase incentives to direct financial resources towards long-term investments, strengthen stability and expand inclusion
8. Rethink competition and anti-trust frameworks needed in the Fourth Industrial Revolution, ensuring market access, both locally and internationally
9. Facilitate the creation of “markets of tomorrow”, especially in areas that require public-private collaboration
10. Incentivize and expand patient investments in research, innovation and invention that can create new “markets of tomorrow”
11. Incentivize firms to embrace diversity, equity and inclusion to enhance creativity.

The aim of this exercise is three-fold. First, it maps the areas of priority against available data points in an effort to better define the actions and/or policies needed to “build back better” economies that are productive, sustainable and inclusive. Second, it provides a snapshot of the current situation in each country, assessing the extent to which countries today are on the way towards transforming their economies. Third, it highlights where the key data gaps lie in assessing current national policies and performance. (WEF,2020)

The authors of the report point out the following aspects regarding the economic transformation:(WEF, 2020)

- ✓ Future-oriented institutions will not only need to be transparent and efficient; they must also evolve towards yielding more equitable outcomes and enhancing citizens’ trust in them. Governments will also be increasingly called upon to communicate clearly a longer-term vision, anticipating the evolution of trends, and build structures that will allow for agile responses to future shocks and rapid technological change.

- ✓ The transition to a greener and more inclusive economy will have to be underpinned by significant investments in infrastructure, including an expansion of digital networks. Greening the economy will require upgrading energy infrastructure and transport networks in addition to commitments from both public and private sectors to extend and respect multilateral agreements on environmental protection.

- ✓ When it comes to updating tax structures, the key tension to resolve will be between ensuring a fair transition and setting the right incentives for technology adoption and innovation. An updated tax architecture will require policy-makers to rethink relative burdens across income, wealth and corporate taxes in light of these trade-offs.

- ✓ Reskilling, upskilling and education curricula updates are central to prepare workers and achieve inclusive prosperity. Participation in formal education is no longer sufficient to provide employment opportunities and build human capital. Instead, education systems should be upgraded to provide digital skills and critical thinking skills through schools and universities, as well as ongoing learning and skilling through public and private life-long learning programmes.

- ✓ One important component of policies to curb inequality and manage the technology- and recession-driven shifts in the workforce is adequate and agile social safety nets. Future-looking approaches should better integrate income support with adaptation of labour laws and expand the social protection floor, including easing access to education, training and health to support the full development of citizens’ human capital. This approach should succeed in protecting and rewarding workers rather than jobs—and deploying technology to facilitate the shifts for workers is crucial.

- ✓ Universal access to eldercare, childcare and healthcare is a fundamental factor for building fairer societies while empowering human capital. A combination of adopting new technology and expanding investments in this domain could help to address this priority.

✓ A thriving financial sector should channel resources towards long-term investments in the real economy rather than maximize short-term profits or support financial markets. The growing importance of ESG (environmental, social and governance) standards for investing bodes well for the capacity of the financial system to move in this direction.

✓ While market concentration has increased in the past decade, modern policies to restore competition will need to consider new drivers of market concentration (e.g. intangible assets, digital platforms) and update their toolkit accordingly.

✓ Trade openness also contributes to the creation of more competitive markets; future policies should innovate on how to maintain the benefits of international trade while limiting internal divides between regions where world-class companies are located and support regions and sections of the population that lose out from globalization.

✓ Future-oriented policies will need to combine push-and-pull strategies, including incentivizing demand and investments in R&D towards the production of more sustainable and inclusive goods, services and technologies. At the same time, bottlenecks in the diffusion of breakthrough innovations from a niche frontier to the rest of the economy should also be removed.

✓ Diversity, equity and inclusion must be an integral part of an innovation-driven strategy for economic transformation. Companies must fully leverage the creative potential of different segments of the population and access to the opportunities generated through innovation should be expanded via, for instance, facilitating inclusion in ownership of new innovative businesses, employment in research roles, and career progression in growing markets.

The main contribution of this exercise is to provide an assessment of countries' readiness on each of the 11 priorities for transformation.

The key take-aways of this exercise are that organizations such as the World Economic Forum must better measure the capacity of countries to transform and expand data availability, and that no country is yet ready to transform its economy. However, among the existing policies, and based on available statistics, the 'Nordic model' is the most promising in leading economic systems towards greater sustainability and shared prosperity. These countries (e.g. Finland, Denmark, Sweden) are among the best-prepared on most of the 11 priorities identified by this framework and are, consequently, among those that are most ready for an economic transformation.

Denmark and Finland appear among the top 3 score on the 11 categories of transformation four times, while Sweden appears three times. Across all categories however, most economies have a long way to go to attain "maximum" scores and measurement concepts and data availability must be expanded to provide a more detailed picture of transformation readiness.

#### **4. Conclusion**

The deep economic recession triggered by COVID-19 continues to have profound economic and social consequences. Since the outbreak of the pandemic, unemployment rates have risen rapidly in most developing and advanced economies, and poverty rates have begun to rise again, reversing the gains made in recent decades. The crisis has also exposed the inadequacy of existing infrastructure and policies, from social protection systems to healthcare. The global economic outlook is highly dependent on both the evolution of the pandemic and the effectiveness of governments' recovery strategies. In this unique context, the authors of the Global Competitiveness Report look at how countries can expand their focus beyond a return to growth and how to "build back better". The report looks at priorities for savings in three time frames: those of the past decade, as revealed by time series data on competitiveness factors, those that are essential for economic recovery, as highlighted by the crisis, and those that could contribute to mainstreaming a transformation that could lead to better outcomes for productivity, shared prosperity and sustainability. The road to economic recovery will be long, asymmetric and asynchronous across economies and can be proactively shaped and managed for optimal outcomes for productivity, people and the planet.

## References

1. Hatzichronoglou, T. (1996), Globalisation and Competitiveness: Relevant Indicators, OECD, <https://dx.doi.org/10.1787/885511061376>
2. Ionică, M., Petrescu, E.C., Ionică, D., (2008), Abordări macro și microeconomice ale competitivității în sectorul serviciilor, Revista de Marketing Online – Vol.2, Nr.1, <http://rmko.ro/21/pdf/11.pdf>
3. World Economic Forum (2020), The Global Competitiveness Report Special Edition 2020: How Countries are Performing on the Road to Recovery, World Economic Forum, [https://www3.weforum.org/docs/WEF\\_TheGlobalCompetitivenessReport2020.pdf](https://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2020.pdf)

# ECONOMIC THINKING IN ROMANIA AND ITS ADAPTATION TO HISTORICAL STAGES (1848 – 1914)

Ionescu, Ion Gr.<sup>1</sup>  
Bocănete, Oana<sup>2</sup>

## Abstract

*In the present study, we set out to analyze an aspect that deserves to be put into practice, with priority, and which does not seem to be in the interest of those entitled to answer for it. It is about the flexibility to adapt economic aspects to the realities of the moment, i.e. to anticipate, intuit, foresee what the course of the economy would be, even if only a little before the occurrence of risky and unfortunate moments (crises), in order to counteract, diminishing or eliminating the negative effects that give all the economic parameters, back, lowers the economic rate becomes the nucleus that produces all that is worse. Although in Romania there is a specialized institution for various economic-financial forecasts, and not only that, called the Institute of Economic Forecasting, but also the National Strategy and Forecasting Commission which is organized and functions as a specialized body of the central public administration, with legal personality, let's be honest, as noted, Romania has been caught, regularly and without exception, on the wrong foot. So, we raise an alarm signal, for the urgent need for specialized forecasting and exceptional organization, from an institutional and administrative point of view, in order to recover from everything that is not efficient, at the present time*

**Key words:** economic ideas, mercantilism, physiocracy, free trade, protectionism

**JEL Codes – B13, B15**

## Introduction

The roots of the first industrial revolution date back to the Middle Ages. The 11th, 12th and 13th centuries created a technology on the basis of which the industrial revolution of the 18th century developed impetuously. The discoveries of the Renaissance played a limited role in the industrial expansion of England in the 18th and 19th centuries.

In Europe, the Middle Ages developed the use of machines, in all fields, more than any other civilization. It is one of the decisive factors of the preeminence of the Western Hemisphere over the rest of the world.

The formation of the world market was a complex process that was carried out gradually, in stages. It was a process of colossal importance, for the evolution of Europe and the whole world, which will exert a growing influence on all countries, both on those that passed earlier to a capitalist economy, and on those that are in pre-capitalist stages.

The formation of the world market was, above all, an economic process that caused a general acceleration of development, an unprecedented progress of human society. Mercantilists understood that profit and wealth are created in the sphere of circulation. The gain of some meant the losses suffered by others. The wealth was made up of gold and silver ingots, and therefore the largest possible quantities had to be brought into the country. In order to accumulate these riches, it was necessary to increase the political power of the state, which was given not only the right, but also the duty to intervene actively. As a result of this ingrained belief, this was the economic program of most states in the 18th century.

The importance and significance of this revolution lies in the fact that the legal, political and administrative levers were created for the cultivation, development and consolidation of modern production forces and relations with legal regulations and appropriate institutions. The newly created systemic framework made England the capitalist type economic model, based on individual initiative, competition and pragmatism - specific to

---

<sup>1</sup> Associate Professor, Ph.D., Tomis University, City of Constanta; Email - iionescu\_levant@yahoo.ca

<sup>2</sup> Associate Professor, Ph.D., Tomis University, City of Constanta; E mail - oana

the market economy which was followed, very shortly and closely, by other countries, first of all, of the West European.

The industrial revolution was a real leap that broke economic patterns and a relatively slow historical course, giving an unprecedented boost to the development of all sectors of the economy. As a whole, the industrial revolution lasted a little more than a century, from the level of the 1780s to the end of the 19th century.

### **1. Currents of economic thought and representatives notable from Romania (1716 – 1914)**

Against the background of the above, in Western Europe, at the beginning of the 18th century, the debates regarding the agrarian problem were in step with the times. People got excited when it came to agriculture, this enthusiasm finding its source in two phenomena: the revolution in agricultural techniques and the contradiction between the natural rights of man and the idealistic state of society. When in the west of the continent, such ideas and debates had reached the degree of maturity, in our parts, at first, only the reverberations reached. Basically, "an overturn was happening that, soon, was going to revolutionize economic thinking, in general, through the failure of mercantilist ideology and policy, a fact that gave way to the development of a complex of economic ideas that were much more up-to-date and that would create an excellent framework for the formation of the physiocratic system which represents the first true school of economic thought" (Lungu, Cosma, 2002).

"The program of the physiocrats, inspired by the English, was to eliminate the vestiges of feudalism, to reform taxation - by establishing an income tax, to unite small properties and to promote a policy of free exchange of grain trade (Lungu, Cosma, 2002).

It should not surprise anyone that the reforming wave, a mercantile-physiocratic symbiosis, penetrated, to some extent, also in the Romanian Principalities, a fact due, first of all, to some representatives of the boyar elite - sons of boyars and future rulers (Romanians and Greek Phanariotes) who had completed their studies in the west, when the first innovative ideas were received, it is true, with serious limits.

The reforming rulers - "Nicolae and then, more meaningfully, Constantin Mavrocordat, legislated the abolition of some estates, and the remaining ones were concentrated into one - with staggered payment in four installments (quarters), the modernization and centralization of the state, the liberation from serfdom runaway peasants, the abolition of the Romanian category" - category of dependent peasants (Marcu, Firoiu, 1984), "the creation of the legal framework for salaried work, first of all, of state officials - to which are added reforms regarding the modernization of education, justice, printing activity" (Panait, 1994) etc.

Agriculture was viewed by the physiocrats as the only source of wealth, the only one that gave a net product, above production costs, industry and commerce having no other role than to process and transport raw materials, but with an essential condition that imposed private property and its security as the main foundation of the economic order whose corollary is freedom.

According to all the laws of progress, both the remnants of mercantilism and the physiocratic system entered a period of decline. "Criticisms of the physiocracy have become more and more insistent. Showing insight, his followers turned to a new way of thinking, understanding that everything had to be seen in the perspective of the development and expansion of the exchange economy, to the detriment of the natural one. Thus, at the intellectual level, liberal tendencies and deterministic conceptions are asserted at the same time" (Lungu, Cosma, 2002).

The formation and development of Romanian economic thinking is a reality that falls within the natural flow of time, forced to adapt to ongoing situations and events. The destiny of this thinking with national iz, was intertwined with that of the European thinking which, in

fact, tutored it. "Young Romanians studying at prestigious universities in Europe, back in the country, took part in shaping the destinies of development, but the existing conditions in our country could not allow the application of new ideas, without some adaptations, often profound" (Lungu, Cosma, 2002).

Prominent, first-rate representatives of Romanian economic thinking have expressly dealt with the country's economic issues - Ion Ionescu de la Brad, P. S. Aurelian, D. P. Marțian, are not only supporters of the industry, but also established the way how this had to be done. There is also another series of personalities with a wide openness to the new, culminating with the Pashoptist generation which, par excellence, was a generation with liberal economic thinking, whose representatives such as: Ion Ghica, Nicolae Șuțu, Nicolae Bălcescu, Mihail Kogălniceanu, and then, Alexandru Ioan Cuza, Spiru Haret etc. they contributed fully to the later reforms.

In the period 1878-1914, the development of the Romanian economy was based on the "dowry of ideas accumulated as a result of the efforts of these intellectuals. Although late, the political measure of protectionism had a beneficial role even before it became a practice, it was transposed into an ideational and political plan. Their merit is not only in developing the concept of protectionism, but in adapting it" (Lungu, Cosma, 2002) to the conditions of the country.

The trend of industrializing protectionism gave expression to the industrial bourgeoisie, whose economic positions were gradually strengthened by the consolidation of the manufacturing industry and then the factory industry, which were affected by the increasing competition of foreign goods and as such, considered that it was necessary to defend and protect the national industry . At the same time, the current of protectionist ideas and politics responded to the requirements of the development of the modern body of our economy and was part of a wider trend that had taken shape in the economic policies of several European states.

## **2. The economic policy of free trade**

The economic desolation of Romania, in general, was accompanied and influenced by the application of the economic policy of "free trade". In the conditions where machinery had barely made its appearance, this economic policy had positive consequences, only for the countries that export industrial products, in our country, while for the Romanian industry, which is in the early stages of the formation of the national economy, its effects have were negative.

"The commercial bourgeoisie was interested in the policy of free trade, since the abolition or even the reduction of customs duties on imports opened up the prospect of a relaxation of the internal market and the collection, at least of a part of the product of the taxes with which the imported goods would have been burdened anyway" (Zane, 1980).

This policy, in which the landlords were interested, in order to place their products on foreign markets, took shape through the conclusion of a series of commercial conventions with the states of central and western Europe. The first convention was concluded in 1875, for ten years, with Austria-Hungary.

Being an expression of the free trade policy, the convention stipulated that Romania could place its agricultural products in Austria-Hungary, and the dualistic neighbor, on the basis of reciprocity, benefit from exemptions and large reductions in customs duties, for the industrial products it places on the Romanian market. Delivering at low prices, the industry in our country could not resist the Austro-Hungarian competition and as a result, a large number of enterprises ceased their activity. The only industrial branches that could withstand this competition were those in the milling and alcohol industries, which benefited from cheap domestic raw materials. It was easy, under the influence of local conditions and liberal ideology, for the free trade policy to find even apologists here (Zane, 1980).

Being hit in their interests, the industrial bourgeoisie and the ruined craftsmen, as a result of the market competition, demonstrated against the policy of free trade, which led to the creation of a current of opinions for a policy of protection of the national economy. The current in defense of the industrial movement in Romania, strengthened, all the more, as the agrarian crisis that lasted in the last quarter of the 19th century, the evidence that the limitation of the economic policy, only in agriculture, without the development of the industry, does not could only have negative consequences for the country's economy.

### **3. Protectionist industrial policy**

For many Romanian personalities - politicians, businessmen, economic thinkers, such as P.S. Aurelian, A.D. Xenopol, Mihail Kogălniceanu, the development of industry was the surest way to promote the modern economy.

The convention with Austria-Hungary, concluded in 1875, brought enormous damage to the national economy. As curious as it may seem, in the stage that followed, i.e. the customs war with Austria-Hungary - started a little before 1885, but especially after - it also had positive consequences because, following rapid debates and decisions position, it was concluded that the doctrine with the greatest chances of application must be protectionism, dominated and dictated by realities.

In an economy, such as Romania's, on the path of capitalism, development and consolidation, the role of the state has become decisive in the adoption of legislation compatible with the historical stage.

In its actions, the Romanian state encouraged, boosted and supported initiatives in the industrial field, to mobilize and multiply domestic capital, designing the institutional framework of the economic mechanism (Axenciuc, 1977) for the conduct of a protectionist policy, the objective of which was to stimulate capitalist production and form a strong and prosperous bourgeoisie (CRIM, 1987).

The most important factors favoring the emergence of protectionist legislation were: the conquest of independence and its recognition, the reunification of Dobrogea with the country, the absorption of foreign capital by the Romanian economy.

As a result of the industrialist trend and patronage, in general, the rulers started to take some protectionist measures, although at first rather timid, to remove the disastrous effects of the Austro-Hungarian competition. The two elements of the protectionist policy were, on the one hand, protective customs tariffs, on the other, laws to encourage industry and agriculture (to a lesser extent).

The most important laws were those of 1881, 1886, 1887, 1896, 1906, 1912, duplicated by other customs protection laws, commercial conventions, trade and navigation treaties, the country's accession to some international conventions and some social regulations. (Dumitrașcu, 1995).

After the law intended to encourage the paper industry in 1881, the next year Parliament voted a new law in favor of the sugar industry, because the advantages created by the law of 1873 had become illusory. The new law granted sugar manufacturers, for a period of 15 years, a premium of 0.16 lei for each kg of sugar produced and 0.20 lei for each kg of exported sugar. In 1891, with the application of the general customs tariff, customs duties were raised to 0.35 lei per kg of sugar, and in 1896, a new law extended the advantages for sugar manufacturers for a period of 15 years. In 1883 and 1884, some measures were taken to encourage the paper industry, which resulted in the establishment of the factory in Bușteni and the one in Letea-Bacău. The year 1885 was favorable for the encouragement of the manufacture of jute fabrics, strings and sacks, of tanneries that benefited from customs facilities for the import of tannins for the leather industry.



The current against the convention with Austria-Hungary and in favor of industrial protectionism became so accentuated that in Iași, in 1884, at a congress on economic topics, the denouncing of the Convention and the promotion of protectionism for the whole industry, but especially for the factory industry, were insisted upon .

In 1886, despite all the protests of Austria-Hungary, the Romanian government denounced the Convention, which led to a customs war between the two states that lasted until 1891.

With the denunciation of the Convention, Romania adopted a protectionist customs tariff, applied since 1894 when the commercial conventions that Romania had with England and Germany expired.

This tariff aimed to protect the existing industry, establish an effective framework for the conclusion of future commercial treaties and procure higher revenues for the state budget than those derived from the old tariffs. The new autonomous general tariff contributed to a greater extent to the development of the national economy and industry, in particular.

Tariffs had the following main directions: protectionist customs regime for raw materials existing in the country and for products that were manufactured or could be manufactured by domestic enterprises, exemption from export taxes for raw materials that Romania had in sufficient quantities, import taxes reduced for raw materials or industrial products that the industry needed for its technical equipment. The tariff included 590 articles, of which 22 provided customs protection between 50 and 110%, for 31 - between 40 and 50%, for 43 articles - between 30 and 40%, for 113 - between 20 and 30%, and for 53 articles – between 10 and 20%. Although the protectionist customs regime, adopted in 1886, had a partial application, a large part of the country's import and export being regulated by the ongoing commercial conventions, it would boost the development of domestic industry.

At the insistence of industrial circles, in 1887, the law "General measures to come to the aid of national industry" was voted - the first law with a general protectionist character. Through this law it was stipulated that any person - regardless of whether from the country or abroad - could establish an industrial enterprise that would benefit from the advantages created by the law, provided that they have a capital of 50,000 lei or use 25 workers per day (later, it returned to 12), at least five months a year and to use machines and technical means, driven by specialized people. The law also established that within five years, from the establishment, two thirds of the workers must be Romanian citizens. Through this law, the conditions were created for the development of the machine industry, of the factory industry in which skilled workers are used.

In order to be co-interested in the establishment of factories, the law granted entrepreneurs a series of facilities and encouragement measures that boosted, over time, the development of the industry, but which, due to the way in which protectionism was practiced in Romania, until the end of the 19th century, the pace remained relatively slow, but favorable conditions for industrial development were still being created.

This type of economic legislation stimulated the process of expanding the network of industrial units. If in 1866 and 1867 an average of 8.2 factories were established per year, between 1887 and 1893, the pace increased to 14 factories annually, and between 1893 and 1906, to 18. (CRIM, 1987) Also, as a result of the encouragement of domestic production and investments, at the beginning of the 20th century, 410 industrial enterprises were operating in Romania - the largest number in South-Eastern Europe, with an average of 75 workers. (Vasile, 1987)

In 1904, a new customs tariff was drawn up which could not be applied until 1906, because the commercial treaties concluded by Romania with other states expired on that date, and in July 1905 the general customs law was promulgated establishing the surcharges or

even the prohibition of imported goods from countries that took similar measures against Romanian exported goods.

The law for the application of the customs tariff, from 1904, made a distinction between the countries with which Romania had commercial conventions and the countries with which it did not, the former being advantageous over the others.

To encourage the textile industry, in June 1906, a law was promulgated by which textile manufacturers were exempted from customs duties on the import of flax and hemp threads, provided that the import of these products decreased by 10% annually, as during for ten years, the entire yarn consumption should be met from indigenous production.

Since the owners of beer, flour and alcohol factories did not enjoy the advantages created by the law of 1897, a law of June 1906 granted those owners exemptions from customs duties on the import of machines, installations and accessories that were not manufactured in the country.

Since the encouragement law of 1887 granted advantages to industrialists for 15 years, they became interested in a new law that would extend these advantages and give them others in addition. At the same time, the small and medium-sized industrialists, as well as the owners of craft workshops, who remained outside the protection of the 1887 law, asked the state for new measures that would satisfy their interests as well. Some took advantage and managed to evade the law by bringing semi-finished products into the country, instead of raw materials.

### **Conclusions**

As a result of these causes, the "Law for the encouragement of national industry" was drawn up, from February 1912. The advantages of this law benefited any factory, any establishment or industrial enterprise established, or that was to be established and that used 20 workers or machines in operation of any engine. The law also granted facilities to small craftsmen, village cooperative societies and enterprises that used workers in the domestic industry. For the protection and encouragement of the national economy, the law creates long-lasting advantages.

It follows that after the ninth decade of the 19th century and until the First World War, a protectionist policy was promoted in Romania, with favorable shoulders for the encouragement and development of the national industry. The measures to encourage the industry gained a greater scope, the scope of encouraged branches and enterprises expanded.

### **Bibliography**

1. Axenciuc, Victor, *Nivelul și structura economiei românești în prima fază a dezvoltării sale capitaliste* [*The level and structure of the Romanian economy in the first phase of its capitalist development*], în *Progresul economic în România 1877-1977*, București, 1977.
2. Comisia Română de Istorie Militară (se va cita CRIM), *Istoria militară a poporului român* [*The military history of the Romanian people*], vol IV, Editura Militară, București, 1987.
3. Dumitrașcu, Gheorghe, *Istoria modernă a României Note de curs* [*Modern history of Romania Course notes*], Constanța, 1995.
4. Lungu, Ion, Sorin Cosma, *Gândirea economică* [*Economic thinking*], Editura Companiei Naționale Administrația Porturilor Maritime, Constanța, 2002.
5. Marcu, Liviu P., Dumitru Firoiu, *Istoria dreptului românesc* [*The history of Romanian law*], vol. II/1, Editura Academiei Republicii Socialiste România, București, 1984.
6. Panait I. Panait, *Istoria medievală a României Note de curs* [*Medieval history of Romania Course notes*], [partea a doua], Universitatea Ovidius, Constanța, 1994.
7. Vasile, Radu, *Economia mondială Drumuri și etape ale modernizării*, [*World economy Roads and stages of modernization*], București, 1987.
8. Zane, Gheorghe, *Studii* [*Studies*], Editura Eminescu, București, 1980.

# AGRARIAN TRANSFORMATION AND THE EVOLUTION OF AGRICULTURAL PRODUCTION FROM ROMANIA (1864 – 1921)

Ionescu, Ion Gr.<sup>1</sup>  
Anuța, Lia Maria<sup>2</sup>

## Abstract

*The purpose of this study is to carry out a comparative analysis, along with the fundamental leap made by Romania, along with the transition of the economy to the phase of capitalism. From the study we will be able to observe, the ascending line, in particular, the accumulations, in the agricultural field, because the country was one in which the population existed and lived, predominantly, in the rural environment, and the basis of the development of the economy was due to the exploitation of the land, in particular, extensive. We stopped at a few milestones that we analyzed carefully, with reference to: the effects of the agrarian reform of 1864, the structure of the agrarian population, the structure of agrarian property, the structure of agrarian property, production relations - agricultural leases and tenancy, the increase in agricultural areas, grain culture, animal husbandry, endowment of the land cultivation sector (agricultural inventory), Development of commercial agriculture, production relations, all this, in the conditions when the natural, economic, social, political conditions were taking place at moderate, but progressive parameters. At the same time, we are also analyzing the situation when Romanian agriculture was in a period of crisis, because the facts were unfolding differently and other, more energetic, but effective measures were needed to adapt to the new conditions. Everything is exemplified by statistical data of the historical moments we refer to, inspired by credible documents.*

**Key words:** agricultură, proprietate agrară, cultivarea pmântului, relații de producție, criză agrară

**JEL Codes** – A12, B10, H12

## Introduction

The extent to which the process of land dispossession of the peasants served as a historical premise for the formation and development of capitalist elements in the economy is illustrated by "the degree of spread of wage labor and the manner in which it was carried out. In the west of Europe, such a process has its beginnings in the 15th century" (Maurois, 1987) and is considered to have ended, broadly speaking, towards the end of the 17th century.

"In the Romanian Countries, the process of capital formation and accumulation began in the second half of the 18th century, but with greater intensity in the first half of the 19th century". (Savin, 1947)

The dispossession of the direct producers, of their means of production, mainly took the form of the dispossession of the free peasantry, on the one hand, and the permanent limitation of the lands of the dependent peasantry, on the other.

In the Romanian Countries, the main sources of formation of the bourgeoisie were: merchants, rich craftsmen, well-to-do peasants, tenants, moneylenders and zarafis, part of the feudal lords. As for the proletariat, the main sources were: the peasantry migrated to the cities - to which were added journeymen, apprentices, craftsmen, servants, etc. This is how the pre-industrial urban proletariat was formed.

"The dispossession of direct producers was accompanied by the accumulation of large sums of money and large fortunes" (Bozga et al, 1996), which is equivalent to the formation of financial capital.

A brilliant Romanian economist, Virgil Madgearu, states in a reference work, entitled "Evolution of the Romanian economy after the world war", that "the development of capitalism takes place in three stages: first, commercial capitalism is born which transforms

---

<sup>1</sup> Associate Professor, Ph.D., Tomis University, City of Constanta; E mail - iionescu\_levant@yahoo.ca

<sup>2</sup> Student, Tomis University, City of Constanta, E mail – liamariaanuta1985@gmail.com

into industrial capitalism and then in financial capitalism, and the engine of these developments is its appearance in more advanced countries". (Madgearu, 1940)

Virgil Madgearu's model is viable and is also being tested on the Romanian territory, it being known that in our country, the most important sources of money accumulation were internal and external trade, usury and then the leasing of large estates, the system of leasing to private individuals - Romanians or foreigners - of some state services and revenues - customs, taxes, the collection of taxes, as well as the venality of state jobs that could be bought by private individuals, with certain amounts of money, and the revenues obtained from their practice, often through abuses, belonged entirely to the buyers.

As in the whole of Europe, the Romanian countries did not leave the pattern of the formation of capitalism, commercial capital having an important contribution to the undermining of feudal structures and the emergence of the capitalist economy.

But, by tradition, Romanians had, for many hundreds of years, entered public consciousness, the realistic and correct and realistic idea, moreover, that only those who possess medium production can be masters of their destinies, and they always fought without exception to the idea of having land. With the formation of Little Romania, one of the fundamental objectives of the governments was the solution of peasant problems, through the implementation of the agrarian reform, from 1864.

### 1. The effects of the agrarian reform of 1864

After the agrarian reform of 1864, in front of the new landowners who constituted the majority of farmers in small Romania, there were many problems related to the technology of cultivating the land, the improvement of varieties and breeds, the procurement of agricultural inventory, the protection of crops and animals, etc. Precisely for this reason, the agrarian problem and agriculture constituted the key factor in the evolution of the Romanian society and economy, until the beginning of the first world war.

### 2. The structure of the agrarian population

An enormous rural mass, a high birth rate and an economy with modest possibilities of placement in other spheres of activity have created a growing demographic pressure in the villages.

In 1899, the rural population represented 81.1%, and after a decade and a half, in 1914, the same proportion was maintained, even with a slight increase - 81.99%. The situation did not differ substantially in Transylvania and Bucovina.

Overall, within the Romanian territory (the sources for Bucovina are for the entire historical province), the population increased from 8,567,700 inhabitants, in 1860-1869, to 13,200,000-13,320,000, in 1910-1912, so by approximately 52.9% over five decades.

### 3. The structure of agrarian property

Beyond their particularities, the reforms that took place within the national state and in the other Romanian provinces outside it conditioned intensely polarized property relations and perpetuated a significant share of large property in the structure of rural life.

"The fiscal censuses of 1896, 1902, 1905, carried out on different types of property, indicate a structure of arable and forest property, according to the table" (Creanga, 1940)

**Table no 1. The structure of arable and forest property**

Property category	No. properties	Cultivable area in ha	% of the arable surface	Forestry	Total	Proportion
Up to 10 ha	920 939	3 153 645	40,31	350 000	3 503 645	34,08
10 – 50 ha	36 100	695 936	8,89			8,52
50 – 100 ha	2 405	166 847	2,13			
Peste 100 ha	4 171	3 810 351	48,67	2 077 290	5 882 641	57,40

Sursa – (Mureşan, 1995)

In Transylvania, according to the censuses of 1895 and 1902, households - up to 10 acres, totaling 71.4% of the total number, owned only 17.8% of the arable area, while the large property, of over 200 acres, owned 36.6%. As the national domination had left traces, the agrarian problem also had a pronounced national aspect, the Romanian element being strongly limited by the overlapping one - Hungarian or German. According to the 1910 census, the Hungarian landed aristocracy owned 85.7% of the estates over 500 ha, and the German bourgeoisie - 7.7%, while the Romanians owned only 5.7% of these properties. (Pascu et al., 1964).

In Bucovina and Bessarabia the proportions were roughly similar, however, the large property was better represented.

And in Europe, around the same time, the big property was not an exception. An extensive estate, capitalistically exploited, existed in England (Maurois, 1987). The large estates in Russia and the Baltic countries had larger dimensions than in Romania, but there were large properties in other countries as well.

Capitalism marked a natural evolution in the peasant sector of agriculture, acquiring new contents through its effects materialized in the differentiation of wealth that was accentuated due to the accumulation of capital. From about 110,000-120,000 peasant households deprived of land at the time of the 1864 reform, it reached about 400,000 - in 1913 (over 25% of the total peasantry) (Oțetea et al., 1967) The rate of land dispossession was faster than the demographic one, the movement towards the lower strata of the peasantry being obvious.

As a result of this state of affairs, the capitalist sector of agriculture was established within the peasant economy. About 3-4% of the total households owned 9-10% of the total arable land. The distinctive sign of this type of household is its lucrative character, the possibility of producing more than the consumption needs, but in terms of yield, forms of production organization and profitability it has remained at a lower level, compared to European standards.

The characteristics for the process of formation of the village bourgeoisie, in the economic conditions of this era, were the primarily usurious ways and methods. For this reason, the sphere of the bourgeois economy of the village was not individualized and did not generate specific performances of a technical-productive order, at the level of the rural economy. At the same time, the movements that occurred within the peasantry, towards its lower layers, did not lead to the formation of a compact mass of agricultural workers, day laborers or employees, as in Transylvania, Hungary or Italy.

At the beginning of the 20th century, the agrarian proletariat amounted to about 156,000 people, and in the years preceding the first world war, to about 200,000. The rest of the landless peasants, although they had lost their status as small producers, infiltrated the structures of the tenancy system.

#### **4. Production relations - agricultural estates and tenancy**

The transformation of the large landed property into a modern form of exploitation, of the farm type, took place slowly, due to the lack of capital to endow the large property, the fact that most of the inventory belonged to the peasantry, the lack of available paid labor and the mentality noble, medieval, which some of the landowners manifested in the sense that they did not intend to personally handle the administration of their own estates. Under these conditions, the relations between landlords and peasants took the form of agricultural permits, so that the first legal norms in this sector were issued in 1866, then in 1872, 1882, 1893, 1907. In practice, agricultural permits took three main forms: *dijma la tarla* (lease in labor), *dijma de a valma* (dije in products) and rent in money.

After the peasant uprising of 1907, an agrarian legislation was adopted to improve relations between landlords and peasants, to support agriculture and in the interest of public order. The law of agricultural permits, from 1907, prohibited the obligations imposed on the peasantry. A maximum rent and payment for agricultural work was established for regions and counties, the establishment of communal shelters.

Between the landlords and the peasants was interposed the category of tenants; the large tenancy constituted a characteristic of agricultural relations. From the last decade of the 19th century, leasing trusts came into existence (Puia, 1991) which, over time, imposed oppressive conditions.

After the great peasant uprising, another law, from 1908 - regarding the tenant trusts, stipulated that no person or association was allowed to lease an area larger than 4,000 ha. Against this background, the law of 1909, regarding peasant communes, sought to eliminate tenants as intermediaries between landlords and peasants.

In 1908, the Rural House was created, intended to support the purchase of land by the peasants through loans, and in 1912, in the meeting of February 20, the draft law on the organization of trade unions was proposed for debate in the Romanian Senate. county farms (Argetoianu, 1991), but which did not result in a favorable result.

### 5. Increase in agricultural areas

Romania experienced a series of territorial changes. Thus, after the Berlin Congress, southern Bessarabia was ceded, but Dobrogea was obtained, and from 1913 - two new counties, Durostor and Caliacra, were added to the composition of the country. Under these conditions, the first observation that emerges is that the total area per inhabitant, implicitly the agricultural area, was decreasing, as a result of the population growth.

But the most obvious change recorded in the use of the country's territory was that of the considerable increase in arable land, from 3,065 ha, the average of the years 1862-1866 - i.e. 24.5%, to 6,116 ha, the average of the years 1911-1915 - i.e., 45.7% of the territory.

This increase is due, above all, to the drastic decrease in the areas intended for pastures and hay, a phenomenon with major implications for animal husbandry. Thus, permanent pastures and hayfields that represented 3,650 ha - i.e. 29.2%, in the period 1862-1866, reached, in the period 1911-1915, 1,571 ha - i.e. 11.7%.

**Table no 2. Agricultural areas and per inhabitant 1866-1915**

AGRICULTURAL												NONGRICULTURAL	
TOTAL			Arable		Pastures and Rough permanent		Vineyards and orchards of plums		Forestry		Other surfaces		
Pe-riod	mii ha	ha/hab	hnd ha	%	hnd ha	%	Hnd ha	%	hnd ha	%	hnd ha	%	
1862-1866	12530	3,1	3065	25,5	3650	29,2	101	0,8	3399	27,0	2315	19	
1896-1900	13135	2,2	5458	42	1672	12,7	209	1,6	2797	21,3	2999	24	
1911-1915	13700	1,8	6116	46	1571	11,7	163	1,2	2892	21,6	2659	20	

Source (Mureşan, 1995)

In parallel with the increase in the areas devoted to the cultivation of cereals, the areas devoted to industrial plants also experienced increases: rapeseed, flax, hemp, sunflower, sugar beet, tobacco - some as an effect of the laws encouraging the national industry. Seen as a whole, these areas did not exceed 2-3% of the cultivated areas. At the same time, trees and vines occupied about 4%.

It is appreciated, in this context, that during the period 1878-1914 Romanian agriculture had an extensive and predominantly cereal character.

There was a tendency to increase fodder crops, but also a decrease in the areas left fallow (uncultivated) which, during the five decades analyzed, experienced reductions from 799 thousand ha, at the beginning of the period - i.e. 26.4% of the cultivated area and to 568 thousand ha - i.e. 9.3%, in 1915.

**Table no 3. Area by crop categories 1862-1915**

Crops	TOTAL		Cereals		Industrial plants		Food Plants		Cultivated plants		Inactive fields	
	hnd ha	hnd hab	hnd ha	%	hnd ha	%	hnd ha	%	hnd ha	%	hnd ha	%
1862 1866	3065	0,75	2222	72,2	10	0,3	34	1,1	-	-	799	26,4
1896 1900	5458	0,93	4760	87,2	117	2,1	49	0,9	81	1,5	451	8,3
1911 1915	6116	0,82	5140	84,0	119	1,9	107	1,8	182	3,0	568	9,3

Source (Mureşan, 1995)

## 6. Cereal culture

Among cereal crops, oats increased more - to 665%, wheat - to 275% and corn - to 213.5%; the last two impressed by their large share and the extent of the general growth. Thus, the total increase in grain production increased, on an annual average, from 26,336 thousand hl - in the period 1862-1866, to 84,929 thousand hl - in the period 1911-1915, thus rising to 322.5%, compared to the period basic. (Mureşan, 1995)

Calculation on time intervals highlights obvious increases. The average production of wheat and corn per ha, between 1862 and 1915, in Little Romania is presented as follows (Statistical Yearbook 1915-1916), 1917).

**Table no 4 Average production of cattle and corn 1862-1915 (hl)**

Periode	Wheat	Maize
1862 – 1876	10,9	12,9
1886 – 1900	12,8	13,4
1900 – 1915	15,3	14,8

Source: ( MIC, 1917).

It is the opposite situation, compared to the central and western European countries or the USA. There, against the backdrop of increased yields, corn production was 45-40% higher than wheat.

## 7. Animal breeding

In small Romania, the cerealization of agriculture caused the main species of animals to register a period of numerical regression (the decrease in the areas of hay and pastures, and part of them, along with the forests, returned, after the agrarian reform of 1864, to the landlords). A gradual recovery was observed so that, in 1900, the herds were 95% in cattle and 108% in sheep, 159.9% in pigs and 170.8% in horses, compared to 1860.

## 8. Endowment of the land cultivation sector (agricultural inventory)

The introduction of modern equipment represented the most characteristic indicator in the field of production. Compared to 1868, in 1905 the number of sowing and reaping machines had increased more than tenfold (15,521 and 18,451, respectively), mowing machines had

appeared (1,169), all being drawn by animals, and iron harrows had spread (about 130,000). . As for the cars themselves, only the great estate had the necessary resources to procure them. In this sense, in 1905 there were 55 steam plows, while locomotives and threshing machines had reached about 4,500 each. The increase was even more intense in the next stage: in 1913, the number of tractors was 144, and threshing machines 5,934 (Mureşan, 1995)

In contrast to this aspect, for plowing, the peasants still used 167,000 wooden plows (out of a total of 535,668. At the beginning of the 20th century, they owned over 95% of the number of carts and wagons, over 92% of that of plows, 92-95% of draft animals. In Transylvania, the number of threshing machines (5,700, in 1915) was comparable to that of Romania. Fewer plows (390,653) were used on a significantly smaller cultivable surface (Oţetea et al, 1967)

Overall, the provision of live and dead agricultural inventory (animals, machines, tools and utensils) of the rural economy remained precarious, the pace of changes created large gaps compared to economically advanced countries. The capitalist component of the organization of production, through the use of salaried labor and modern equipment, has progressively entered the landscape of Romanian agrarian life.

### **9. The development of commercial agriculture**

It represents a reality in the capitalist evolution of the Romanian economy, which increasingly oriented agricultural production towards the market, with the aim of commercializing it. This tendency gained momentum, after 1829, but it could take place much more widely, only after the abolition of the feudal system, through the agrarian reforms of 1853-1854 and 1864.

The increase in the level of the internal market of agricultural products was driven by the development of industries based on agricultural raw materials and the growth of the urbanization process. Regarding the external one, first of all, cereals occupied the largest share throughout the period 1878-1914. Quantitatively, they provided in the interval 1879-1886 - on annual average - 86.7% of the export volume, and in terms of value - 76.3%; in the interval 1909-1914, these weights decreased, but remained predominant: 68% - quantitative and 73.1% - value. (Bozga et al., 1996)

In the areas of developed commercial agriculture, wage labor was exclusively used, and the process of differentiation of the peasantry, through frequent and binding contracts with the market, took place much more intensively.

### **10. Production relations**

The concession regime left its characteristic mark on agrarian life in Romania, between the reform of 1864 and the First World War. In addition, the large parasitic and speculative tenancy was grafted onto the skeleton of the latifundia and the freehold regime. As a system, the great tenancy reached its apogee through the "deep agreement" between the spirit that guided it and the possibilities opened up by the regime of wills, through the great profits it made, through the levers it could use it has, after all the transformations produced in economic life, significant capitals placed in banks, outlets, transport routes - relatively profitable, high turnover figures. In 1905, for example, of the entire cultivable surface, greater than 100 ha, about 60% was exploited by 3,332 tenants.

### **11. The agrarian crisis of the last quarter of the 19th century**

In the last quarter of a century of the 19th century, the European markets were invaded and oversaturated with large quantities of grain, at cheap prices, coming from North America, Argentina, India and Russia



The special fertilization of cultivated lands, especially of the countries of the New World, the sale of grain by producers in Russia and India, at very low prices - without taking into account the costs of production, the low level of the land in these countries, the expansion of the maritime network and railways that made it easier and cheaper to transport agricultural products to Western European markets, are the explanation of this "invasion".

With all the stimulating influence of the foreign market, Romania, which was increasingly engaged in the international circuit of trade with agricultural products, felt the fluctuations on the international market and especially, the effects of the agrarian crisis that covered the central and western European regions, between 1873 and 1895 .

Under these conditions, the continent's agriculture, with higher production costs, was forced to lower prices, rents and the price of land, recording significant losses for two decades. Seeking to protect themselves, European countries raised their customs tariffs on grain imports, but this measure was insufficient. In parallel, European agriculture had to modernize, to become more profitable because only the application of new techniques and technologies could reduce production costs and face competition. (Puia, 1991) The crisis was an effect, but also a cause that forced European producers to look for ways out through technical progress.

The main manifestation of the agrarian crisis, but with numerous implications, was the drop in prices for cereals and, to a lesser extent, for animals, which was felt from the beginning of the agrarian crisis and intensified, especially after 1880. Thus, if we take as a basis (=100) the prices of the main cereals, in 1880, in 1895, the price levels per quintal were as follows: 46.1% for wheat, 48.1% for rye, 58.4% for corn, 60% for barley and oat. In 1902, these levels had risen to 62-65% in rye and wheat and about 80% in corn, barley and oats. Returning to the initial levels was no longer possible, due to external competition.

As far as the Romanian economy is concerned, it felt the influence and effects of the agrarian crisis which, on the one hand, stimulated the industrialization of agricultural products, a certain specialization of agriculture, the wider use of machines, as well as salaried farmers. On the other hand, the crisis also caused losses, especially in exports, the trade balance being, between 1878-1899, passive. As a result, unlike in western countries, there was an increase in tithes, rents, the price of land, an increase in work and a decrease in payment to the peasant, while the income of owners and tenants increased. (Bozga et al., 1996)

## **Conclusions**

The great tenant meant, practically, only to a small extent, an innovative element in the forms of production, in the economic organization of the exploitation of the land. The relations between him and the small producer were similar to those between the latter and the landlord. On a social level, the large tenancy constituted a factor of aggravation of the dissatisfactions and its relations with the village world.

Due to the agrarian conditions in our country, itself becoming a characteristic component of them, the large tenancy became individualized in structure, economic content and size, in relation to the situation in other countries.

The latifundi, the pulverization of small property, the great parasitic tenancy and the regime of concessions were the distinctive signs of agriculture in small Romania, between the two structural reforms of 1864 and 1918/1921. (Mureşan, 1995)

The impact of Western capitalism was felt all the more strongly and stressfully, as our agrarian system was more complexly involved in the exchange of products of the capitalist world, and in economic terms, technical progress contributed, only to a limited extent, to the development of production and emancipation cultures.

The negative effects of the crisis led Romania to conclude, in 1875, the unfortunate commercial convention with Austria-Hungary (CRIM, 1987), for multiple reasons, but also from the desire to find in the center of Europe, an area where goods could be sold easily and

on a large scale, given the conditions in which the difficulties of selling agricultural products on other markets have become more and more difficult.

Although the rate of evolution of agriculture was slower than that of other branches, it consolidated, until the first world war, the capitalist character of its development continued to occupy the largest share in the entire Romanian economy.

### **Bibliography**

1. Adăniloiaie, N., Dan Berindei, *Reforma agrară din 1864 [The agrarian reform of 1864]*, Editura Academiei, 1967, București.
2. Argetoianu, Constantin, *Pentru cei de mâine [For those of tomorrow]*, vol. I/1, București, Editura Humanitas, 1991.
3. Bozga, Vasile, Ilie Puia, Radu Vasile, Eduard Ribczuc, *Istoria economiei naționale [History of the national economy]*, Bucuresti, 1996.
4. Comisia Română de Istorie Militară - CRIM, *Istoria militară a poporului român [The military history of the Romanian people]*, vol. IV, București, Editura Militară, 1987.
5. Creangă, G.D., *Proprietatea rurală în România [Rural property in Romania]*, București, 1930
6. Madgearu, Virgil, *Evoluția economiei românești după războiul mondial [The evolution of the Romanian economy after the World War]*, București, Editura Independența economică, 1940.
7. Maurois, André, *Istoria Angliei [History of England]*, Editura Orizonturi, București, 1987.
8. Mureșan, Maria, *Istorie economică [Economic history]*, Editura Economică, București, 1995.
9. Oțetea, Andrei și colectiv, *Marea răscoală a țăranilor din 1907 [The great peasant uprising of 1907]*, Editura Academiei, București, 1967.
10. Pascu, Ștefan, C.C. Giurescu, I. Kovacs, L. Vajda, *Unele aspecte ale problemei agrare în monarhia austro-ungară la începutul secolului al XX-lea (1900-1918) [Some aspects of the agrarian problem in the Austro-Hungarian monarchy at the beginning of the 20th century (1900-1918)]*, în *Destrămarea monarhiei austro-ungare 1900-1918*, sub redacția acad. C. Daicoviciu, M. Constantinescu, Editura Academiei, București, 1964.
11. Puia, Ilie, *Istoria economiei [History of economics]*, f.e., București, 1991.
12. Ministerul Industriei și Comerțului – MIC, “Anuarul Statistic al României 1915-1916”, Tipografia Curții Regale, București, 1917.
13. Savin, Tudor, *Capitalul străin în România [Foreign capital in Romania]*, București, Editura Eminescu, 1947.

# INTEGRATED LOGISTICS IN THE DEVELOPMENT OF THE CONSTANTA PORT

Florin Iordanoaia<sup>1</sup>

## Abstract

*In the last 32 years, the port of Constanta has evolved in leaps and bounds, without a coherent development strategy, being permanently subject to political influence, which did not have clear development and performance objectives, in the medium term or long. The port operators have developed their own development and investment strategies, depending on their objectives in different terms, usually in the short and medium term.*

*In this paper, an analysis of the current situation of the Port of Constanta, of the strategies and projects that are underway or to be launched in the next period is carried out. Apart from these, other management strategies are analyzed and presented, based on the logistics integrated in the port operation activity.*

**Keywords:** strategy, management, logistics, port.

**JEL classification:** M 21, O 22, R 11.

## 1. Introduction

The development of the port of Constanta is very important in the context of economic integration and on multiple levels, of Romania in the European Union, in the field of transport. For this, there must be a medium and long-term sectoral development strategic plan. Following the development strategies of the Ministry of Transport, the National Company "Maritime Ports Administration" SpA Constanta, of the big port operators such as: "Constanta South Container Terminal" Company, "Oil Terminal" SpA Company Constanta, "Socep" SpA Company Constanta, etc., we found that many of these have not developed long-term development strategies, for more than 5 years, they only have a few short-term strategies developed, from 2-5 years, until the year 2023-2024. The Ministry of Transport developed a "General Master Plan for Transport 2007-2013", MT (2008), continued with the second General Master Plan for Transport of Romania, until the year 2030, MT (2020), which constitutes a strategic document of basis for any other "subsequent programming or planning document in the transport sector". The general objective of the first General Transport Master Plan was to "constitute a strategic and coherent basis for programming investments in the medium-term transport field". The Master Plan, in theory, aims to "adjust and develop the infrastructure, improve transport services, considering: the expansion of transport networks, the adjustment and modernization of the existing network, the estimation of the role of infrastructure in the development of the economy, the increase of the efficiency of the transport system".

The General Transport Master Plan served as the basis for the negotiation of financial assistance from the European Union in the period 2007-2013 and 2014-2020. The General Transport Master Plan has the character of a strategic framework for the field of transport and represents a basis for all subsequent planning activities: the revision of the "Sectoral Operational Program for Transport Infrastructure", and the planning of projects financed by the various programs. The document focused in particular on the priorities established on the Trans-European Transport Network and had as its first goal the promotion of the sustainable development of the transport infrastructure, based on the balance between economic, social and environmental requirements. Some of the objectives of the Ministry of Transport are also found in the development strategy of National Company "Maritime Ports Administration" Constanta, which are formulated to be able to cope with the increase in traffic, the requirements arising from Romania's accession to the European Union and the consolidation of the position of the Port of Constanta on the Pan-European Transport Corridors. National Company "Maritime Ports Administration" S.A. Constanta has promoted, both through the 2007-2013 National Development Program and through the Transport Sectoral Operational Program, a series of infrastructure development projects of the Port of Constanta. The projects promoted for the period 2007-2013 were the following: the construction of a systematized railway complex, the construction of

---

<sup>1</sup> PhD, Association "Education and Staff Training", Mangalia, Romania, floriniordanoaia@yahoo.com.

a road bridge at km 0+540 of the Danube-Black Sea Canal and works related to the road infrastructure and access to the port, the completion of the offshore pier, the construction of a bridge over the connecting channel in the river-sea area, the creation of mooring quays and the completion of the existing ones, as well as the creation of fillings and embankments in the territory of the III S pier on an area of approx. 35 ha, the consolidation and systematization of the areas adjacent to the seaport. These projects have been completed and are presented in table 1. The analysis of the current strategies of the Ministry of Transport and the Maritime Ports Administration proves that these institutions do not have a strategic plan based on the knowledge of the reality of the port, the needs of the national economy and those of the European Union. These documents elaborated by the two institutions are far from reality, from what is happening today in the field of maritime transport, maritime and river ports, inland waters in the European Union. The promoted projects are of small scale and value, they do not solve the main problems of port operators, its do not contribute to stimulating the development of port traffic, of economic agents. Not in any document of these institutions are found the investment needs for the development of the economic agents in the port of Constanta, even if some of them have short- and medium- term development programs, they are not known, they are not evaluated from the point of view of reliability and economic profitability.

Integrated logistics is only mentioned in a series of documents, its role in the realization of multimodal transport is recognized, but apart from the references there is no document that explains what this means from a strategic point of view, where the "key" points of logistics and how the logistics problems specific to a maritime and river port must be solved. No programmatic document refers to the workforce required for the normal development of activities and especially for their development. Currently, many engineers, specialists, foremen and workers, with experience at port operating companies, have gone and work abroad, at port operators and shipyards in the European Union and outside Europe. This fact will attract a staffing crisis, with shipyards being the first to face a staffing crisis already. Also, the regional geopolitical context implies certain changes in the conduct of business in the port, even a major change in orientation, from large imports to exports, which leads to other problems for operators and the administration. The main objectives of this work are the following:

- Analysis and evaluation of the situation of the programs and strategies of the port administration and the main port operators.
- Analysis of some methods of implementing the objectives of Integrated Logistics, for the development of business in the port of Constanta.
- Establishing port development strategies, in the current geopolitical context.
- Increasing the competitiveness of the port of Constanta in the context of the development of competing ports in the Black Sea, the Aegean Sea and the Mediterranean Sea, of the large investments made in them, in order to attract ship-owners and charterers to use the operating capacities of the port of Constanta.
- Elaboration of a multi-level strategic development plan for the port of Constanta.

## **2. The research methodology used**

To carry out this work, we studied the documents developed by the Ministry of Transport, by National Company "Maritime Ports Administration" Constanta, but also those of large commercial companies, the main operators in the port of Constanta. We systematized the information and centralized it, to meet the requirements of this study. The research methodology consisted in the systematic, oriented and coherent study, in relation to the principles that are used in a scientific investigation in the field of logistics and managerial strategies. The main research method is that of the "transfer of concepts", but also of the transfer of the authors' personal ideas, which have been elaborated in recent years. The research theme was oriented towards development strategies and integrated logistics (supply, technological, distribution) and reverse logistics, which brings together transport, handling, warehousing, storage, conditioning, packaging, marketing, manufacturing and recycling technologies, with the aim to obtain pertinent information about the development possibilities of the port of Constanta, through a scientific approach, to solve a complex problem regarding the field of maritime, river transport and port operations.

### 3. The situation of development programs and strategies at the main port operators

In the following, some of the commercial companies operating in the port of Constanta will be presented.

**A. National Company “Maritime Ports Administration” SpA Constanta.** This company is subordinate to the Ministry of Transport and is the one that manages the assets of the port of Constanta. The programs and strategies of the National Company “Maritime Ports Administration” SpA Constanta, are presented in table 1.

**Table 1. The programs and strategies of the Maritime Ports Administration**

No	SITUATION OF THE PROJECTS		
	PROGRAMMING PERIOD 2014-2020 (+3)		
	PROJECTS IN PROGRESS	SUBMITTED PROJECTS	PROJECTS IN PREPARATION
1.	<b>POIM financing program (Large Infrastructure Operational Program):</b> 1. Extension to four traffic lanes of the existing road between Gate 10 Bis and Gate 10. 2. Modernization of the electricity distribution infrastructure in the Port of Constanta. 3. Extension of quays of berths 10 and 12 in the Midia Zone, including reinforcements behind quays code SMIS 153124.	0	<b>POIM financing program (Large Infrastructure Operational Program):</b> 1. The extension to 4 lanes of the road between Gate 7 and the junction with the “Danube-Black Sea Canal Road Bridge” objective with the road connecting Gate 9 and Gate 8 to the North area of Constanta Port.
2.	<b>CEF funding program (Mechanism for Interconnecting Europe):</b> 1. 2016: PROTECT “Infrastructure modernization and environmental protection in the Port of Constanta”. 2. 2019: EALING ACTION “European flagship action for cold ironing in ports”.	-	<b>Infrastructure projects in preparation for the Transport Operational Program (POT) 2021 – 2027:</b> 1. Rehabilitation, modernization and expansion of the road infrastructure (roads, passages, including road bridge over the connecting canal) and access to Constanta Port and the Midia area. 2. Dredging works in the Ports of Constanta (Constanta and Midia area) and Mangalia (including the widening of the entrance). 3. Modernization of the electricity distribution infrastructure in Constanta Port - PHASE II. 4. Development of railway capacity in the River - Maritime Sector of Constanta Port - Stage II.
3.	<b>Transnational Danube Strategy Program:</b> 1. DIONYSUS “Integrating Danube Region into Smart & Sustainable Multi-modal & Inter-modal Transport Chains”.	-	-
4.	<b>HORIZON 2020 program:</b> 1. PIONEERS “Portable Innovation Open Network for Efficiency and Emissions Reduction Solutions”.	-	-
5.	<b>Projects from own sources:</b> 1. Revision of the Master Plan of Constanta Port.	-	-
<b>PROGRAMMING PERIOD 2021-2027</b>			
6.	<b>CEF funding program (Mechanism for Interconnecting Europe):</b> 1. 2021: ECOLD “Ensuring the electrical conditions for connecting ships to the wharf in Constanta Port (Cold Ironing regime), in order to interconnect to the TEN-T for the implementation of the EALING project (works)”.	-	-
<b>PROJECTS FINISHED</b>			
7.	1. Extension of the Broad Pier in Constanta Port, extension by 1050 m, POST 2007-2014. 2. Road Bridge at km 0+540 of the Danube-Black Sea Canal, POST 2007-2014. 3. Development of Railway Capacity in the River - Maritime Area of Constanta Port, POST 2007-2014.	-	-

No	SITUATION OF THE PROJECTS		
	PROGRAMMING PERIOD 2014-2020 (+3)		
	PROJECTS IN PROGRESS	SUBMITTED PROJECTS	PROJECTS IN PREPARATION
	4. Southward extension of the berth in Constanta Port, POST 2007-2014. 5. Danube Ports Network -DAPhNE- Danube Strategy Transnational Program 2014-2020. 6. CIVITAS PORTIS PORT -CITIES: Innovation for sustainability. 7. Implementation of a specialized berth in an area with great depths (Berth 80) SMIS Code 2014+: 121588. 8. Modernization of the port infrastructure by ensuring the increase of the depths of channels and basins and the safety of navigation in the Port of Constanta.		

Source: MPA (2022).

Funding of the projects carried out and proposed by National Company “Maritime Ports Administration” Constanta, are presented in table 2.

**Table 2. The value of the financing of ongoing and proposed projects**

No	PROJECTS	VALUE (mil. Euro)
	<b>POIM financing program (Large Infrastructure Operational Program):</b>	-
1.	Extension to four traffic lanes of the existing road between Gate 10 Bis and Gate 10.	12
2.	Modernization of the electricity distribution infrastructure in the Port of Constanta.	22,7
	<b>CEF funding program (Mechanism for Interconnecting Europe):</b>	-
3.	2016: PROTECT “Infrastructure modernization and environmental protection in Constanta Port”.	12,7
	<b>POIM financing program (Large Infrastructure Operational Program):</b>	
4.	The extension to 4 lanes of the road between Gate 7 and the junction with the “Danube-Black Sea Canal Road Bridge” objective with the road connecting Gate 9 and Gate 8 to the North area of Constanta Port.	30,7
	<b>POIM financing program (Large Infrastructure Operational Program):</b>	
5.	Extension of quays of berths 10 and 12 in Midia Zone, including reinforcements behind quays code SMIS 153124.	16,6
	<b>Infrastructure projects being prepared for the Transport Operational Program (POT) 2021 – 2027:</b>	-
6.	Rehabilitation, modernization and expansion of the road infrastructure (roads, passages, including road bridge over the connecting canal) and access to Constanta Port and the Midia area.	100
7.	Dredging works in the Ports of Constanta (Constanta area and Midia area) and Mangalia (including the widening of the entrance).	120
8.	Modernization of the electricity distribution infrastructure in Constanta Port, STAGE II.	46
9.	Development of railway capacity in the River-Maritime Section of Constanta Port, Stage II.	10
10.	Modernization of the water and sewage infrastructure stage I.	
11.	Modernization of the water and sewage infrastructure stage II.	24
12.	Pier III-IVS is to be designed according to the revision of the Master Plan.	19
13.	Construction of quays in the Constanta-Midia Port area, including fillings behind the mooring constructions and systematization of the territory.	500
14.	Other projects identified after the completion of the Master Plan review.	75
	<b>CEF funding program (Mechanism for Interconnecting Europe):</b>	-
15.	2021: ECOLD “Ensuring the electrical conditions for connecting ships to the wharf in Constanta Port (Cold Ironing regime) in order to interconnect to the TEN-T for the implementation of the EALING project.	18,8
16.	Jetties on the northern side of the artificial island to serve a future industrial platform.	109,1
17.	Construction of the quay between Dana no. 8 quays and a berth for the terminal and systematization of the territory - Midia area (technical vessel basin) (works).	7,53

Source: MPA (2022).

**B. The Commercial Company “Constanta South Container Terminal” Ltd.** This is the largest container operator in Romania. Following the projects and development strategies of this commercial company, we found that it concluded a financing contract with the Ministry of Transport, for the financing of the project “Modernization and development of the capacity of the port of Constanta - development of the port infrastructure in the development area A, MOL II-S Port

Constanta South by expanding the port platform facilitating multimodal transport”. The project is co-financed from the European Regional Development Fund through the “Large Infrastructure Operational Program 2014-2020”, CSCT (2021).

The objectives established within the project are the following:

1. The development of the port of Constanta, ensuring the increase of storage and handling capacities of “RORO” type goods (containers).

2. Ensuring the necessary infrastructure in the port of Constanta for the development of multimodal transport.

3. Modernization of the Constanta port in order to increase the volume of transported goods. Through the works that will be carried out through this project, it is estimated that the following results will be obtained:

- 16 hectares of port platforms will be developed.
- Development of water and electricity supply networks, for the supply of ships, for the operation of equipment and other facilities located on the port platform.
- Increasing the annual volume of goods to approximately 1,700,000 tons/year.
- The volume of containerized goods to reach 969,054 TEU.
- Reduction of CO2 emissions of at least 177,000 equivalent tons per year in 2030 and at least 240,000 equivalent tons per year in 2049.

The total value of the project is 347,692,690.56 lei, of which the total eligible value, financed by the Large Infrastructure Operational Program 2014-2020, is 221,283,406.21 lei, (i.e. 85% of the total approved eligible value, 184,329,077.38 lei is provided from the European Regional Development Fund, 13% in the amount of 32,528,660.71 lei will be financed from the State Budget and 2% in the amount of 4,425,668.12 lei).

**C. The Commercial Company “Oil Terminal” SpA Constanta.** This commercial company specialized in the operation of petroleum and chemical products have an investment plan, which is oriented towards the modernization of installations and operating equipment, Oil (2022). From the reports of the company's management it follows that:

- Investments were made to equip with computer-aided electronic command and control equipment.
- High-precision flow-meters for the correct management of transported petroleum products, radar telemeters and double-sealing systems for tanks were purchased.
- Machines, laboratory equipment corresponding to European standards were purchased.
- The computer network was expanded within the operational and functional services.
- Two gas thermal power plants were installed, which ensure the energy independence of two of the company's warehouses.

The investment plan for the next period includes the following:

- Installation of a gas thermal power plant at the third warehouse.
- The passage of the underground pipeline network, through the above-ground laying, on several stages.
- Replacement of old pumps, used to transport products.

But the company does not use the financing programs from European funds and from the state budget. In the last 20 years, it only used funds from the “Phare” Program in 2008 and the POSDRU Program in 2012.

**D. The Commercial Company “Socep” SpA Constanta.** This trading company is a general cargo and container operator. The company completed a series of investments at the container terminal, which was modernized, in 2021 and is working on completing the construction of a grain terminal in 2023. Apart from these large investments, the company has an investment plan and modernization of port operation equipment and installations, Socep (2022).

**E. The Commercial Company “Umex” SpA Constanta.** This is a trading company specialized in the operation of grains, fertilizers, general packaged and bulk goods, metallurgical products and oversized goods, Umex (2022). The company has made a series of large investments, such as:

- Terminal for fertilizers (chemical substances), which started in 2021, with completion by the end of 2022.
- Terminal for the operation of cereals, started this year, with completion in 2023.

Apart from these major investments, the company made investments for the modernization of equipment and operating installations.

**F. “Ameropa” Group.** This is a Swiss group that owns two main port operators in the port of Constanta. These are “Chimpex” and “Ameropa Grains”. The “Chimpex” Trading Company is one of the most dynamic port operators, but also the main port operator for grain and bulk or packaged solid chemicals, Chimpex (2021). “Ameropa Grains” Trading Company is one of the largest collectors and exporters of grains and oilseeds and one of the largest distributors of fertilizers, seeds and chemicals for plant protection for agriculture in Romania, Ameropa (2022). Analyzing the development programs and strategies of the Group in general and of the two port operators, the following development strategies resulted:

- Digital transformation of training and testing (2021-2022), by developing an internal online platform, for accessing all procedures, processes, learning and testing materials, and all offices will be equipped with high-performance computers, to have access to “Share Point” and “Internal News”, within the Group.

- Reducing dust pollution by 1%, by reviewing and renewing all pollution procedures.

- Purchasing new equipment to reduce CO2 emissions, by continuously reducing the fuel consumption of this equipment.

**G. The Commercial Company “Frial” SpA Constanta.** This is a trading company specialized in the operation of grains, scraps, pulp, scrap metal, liquid urea, vegetable oil, fatty acid methyl esters (FAME), etc. It created a bio warehouse for the storage of cereals and oil plants, which was certified in 2022. It has no other major investments planned, considering only the replacement of old equipment and installations with new ones.

**H. The Commercial Company “United Shipping Agency” Ltd Constanta.** This company is a member of the “Cofco International Romania” Group, headquartered in Bucharest, Cofco (2022). Its activity is the storage and operation of cereals. After the investments made in the previous years, currently, the port operator has no new plans for investments. Analyzing the development strategies of the “Cofco” Group, no investments are foreseen for the operator of the port of Constanta.

**I. The Commercial Company “ADM Romania Trading” Ltd Bucharest.** This company is a member of the “ADM” Group in the USA and operates a terminal for grains, seeds, fodder, etc., in the port of Constanta. The port operator does not have its own development plan, being directly integrated into the US Group. This company has in mind a series of sustainable development objectives, related to investments with low energy consumption, with the reduction of pollution and for scientific research, ADM (2022).

**J. The Commercial Company “Decirom” SpA Constanta.** This trading company is a port operator dealing in wood products (timber, plywood, logs), general cargo, rolled products in bars and coils, sheet metal and bundles, scrap metal, foodstuffs, chemicals, building materials, Decirom (2022). From the analysis of the company's documents, no strategies for development resulted, it only considers investments in new equipment, as the old ones are taken out of use.

**K. The Commercial Company “Comvex” SpA Constanta.** This trading company is the largest terminal specialized in the operation of bulk solid raw materials (iron ore, coal, coke, bauxite) and grain. From the study and analysis of the company's official documents, it follows that it completed the construction of a grain terminal, financed from its own funds and from two bank loans, Comvex (2022). There are no projects for new investments until the repayment of bank loans is completed in 2027.

#### **4. Integrated logistics in port activity**

The port represents an administrative, economic, technical and legal entity, Iordanoaia (2007). It connects: maritime and land transport (by rail, road or pipelines); sea and river transport; river and land transport. The logistic functions of a port are the following:

- Reception of maritime and river vessels, loading or unloading goods, in and from ships.

- Storage of goods (depending on their type), receiving the goods in the port and delivering them on board the ships.

- Sorting, packing, labeling and transferring goods to their final destination, from the country or to other countries (as additional services that can be performed in the port).

- State, port and customs control, etc.



A series of economic activities are carried out in the ports, in the field of goods production, shipbuilding and the provision of other port services. The main port services integrated into Logistics are the following:

- Loading or unloading of ships, supervision and electronic control of loading or unloading of containers, their arrangement on the ship or in the terminal, arranging, stacking, mooring or stowing the goods on board the ship.

- Transportation of goods to the berth, for loading the ship or from the berth to the warehouse or directly to the destination. Preparation of goods for transport, sorting, palletizing, packaging, containerization. Storage, storage of goods.

- Supplying ships with food, materials, spare parts, fuels and lubricants.

- Supply of water, electricity and thermal energy for ships and port operators.

- Cleaning and degassing of tanks, warehouses and barns.

- Surveillance of ships, guarding and protection of port facilities, electronic surveillance of port spaces and premises.

The port infrastructure elements that are used in port Logistics operations are the following:

- Specialized port berths and terminals, loading-unloading and handling facilities.

- Buildings, warehouses and storage spaces, access roads, roads, transshipment points, loading-unloading ramps, railways, stations, triages, monitoring and control centers.

Depending on the administrative and logistic organization of a commercial port, the logistic flows are organized and carried out as follows:

- Receiving the goods in the port using the following means of transport: river ships, trucks, freight trains or through pipelines.

- Storage of goods in specially arranged open spaces, warehouses or tanks for petroleum or chemical products. Loading the goods on board the ships, directly from the means of transport that have arrived at the port or based on internal transport, from the stationary or storage places.

- Unloading the ships, directly on the means of transport that will pick them up and transport them to their destination or on the means of transport that will transport them to the waiting or storage places in the port, from the maritime ship, as follows: on the river ship, moored next to the ship maritime; in the railway wagons, brought on the berth next to the ship; on trucks or TIRs; on conveyor belts; through pipelines, at pumping stations or at reservoirs. Loading and transporting goods from the port, directly to the destination.

Considering these Logistics operations, the question arises of its integration into the general activity of a port and port operators. The logistics integrated in the port activity must be designed starting from the following principles, which must be implemented by the Port Administration and which involve the port operators, in order to organize their activities according to these principles. The principles of integrated logistics in the port are as follows:

1. Realization of the modern port infrastructure, according to the methods of modern logistics.

2. The organization and administration of the port, as a unitary whole, by the Administration.

This means that the Port Administration must impose a series of characteristics for the activity of port operators such as:

- A management oriented towards total quality.

- Organization and computerization of activities, to comply with the “Just in time” principle, i.e. to serve customers without the port operator causing delays, which lead to port congestion.

- Imposing and observing the general rules of hygiene and cleanliness, preventing pollution of the marine environment and the port. Taking punitive measures for those who violate port and environmental regulations.

- The computerization of all activities, to reduce the bureaucracy of the Administration.

- A stable and optimized policy regarding port taxes.

The implementation model of Integrated Logistics in the port field is important for: the choice of implementation methods and techniques, the orientation of activities, the management of activities according to the principles of logistics, the reduction of costs, the quantification of the results obtained after a period of time since implementation.

## 6. Proposals for the development of the port of Constanta

I believe that the development of the port of Constanta, figure 1, must be oriented towards the following strategic directions:

**1. Road infrastructure development.** This must offer the possibility of fast movement of vehicles (on a 4-lane road system, from the A4 highway to Gate 6, figure 2), provide parking and waiting places for trucks that come to unload or waiting for the loading of the goods, unloaded directly from the ships or from the port warehouses. For the drivers of the means of transport, rest and recovery places must be provided, for serving the meal, in accordance with the provisions of the road legislation.

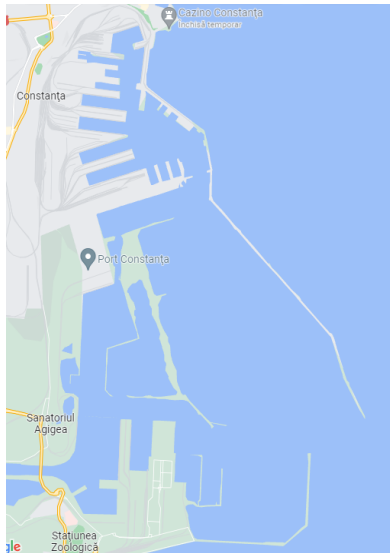


Figure 1. General scheme of Constanta port.  
Source: google.map.

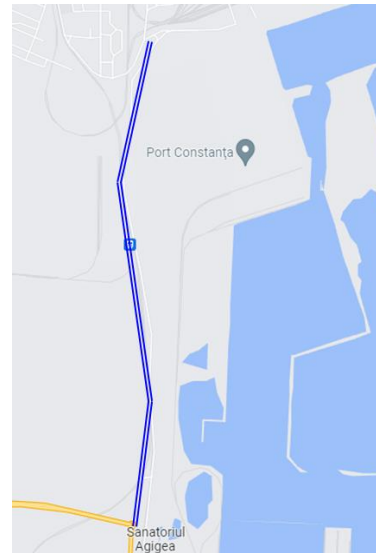


Figure 2. Expressway with 4 lanes.  
Source: authors' study (google.map).

**2. Construction of additional bridges and passages.** These are necessary to avoid crowding at the main entrances and to allow the flow of car traffic.

**3. Repair and modernization of roads and access roads, current parking and waiting areas.** Considering the fact that the road infrastructure of the port of Constanta is in a precarious state, I consider that this is one of the main directions of action of the Administration. The infrastructure is an important element for the image of the port of Constanta and considering the fact that road transport relations have increased a lot, this requires an adequate response to remedy all the problems and situations faced by road carriers when they arrive at the port of Constanta. In this sense, modern parking lots can be built, with parking and rest places for drivers, even fuel supply stations.

**4. Modernization of the railways in the port and outside it.** The railways are a big problem for the port of Constanta, due to the obsolescence of the installations, the “dead lines” and the large number of old wagons left stationary in the port. After the outbreak of the conflict in Ukraine, against the background of the demand for transport from this country, the leadership of the Ministry of Transport made the decision to withdraw the old wagons that were stationed in the port, blocking the lines and could no longer be used for transport. Apart from this situation, a number of railway lines are no longer functional, safety, signaling and warning elements are missing, which can lead to accidents.

**5. Increasing the depths on the channel and at the berths.** Dredging to increase the water depth, on the navigable channel of the port and at the berths that allow the berthing of large ships (oil, mineral tanks). Even though dredging was done and in some berths the depths reached up to 19 meters, with the project reaching a depth of 22 meters. However, dredging is still needed so that more berths allow the access of large ships.

**6. Computerization and digitization of all Administration activities.** The administration must implement all IT systems and digitize all activities, in order to reduce or even eliminate bureaucracy in the provision of services to customers, port operators or third parties. As part of the national campaign to digitize all the activities of the state administration, it is possible that the port activities will be integrated into a single system for the rapid transmission of information, to eliminate those situations that make it difficult to collaborate with economic agents in the port and in the city,

with customers from the country and from abroad. Carrying out an analysis of the website of the Administration, MPA (2022), I found that it is in an early form, far from the requirements of a modern administration, as we have in other ports in Europe, such as the port of Rotterdam in the Netherlands, RPA (2022). Only forms can be downloaded from the Constanta Port Administration page, which can be filled out and sent by email to the services that deal with the respective services (press information, authorizations, contracts, leases and concessions, port operation and occupational health and safety). Even if there is a certain transparency on the Administration's activities, it is still not possible to discuss "total transparency" or "full digitization". This computerization can be the basis of the transformation of the port of Constanta, from a classic one, into an "intelligent port", in which the command, control and communication processes are integrated into an intelligent system for quick response to requests and quick decision-making, so as shown, for example, in the port of Hamburg in Germany, HPA (2022).

**7. Development of the Administration's Marketing service.** A modern Marketing service can perform the following functions: to help port operators to search and find new business partners, to use the port's facilities; to follow the situation of other ports in Europe, in order to know the trends and evolutions of goods traffic; to provide accurate forecasts regarding the development of activities, geopolitical and economic opportunities and threats. The Constanta Port Administration has a Marketing service, with an international relations office, but this service is not developed, has no visible activity and does not contribute to increasing the attractiveness of the Constanta port for customers. There is no annual, mid- and long-term Marketing plan that covers all the aspects that the Port Administration can fulfill. The role of this service is insignificant, compared to the Marketing services of other ports in Europe, for example, the port of Thessaloniki in Greece, TPA (2022). The port of Thessaloniki can become a strong competitor of the port of Constanta, the only current impediment is the fact that the depths of the berths of the port only reach up to 11 meters, compared to 22 meters in the port of Constanta. An investment in dredging and the consolidation of the berths would make the port of Thessaloniki a port that could take over a large amount of cargo to the Western Balkans and Central Europe, also considering the fact that there are connections on highways, which Constanta does not have yet, not being completed the highway connecting the port with Arad.

### **Conclusions**

From the point of view of integrated logistics, the development of the port of Constanta must be oriented towards its principles, for the integration of the port in the international supply chains, which contain this port as a nodal point of reference. The area to the south of the port is still in disrepair. Several projects were conceived there, but the initial projects were not realized, by those who took the land under concession, for various reasons. In this sense, the construction project of a gas terminal, several construction projects of some factories and even a steel plant were abandoned. The area is still at the discussion stage and it is expected that the Administration will invest in port, road and railway infrastructure. But the projects of the Administration "do not meet" the wishes and projects of the port operators. Only in the last year, the Administration communicated better with the port operators, recorded their opinions and ideas regarding the development of the port, but still, no major changes appear from the programmatic documents, which would indicate a change in the attention of the Administration. The implementation of projects starting from the principles of integrated logistics would offer great advantages to port operators and finally, high quality services would be provided to customers.

### **Bibliography**

1. Iordanoaia Florin, "Logistics in transports", Publisher "Nautica", Constanta, 2007, pp. 149-151.
2. Ameropa Group, "Sustainability Report 2020", Bucharest, 2021. ([https://www.chimpex.ro/imgs/2020\\_Raport-sustenabilitate-Ameropa-Romania.pdf](https://www.chimpex.ro/imgs/2020_Raport-sustenabilitate-Ameropa-Romania.pdf)).
3. Commercial Company "ADM Romania Trading" Ltd, "Sustainable development programs", Bucharest, 2022. (<https://www.adm.com/en-us/sustainability/goals-and-programs/>)
4. Commercial Company "Chimpex" SpA, "Company policy", Constanta, 2021. ([https://www.chimpex.ro/ro/politica\\_companiei/](https://www.chimpex.ro/ro/politica_companiei/)).
5. Commercial Company "Comvex" SpA, "Annual Report", Constanta, 2022. ([https://www.comvex.ro/wp-content/uploads/rapoarte/2021/Comvex\\_Raport\\_anual\\_2020.pdf](https://www.comvex.ro/wp-content/uploads/rapoarte/2021/Comvex_Raport_anual_2020.pdf))

6. Commercial company “Constanta South Container Terminal” Ltd, Project “Modernization and development of the capacity of the port of Constanta - development of the port infrastructure in the development area A, MOL II-S Constanta South Port by expanding the port platform facilitating multimodal transport”, Constanta, 2021. (<https://www.dpworld.com/constantia>).
7. Commercial Company “Decirom” SpA, “Official Documents”, Constanta, 2022. (<http://decirom.ro/>).
8. Commercial Company “Frial” SpA, “Official documents”, Constanta, 2022. (<https://frial.ro/despre-noi/>).
9. Commercial Company “Oil Terminal SpA Constanta”, “2021 Annual Report”, Constanta, 2022. ([https://oil-terminal.com/despre\\_oilterminal/investitii/](https://oil-terminal.com/despre_oilterminal/investitii/)).
10. Commercial Company “Socep” SpA Constanta, “2021 Annual Report”, Constanta, 2022. (<https://www.socep.ro/news/>).
11. Commercial Company “Umex” SpA, “Annual Report 2021”, Constanta, 2022. (<https://umex.ro/documente-publice/>).
12. Commercial Company “United Shipping Agency” Ltd, Constanta, “Cofco International Romania” Group, “Development strategies”, Bucharest, 2022. (<https://www.cofcointernational.com>).
13. Hamburg Port Authority (HPA), “Official Documents”, “Smart Port”, Hamburg, 2022. <https://www.hamburg-port-authority.de/en/hpa-360/smartport>
14. Ministry of Transport (MT), “Strategy for sustainable transport for the period 2007-2013 and 2020, 2030”, Bucharest, 2008. ([https://www.mt.ro/web14/documente/strategie/PLAN\\_STRATEGIC.pdf](https://www.mt.ro/web14/documente/strategie/PLAN_STRATEGIC.pdf)).
15. National Company “Maritime Ports Administration” SpA Constanta (MPA), “Programs and strategies”, 2022. ([https://www.portofconstantza.com/pn/page/np\\_programe\\_strategii](https://www.portofconstantza.com/pn/page/np_programe_strategii)). ([https://www.portofconstantza.com/pn/page/np\\_modele\\_cereri](https://www.portofconstantza.com/pn/page/np_modele_cereri)).
16. National Company “Maritime Ports Administration” SpA Constanta (MPA), “Annual Report 2021”, Constanta, 2022, pp. 19-20. ([https://www.portofconstantza.com/pn/page/np\\_rapoarte\\_studii](https://www.portofconstantza.com/pn/page/np_rapoarte_studii)).
17. Rotterdam Port Authority (RPA), “Online Work Tools”, Official Website, Rotterdam, 2022. <https://www.portofrotterdam.com/en/services/online-tools>
18. Thessaloniki Port Authority (TPA), “Smart Marketing Department”, Thessaloniki, 2022. <https://www.thpa.gr/index.php/en/olth/2014-01-04-22-57-18/organizational-structure>
19. <https://www.google.ro/maps/>.

# EVALUATION OF THE CONTRIBUTION OF QUALITY EDUCATION TO THE ACHIEVEMENT OF SUSTAINABLE DEVELOPMENT GOALS

Radu Rusu<sup>1</sup>  
Camelia Oprean-Stan<sup>2</sup>

## Abstract

*The foundations of today's society include globalization, information, communication technologies, knowledge-based economy, innovation and science. As a result, future development will be determined by the capacity of individuals to acquire the technologies of the 21st century and to innovate and improve upon what currently exists. This article explores the influence of various indicators related to the quality of education on the Sustainable Development Goals (SDGs) in EU Member States. This study's findings reveal the dynamics and the relationship between the selected indicators. Metrics such as mean years of schooling, lifelong learning, the rate of school dropouts and the number of new Ph.D. graduates demonstrate the significance of quality education to the achievement of the sustainable development goals. This article includes additional factors, such as the Human Development Index and R&D investment, to provide a broader picture of how education positively influences the SDGs Index. According to the findings, development through education is a concept whose materialization consists of the intersection between investments in education and research and the participation of young talent in the national labor market.*

**Keywords:** sustainability, development, education, research, competencies, school dropout

**JEL Classification:** O11, O15, O21, O31

## 1. Introduction - The importance of quality education for development

Given the current challenges Europe is facing, such as the energy crises, the rising inflation, the consequences of the pandemic and the conflict in the east, strategies and models are required to ensure the population's well-being. From the variety of possible strategies, this article addresses those that refer to development through education.

Development represents a general goal towards which every country invests various types of resources. Sustainable development represents the solution to both modern problems and potential future problems. Development implies that every individual has access to quality education and communication technologies. Therefore, the risks of poverty and hunger are limited. In addition, sustainable development assures the optimum conditions for education to have its positive impact towards economic growth, without the accentuated consumption of nonrenewable resources.

Sustainable development for the 2030 horizon has its core signification determined by a sum of different goals from various fields. Based on the Sustainable Development Goals (SDGs - established by the United Nations General Assembly in 2015) vision, for a country to develop in a sustainable manner, the following 17 goals, each having a share of equal importance, must be accomplished: no poverty, no hunger, well-being, quality education, gender equality, clean water, affordable energy, economic growth, innovation & infrastructure, reduced inequalities, sustainable cities, responsible consumption, climate action, life below water & on land, justice and strong institutions. The global average of the SDGs Index Score for a number of 177 countries in 2021 is of 66.9 (data processed from [SDGs Index](#)), whereas the long-term value is of 100. Sustainable development is a subject addressed differently by countries of different levels of development. While the top developed countries have to focus on their spill over effects and environment friendly actions, the countries with lower levels of development have to focus on diminishing poverty, hunger and offering primary and secondary education to children ([Osunyikanmi, 2018](#)).

---

<sup>1</sup> PhD student, "Lucian Blaga" University, Sibiu, , raduav.rusu@ulbsibiu.ro

<sup>2</sup> University Professor, PhD, "Lucian Blaga" University, Sibiu, Romania, camelia.oprean@ulbsibiu.ro

The sustainable development goal addressing quality education has as its first subobjective the rate of participation in pre-primary organized learning for children aged 4 to 6. Regarding this indicator, the global data for the year 2021 (data processed from [SDGs Index](#), indicator name 'n\_sdg4\_earlyedu'), including the data available for 177 countries, points to an average value of 63.4, whereas the long term objective is a value of 100. The higher the value, the greater the number of children participating in this type of education. The relevance of this subobjective is given by the importance that early childhood development (ECD) has towards the improvement of health, education and productivity of the future human capital of a nation. The second subobjective is represented by the net primary enrollment rate. The average value is of 85.7 and the long-term value is of 100 ( data processed from [SDGs Index](#), indicator name 'n\_sdg4\_primary'). The higher the value, the greater the number of children who have attend this level of education. The third and fourth subobjectives address the lower secondary completion rate and the literacy rate. The average values for 2021 are of 72.3 and 82.8 respectively data processed from [SDGs Index](#), indicator name 'n\_sdg4\_second' and 'n\_sdg4\_literacy'). These values highlight the importance basic education has towards the achievement of the sustainable development goals. Thus, reaching the target values of 100 assures that all children have completed at least the lower secondary education and that all adults have the minimal literature competencies.

The heart of a nation's strength is its educational system, which must be of the best quality. To help individuals to compete globally, a nation must provide calibrated education ([Malik, 2018](#)). This quality education refers to skills and abilities that allow the individual to efficiently use the elements characteristic to the digital era, to work in different types of settings in order to accomplish common goals, to have a innovative, creative and critical approach towards problem solving. Furthermore, quality education also has a positive impact on employability ([Rusu and Bătușaru, 2021](#)). Today's intellectual work environments are characterized by complexity and competitiveness, thus it is mandatory that students are offered quality education. In addition to employability, quality education must be linked to lifelong learning through teaching students to learn on their own (how to find information, how to analyze it, how to turn it into knowledge, how to apply it).

Among the challenges that the educational system faces at a global scale are: the rate of school dropout, the number of pupils scoring low in the PISA tests, the degree of digitalization, the extent of adults participating in educational or training programs and even the public expenditure with education ([Malik, 2018](#)). The importance of these indicators towards sustainable development is further outlined by the fact that in today's economies, the share of productivity of the industrial sector has been replaced by technology, knowledge and innovation. The rapid changes in economies and technologies must be met by an equal degree of individual's training, education and abilities. Therefore, the rate of school dropout limits not only the possibilities for innovation, knowledge sharing or employment, but also the degree by which the individual can adequately utilize basic technologies. To some extent, this statement can occur in the case of lifelong learning as well. In order to cope with this type of change, individuals must further enrich their knowledge through training programs. Further on, the percentage of pupils that are low achievers in science, reading and mathematics tests represent a key indicator for the quality of education ([Sulis et al., 2020](#)). This, together with the rate of school dropout, represent a series of problems directly affecting the possibilities for development.

A country's average level of IQ has been shown to be statistically related to economic growth ([Lynn et al., 2002](#)). In addition to this, the importance of human capital in the knowledge based economy was highlighted through the relationship between motivation, knowledge, performance and innovation ([Rusu et al., 2022](#), [Koudelková et al., 2015](#), [Jones et al., 2006](#)).

In order to highlight the importance of education towards development, a correlation analysis between the HDI and the PISA tests' scores was performed and presented in table 1. The subject of the analysis consists of the OECD countries + Romania and targets the years 2006, 2009, 2012, 2015, 2018 ( processed data from [PISA](#) and [HDI](#) )

**Table 1. Correlation analysis of PISA scores and HDI**

Correlations		Reading	Mathematics	Science	HDI
Reading	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	188			
Mathematics	Pearson Correlation	.910**	1		
	Sig. (2-tailed)	0			
	N	188	190		
Science	Pearson Correlation	.938**	.945**	1	
	Sig. (2-tailed)	0	0		
	N	188	190	190	
HDI	Pearson Correlation	.728**	.741**	.694**	1
	Sig. (2-tailed)	0	0	0	
	N	188	190	190	190

\*\* Correlation is significant at the 0.01 level (2-tailed).

Source: Data processed from PISA & HDI

According to the findings, the greater the students' scores in mathematics, science, and reading, the higher the HDI would be. This statement is valid the other way around as well: the higher the HDI is, the higher will pupils score in mathematics, reading and science. These two go hand in hand, given that in order to fund education, resources that can make this possible are needed, as well as the general and governmental choice to do so. Based on table 1, we can conclude upon the relevance education has towards development. Of course, the complete image of the HDI is not entirely related to only the PISA tests' scores. However, education tends to have positive and direct implications in innovation, resources consumption and social well being.

This study examines the potential relationship between the level of a country's achievement of sustainable development goals (as measured by the SDGs Index) and indicators of quality education, such as the mean years of schooling, lifelong learning, the public and business R&D expenditure, the school dropout rate and the number of doctoral graduates. This study's major objective is to determine the extent to which these indicators may impact a country's level of achievement of sustainable development goals.

## 2. Methodology

In order to determine if quality education has a significant and positive impact on the achievement of the sustainable development goals, this article examines the impact of various indicators relevant to the quality of education on the SDGs in EU Member States and Iceland.

### 2.1. Indicators and data collection

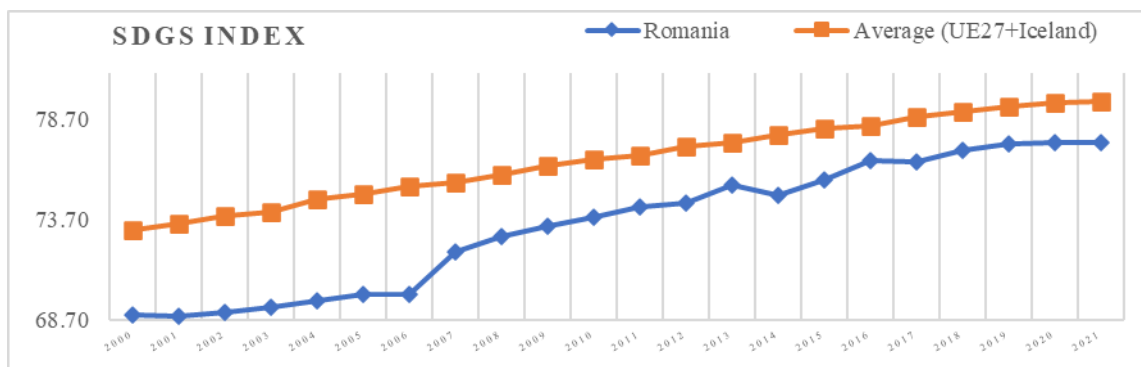
The data comprises of eight indicators gathered from various sources (presented in table 2). The time frame is seven years, from 2015 to 2021, and encompasses 28 nations, including 27 EU members and Iceland. The dependent variable of the subsequent analyses, indicator 1 (Sustainable Development Goals Index) reveals the amount to which the achievement of the sustainable development goals is impacted by the other seven independent factors. The purpose of indicator 2 (Human Development Index) is to illustrate the potential link between development and sustainability. The third through eighth indicators represent the quality of education as well as ways to capitalize on it through research and innovation.

**Table 2. Data collection**

No	Indicator	Source of data
1	Sustainable Development Goals Index	SDG Dashboard
2	Human Development Index	UNDP
3	Mean years of schooling	UNDP
4	Lifelong learning	Eurostat
5	School dropout rate	Eurostat
6	New doctorate graduates	European Commission (Summary Innovation Index)
7	R&D expenditure in the public sector	European Commission (Summary Innovation Index)
8	R&D expenditure in the business sector	European Commission (Summary Innovation Index)



Regarding the values of the SDGs Index from 2000 to 2021 (graph 1), Romania recorded a 12.55 percent growth compared to the UE27+Iceland rise of 8.73 percent. Despite the fact that Romania's value for this indicator was 5.84 percentage points below the UE27+Iceland average in 2000, given the potential stability over time of the average annual growths registered for this indicator, with an annual growth greater by 0.17 percentage points than the UE27+Iceland average, it is anticipated that Romania will close the gap of 2.54 percentage points within 16 years (data processed from [SDGs Index](#)).



**Graph 1:** SDGs Index dynamics and evolution over time

Source: The authors' processing based on data from <https://dashboards.sdgindex.org/map>

Sustainable development is achievable through individuals' efforts and initiatives. The more educated an individual is, the more chances there are that the SDGs can be accomplished. A country's human capital can be enriched qualitatively through the population's participation in educational processes to a greater extent. A primary indicator that precisely reflects this statement is the rate of school dropout. It outlines the percentage of the population aged 18 to 24 years with and elementary (low) level of education that is not attending any form of training/education. A low level of education is considered to be at most primary school. From the point of view of sustainability, this indicator also reflects 1) the population that is at a higher risk of poverty, of social exclusion, marginalization and 2) the quality of the educational system. Therefore, its importance is outlined with regards to the degree by which the SDGs are achievable.

Furthermore, the rate of school dropout for individuals aged 18 to 24 years can have a negative impact on both the mean years of schooling and the expected years of schooling. Mean years of schooling is an indicator that shows the average number of completed years of education by individuals aged 25 or older, whereas the expected years of schooling indicates the number of years a child of 2 years or younger might expect to accomplish if the social patterns are respected. As a consequence, the lower the rate of school dropout, the higher the number of years of completed education for adults will be. Therefore, a possible solution for diminishing the rate of school dropout is the expenditure on education, which in turn will positively influence the two indicators above. A higher number of years of education can prove to be beneficial in order to accomplish the SDGs. Given the relationship between the attained educational level and income, the percentages of individuals at risk of poverty and hunger will diminish as a consequence. Furthermore, lowering the number of adults that have attained only a primary level of education due to school dropout, a positive impact can be expected to indicators such as lifelong learning, digitalization, economic growth and so forth.

As a means to reach the 2030 sustainability targets, lifelong learning represents an additional solution. In our study, this concept is materialized by the degree of participation in educational or training processes of people aged 25 to 64, as a percentage of the total population aged 25 to 64. The positive implications it has towards sustainability reside in the fact that lifelong learning is: a means to the knowledge based economy, a possibility to adapt with ease to the changes in technology, a determinant of digitalization and to some extent innovation. The rapid changes in technologies and economies demand an answer in kind. This answer can be lifelong learning, given the traits it grants to the individual, such as adaptability, knowledge and awareness of the socio-economic context.

Having outlined the primary elements characteristic to the quality of education in our study, the focus shifts towards indicators depicting the expenditure with research and development activities. Presumably a country's level of human capital presents for the most part only highly educated and trained



individuals, then the degree of innovative possibilities is determined by this type of expenditure. In addition to this, a low volume of resources invested in the research & innovation field in a given country, translates to a work domain that is neither attractive nor profitable enough for the young talents. Therefore, the latter shall choose, given the possibility, to invest their time and abilities in a country that presents a better work offer. This in turn leads to accentuated regional discrepancies, as well as investments in education that are not recoverable. Thus, public expenditure with research & development can be directly related, to some extent, to the phenomenon known as *'the mass brain exodus'*.

The expenditure with research and development is reflected, in our study, by the indexes for R&D expenditure both in the public sector and in the business sector. Given that this type of expenditure can be related to employment, the index depicting the newly graduated doctorates is worth taking into consideration. As mentioned above, development implies the existence of innovation and quality education. Thus, an environment that is characterized by investments in research and development offers the optimum conditions where knowledge can thrive. In addition, while the newly doctorate graduates can be considered to incorporate the positive results of education, research and lifelong learning, they can also be considered to represent the future development of the same three aspects. Thus, knowledge is enriched and the sustainable characteristics for development are set.

Although development is reflected by research expenditure and doctorate graduates as well, it might not be sufficient to wholly justify sustainability. The Human Development Index incorporates education, health and standards of living. However, its contribution towards the achievement of the SDGs can have both positive and negative impacts. Although, as mentioned above, education can have only positive outcomes, the standards of living, reflected through consumption mainly, can prove to be one of the negative influences. Given that HDI reflects that standards of living through gross national income per capita, it is correct to assume that it does not entirely take into account other elements specific to the SDGs. Such elements, related to sustainability, can be the environment, the rate of consumption of the nonrenewable resources.

## **2.2. Methods and Results**

The Sustainable Development Goals Index is derived from a composite of 17 sub-indicators. The indicators comprising the fourth objective, quality education, are the participation rate in pre-primary organized learning, the rate of primary education net enrollment, the rate of lower secondary education completion and the literacy rate. This article examines the extent to which measures of quality education have a positive influence on EU Member States' SDG achievement. Thus, the following hypothesis are established:

- 1) The mean years of schooling, lifelong learning and the SDGs Index are positively correlated;
- 2) The public & business R&D expenditure is positively correlated with lifelong learning and the SDGs Index;
- 3) The rate of school dropout negatively affects both the mean years and the SDGs Index;
- 4) A decrease of the school dropout rate has, in counterpart, an increase of the SDGs Index value;
- 5) An increase of the mean years of schooling determines an increase of the SDGs Index value;
- 6) Increments in lifelong learning, doctorate graduates and R&D expenditure positively affect SDGs Index value.

According to table 3, all of the seven indicators are statistically correlated with the SDGs Index. The expenditure with research and development is correlated with the SDGs Index, the HDI, lifelong learning as well as the new doctorate graduates. This depicts an image where sustainable development is achievable through education and its means to innovate. The indicator representing the new doctorate graduates is correlated with the SDGs Index, the HDI and lifelong learning. This strengthens the importance education has towards sustainable development. However, it adds the detail of research expenditure. As mentioned previously in this paper, the investments in education must be met with an equal effort for employability. In order for the investments to begin to produce added value for the economy and towards the sustainability goals, measures for the employment of the young talents are needed.

**Table 3. Correlation analysis**

Correlations		SDGs Index	Human Development Index	Mean Years of Schooling	Life long learning	School dropout rate	New doctorate graduates	R&D expenditure in the public sector	R&D expenditure in the business sector
SDGs Index	Pearson Correlation	1							
	Sig. (2-tailed)								
Human Development Index	Pearson Correlation	.576**	1						
	Sig. (2-tailed)	0							
Mean Years of Schooling	Pearson Correlation	.296**	.380**	1					
	Sig. (2-tailed)	0	0						
Life long learning	Pearson Correlation	.653**	.727**	.267**	1				
	Sig. (2-tailed)	0	0	0					
School drop out rate	Pearson Correlation	-.173*	-0.131	-.279**	0.006	1			
	Sig. (2-tailed)	0.016	0.068	0	0.933				
New doctorate graduates	Pearson Correlation	.685**	.578**	0.087	.563**	-0.12	1		
	Sig. (2-tailed)	0	0	0.226	0	0.094			
R&D expenditure in the public sector	Pearson Correlation	.711**	.657**	.336**	.669**	-.146*	.692**	1	
	Sig. (2-tailed)	0	0	0	0	0.041	0		
R&D expenditure in the business sector	Pearson Correlation	.769**	.686**	.281**	.640**	-0.114	.731**	.766**	1
	Sig. (2-tailed)	0	0	0	0	0.111	0	0	
** Correlation is significant at the 0.01 level (2-tailed).									
* Correlation is significant at the 0.05 level (2-tailed).									

Source: The authors' findings based on the data in Table 2

The school dropout rate is negatively correlated, but with moderate to low intensities, to the SDGs Index and the mean years of schooling. However, given the connection between all of the indicators, it is correct to assume that the rate of school dropout will have a more accentuated impact on the SDGs Index through its additional influences on the other indicators. Nevertheless, the base of sustainability is represented by education and its links to poverty, inequity, digitalization, innovation, consumption.

The SDGs Index and the HDI are positively and highly connected with lifelong learning. This indicates that persons above the age of 25 must enroll in training programs to maintain their technological proficiency. Lifelong learning is responsible, among others, for knowledge sharing, which in turn contributes to the creation of a larger existing data pool. The relationship between lifelong learning and the mean years of schooling can be considered, in this case, to be only at a mathematical level. The greater the number of years the education, the greater the chance the individual will attend part of them at an age of 25 or older. Nevertheless, the mean years of schooling is positively correlated to lifelong learning, which in turn is likewise correlated with the SDGs Index. Judging based on this finding, the higher the mean years of education, the higher the rate of adults participating in educational or training programs and lastly the higher the SDGs Index will.

The Human Development Index is positively and strongly correlated to the SDGs Index. This can imply the fact that education, as a subcomponent of both indexes, has a visible share part in achieving both development and sustainability. Although, as far as this study is concerned, education represents a communality for the two indexes. However, there are substantial differences among them such as the addressing of: poverty, hunger, green energy, natural resources, impact on environment. As far as the indicator depicting the school dropout rate is concerned, it appears to be statistically correlated with other indicators. However, their relationships are of a low intensity. As expected, the volume of expenditure with research and development positively influences the SDGs Index.

The first three hypothesis have been confirmed. The mean years of schooling are statistically correlated with lifelong learning and the SDGs Index. Both public and business research and development expenditures are positively correlated with the SDGs Index and lifelong learning. This type of expenditure is necessary in order to create an environment where innovation can be conducted and knowledge shared. The rate of school dropout has a negative impact on three of the seven indicators. Therefore, a lower rate of school dropout determinates an increase in the SDGs Index, the mean years of schooling and the research expenditure in the public sector.

Further on, given that the correlation between the eight indicators have been established, this study implies a regression analysis. In table 4, the SDGs Index value is the dependent, while the other items mentioned in table 2 are the independents. Therefore, the following analysis will verify hypothesis 4,5 and 6.

**Table 4. Regression analysis**

Regression Statistics	
Multiple R	0.827
R Square	0.684
Adjusted R Square	0.672
Standard Error	1.856
Observations	196

ANOVA					
	df	SS	MS	F	Significance F
Regression	7	1400.049	200.007	58.091	0.000
Residual	188	647.287	3.443		
Total	195	2047.336			

	Coeff.	Std. Err.	t Stat	P-value	Lower 95%	Upper 95%	Lower 95%	Upper 95%
Intercept	82.984	4.838	17.151	0.000	73.440	92.529	73.440	92.529
HDI	-13.166	5.744	-2.292	0.023	-24.497	-1.836	-24.497	-1.836
Mean years of schooling	0.241	0.143	1.684	0.094	-0.041	0.524	-0.041	0.524
Life_long_learning	0.111	0.026	4.208	0.000	0.059	0.163	0.059	0.163
School_drop_out	-0.063	0.035	-1.832	0.069	-0.131	0.005	-0.131	0.005
New doctorate graduates	0.017	0.005	3.208	0.002	0.006	0.027	0.006	0.027
R&D expenditure in the public sector	0.010	0.006	1.680	0.095	-0.002	0.023	-0.002	0.023
R&D expenditure in the business sector	0.026	0.005	5.580	0.000	0.017	0.036	0.017	0.036

Source: The authors' findings based on the data in Table 2

Based on the regression analysis presented in table 4, the following formula is obtained:

$$y = \alpha + (-13.166) * x_1 + 0.241 * x_2 + 0.111 * x_3 + (-0.063) * x_4 + 0.017 * x_5 + 0.010 * x_6 + 0.026 * x_7 + \epsilon,$$

where y represents the dependent variable (SDGs Index) and  $x_i, i=1,7$ , represent the seven independent factors.

The R square value of 0.684 points out that the independent variables are responsible for the variation of the SDGs Index by up to 68.4%. Thus, the model presented explains 68.4% of the total data of the 196 observations. The F significance of the regression is less than 0.01 and demonstrates that the model is adequate. The statistically significant coefficient of the HDI suggests that between the SDGs Index and the HDI is a negative relationship. An increase of the HDI value by 1 unit determines a decrease of the SDGs Index by 13.166 units. This might be justified by the fact that the component elements of the HDI do not include the majority of the SDGs Index elements. For example, natural resources and their renewability and CO2 emissions do not address the HDI. While the HDI particularly scores high values for advanced countries, the SDGs Index might register similar scores for countries of different levels of advancement. This is due to the fact that the component elements of the SDGs Index are not so strongly interconnected as those of the HDI. The second independent variable has a positive impact towards SDGs. An increase of the mean years of schooling by 1 year leads to an increase of the SDGs Index by 0.241. Although, in this case, the statistical analysis does not appear to influence the value of SDGs Index by a substantial amount, it is worth considering the adjacent implication of this indicator. As the mean years of schooling increases, so does the rate of adults participating in training programs, the number of newly graduated doctorates and so do the possibilities for innovation. It is correct to assume that these indicators have an influence on the SDGs Index, as well as between themselves.

An increase in the percentage of adults participating in training programs by 1 percentage leads to an increase of the SDGs Index value by 0.111. This indicator's impact can be more significant, as long as the education and training attended imply digitalization and the use of technology. Although the influence is modest, it is worth mentioning that lifelong learning can be a solution for the achievement of the SDGs, through its indirect implications in employment, digitalization and knowledge sharing.

A decrement of 1 percentage in the rate of school dropout has a modest influence towards the achievement of the SDGs. The value of -.063 suggests that, from a statistical point of view, this indicator has little to no impact towards the accomplishment of the SDGs. However, on the long term, the decreasing rate of school dropout is expected to have positive impact on poverty, hunger, unemployment, digitalization. Lastly, the hypothesis 4 was confirmed, given the coefficient's value of

-0.063 for the rate of school dropout. This coefficient can be considered to be even higher, bearing in mind the additional positive implication this indicator has on other relevant indicators such as: the mean years of schooling, lifelong learning, digitalization, etc. Hypothesis 5 was also confirmed. The positive impact mean years of schooling has towards the SDGs Index is outlined by the positive coefficient's value of 0.241. Therefore, a direct and positive outcome can be expected towards the achievement of the SDGs by increasing the average number of years the population has attended. In addition, with a higher average of education years come various implication in other areas, such as innovation, employment, digitalization, etc. The last 3 indicators, outlining innovation and research have been shown to positively influence the SDGs Index, but to a minimal extent. The coefficients of 0.01 to 0.026 depict the image that the SDGs Index is hardly influenced by these three indicators. However, innovation and research are fields that require time for their outcomes to materialize.

### 3. Conclusions

The relevance of lifelong learning and the school dropout rate is emphasized in the context of sustainable development as a central aim achievable via educational and innovative means. The statistical analysis performed in this study reveal the correlation between the selected metrics. Indicators such as mean years of schooling, lifelong learning, the rate of school dropouts and the number of new PhD graduates illustrate the contribution of quality education to the accomplishment of the sustainable development goals. In addition, in order to have a clearer picture of how education positively affects the SDGs Index, this article incorporates additional variables, such as the Human Development Index and R&D expenditure. As the purpose of this study was to emphasize the role of education in achieving sustainable development, these two metrics provide further information, since the contributions of education must shift from a singular focus on development to one on sustainable development. This transition is possible due to the technological, digital, and creative educational opportunities available.

This study has confirmed the predetermined objectives and hypothesis. Consequently, it is observable that the skills of students in disciplines such as mathematics, reading and science are highly and positively correlated with development. In contrast, according to this research, development via education is a notion whose materialization consists of the junction between investments in education and research and the engagement of young talent on the national labor market. As previously stated, as long as expenditures in education are not matched by an equivalent interest in hiring freshly graduated workers, the influence of quality education on achieving the SDGs is diminished. A country's degree of development is reflected, among other things, by its level of digitization. This is a goal whose achievement is strongly tied to lifelong learning. This is demonstrated by the involvement of adults in educational and training programs. Due to technological advancements and the necessity for digitalized processes, there is an increased demand for individuals who can successfully adapt to these changes.

### References

1. Jones, G., Schneider, W.J. (2006) Intelligence, Human Capital, and Economic Growth: A Bayesian Averaging of Classical Estimates (BACE) Approach. *J Econ Growth* 11, 71–93. <https://doi.org/10.1007/s10887-006-7407-2>
2. Koudelková, P., Milichovský, F. (2015). Successful innovation by motivation. *Business: Theory and Practice*, 16(3), 223-230. <https://doi.org/10.3846/btp.2015.472>
3. Lynn, R., Tatu V. (2002). *IQ and the Wealth of Nations*. Westport, CT: Praeger Publishers.
4. Malik, R.S. (2018). Educational challenges in 21st century and sustainable development. *Journal of Sustainable Development Education and Research*, 2(1), 9-20
5. Osunyikanmi, A. F. (2018). Prioritizing Quality Education in Nigeria: a Commitment to Sustainable Development Goals. *International Journal of Advanced Studies in Economics and Public Sector Management*, 6(2), 221-224.
6. Rusu, R., Batusaru, C.M. (2021) *The Role of Human Capital in the Process of Economic Growth: The Case of Romania*, LAP LAMBERT Academic Publishing.
7. Rusu, R., Sbârcea, I., Bătușaru, C.M. (2022) The Impact of Knowledge Assets in Motivating Employees and its Role in Business Performance. *Studies in Business and Economics*, 17(2), 227-238. <https://doi.org/10.2478/sbe-2022-0035>

8. Sulis, I., Giambona, F. Porcu (2020). M. Adjusted indicators of quality and equity for monitoring the education systems over time. Insights on EU15 countries from PISA surveys. Socioecon. Plann. Sci. 69, 100714.
9. European Innovation Scoreboard 2022. Retrieved from <https://ec.europa.eu/research-and-innovation/en/statistics/performance-indicators/european-innovation-scoreboard/eis>
10. Eurostat indicators. Retrieved from [https://ec.europa.eu/eurostat/databrowser/view/trng\\_lfs\\_02/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/trng_lfs_02/default/table?lang=en)  
[https://ec.europa.eu/eurostat/databrowser/view/edat\\_lfse\\_14/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/edat_lfse_14/default/table?lang=en)
11. HDI values. Retrieved from <https://hdr.undp.org/data-center/documentation-and-downloads>
12. Innovation related indicators. Retrieved from <https://ec.europa.eu/research-and-innovation/en/statistics/performance-indicators/european-innovation-scoreboard/eis>
13. PISA test scores values. Retrieved from <https://pisadataexplorer.oecd.org/ide/idepisa>
14. SDGs Index values. Retrieved from <https://dashboards.sdgindex.org/explorer>
15. Sustainable Development Goals Index. Retrieved from <https://dashboards.sdgindex.org/map>

# SMALL AND MEDIUM SIZE ENTERPRISES ROMANIAN'S CHANCE TO GET OUT OF A NEVERENDING CRISIS

Țâmpu Diana Larisa<sup>1</sup>

## Abstract

*It seems that the last 2 years were one of the hardest. But, it looks like the next ones will be harder. In these days of hard work, uncertainty and crisis it's good to remember the following words from Albert Einstein: "Let's not pretend that things will change if we keep doing the same things. A crisis can be a real blessing to any person, to any nation. For all crises bring progress. There's no challenge without a crisis. It's in the crisis where we can show the very best in us."*

*The main purpose of this study is to present the role that the small and medium size enterprises have in Romanian's economy. The study employed basic measures of descriptive statistics about the regional and local startup ecosystem, the birth rate and death rate of business as well as the obstacles identified by Romanian entrepreneurs in starting a business.*

*The study is structured in 5 sections: the impact of entrepreneurship, the regional and local startup ecosystem, the profile of new entrepreneurs, the regional and local startup ecosystem.*

**Keywords:** transition, Romania, crisis, entrepreneurship, business

**Classification JEL:** P20, H12, L26

## 1. Introduction

There are differences in the growth rate of regional startups all around the globe, from Europe to the United States: If the European ecosystem were to grow at the same pace as the US, an estimated 1 million new jobs would be created and growth would be up to € 2000 billion in GDP for the next 20 years. On average, startups currently have 13 employees after 2.5 years and plan to hire between 7 and 8 people in the next twelve months.

In fact, one of the strengths of the European Union is represented by the ecosystem of startups: since 2017 and until now it generates revenues of over 430 billion euros. In order to continue to grow and for companies to expand and enter other markets, regulations are needed on VAT, new technologies and innovations that can be challenged and restricted by current EU laws.

## 2. Local, regional, global entrepreneurship

The 2020 Amway Global Entrepreneurship Report examines five issues that support the development of the business environment:

- tax management;
- the existing rules and regulations in each country;
- the education system as a provider of necessary skills;
- the available technology;
- the economic situation in that country.

All over the world, small and medium-sized enterprises (SMEs) are the engine of the economy. They play a vital role in the sustainable functioning of local markets, but also of the global market. They employ 50% of the total workforce globally, while in Romania they represent 66% of it. In addition to SMEs, and as a distinct category of these, start-up and scale-up small businesses, which are at the beginning of the road and which are defined by an accelerated growth process, contribute significantly to socio-economic development by as seen in table no. 1:

- creating new jobs
- increasing economic dynamism by stimulating innovation
- creation of new industries

---

<sup>1</sup> Phd lecturer Artifex University of Bucharest, Romania, e-mail: [dtampu@artifex.org.ro](mailto:dtampu@artifex.org.ro)

**Table no. 1 Romania vs the globe in terms of tax management**

	Romania	Global average
<i>Tax management is easy to control / manage in proportion to:</i>	26%	33%
<i>The rules and regulations are easy to understand and follow in proportion to:</i>	25%	34%
<i>Skills developed by the education system:</i>	35%	40%
<i>Available technology that makes entrepreneurship easier:</i>	29%	48%
<i>Beneficial economic situation for entrepreneurship:</i>	21%	36%

According to statistics, Romania is below the global average in terms of these issues, so there are still important steps to be taken in terms of improving public policies and procedures for the business environment.

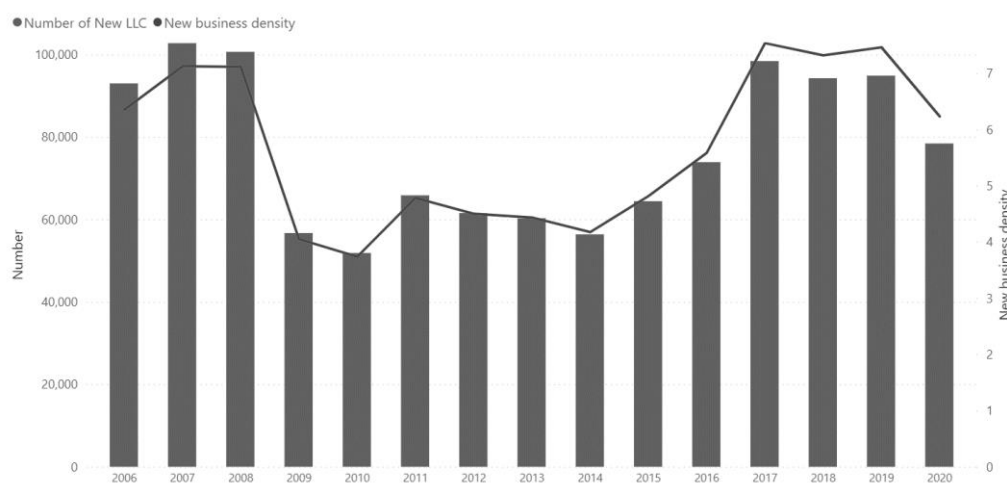
Entrepreneurship also produced important policy improvement, with three dimensions. Romania assumed a standard encouraging female entrepreneurship and two measures sustaining high school entrepreneurial education.

‘Second chance’, ‘responsive administration, entrance to funds, internationalization, and environment included two actions each during the present reference duration. Under ‘responsive government’, a 2030 national strategy for sustainable development was adopted, and an initiative was launched to facilitate the use of e-government keys for companies. On access to finance, two grant programs to promote industrialization and boost SME competitiveness were launched. Under ‘second chance’, two amendments were made to the rules handling bankruptcy and bankruptcy prevention. As for internationalization, Romania put in place two agendas delivering economic and knowledge support to SMEs targeting global markets. Under the ‘think small first’ focus, further taxation legislation enlarged the definition of micro SMEs.

What it is also observed during the research is that in business demography there is a serious imbalance of relationship between the business rate of birth and death, and even between business rate of birth and GDP. From 2020 the business death rate had a reverse trend than the business birth rate, and the gap made by COVID will be visible in 2021.

In addition to all is mentioned before, the way the government sustained the economic and social development by increasing certain fees was a real problem in the development of new business. This is the main reason why we try to demonstrate that governance indicators significantly predict new business creation.

**Figure 1. The number of recently registered businesses with limited liability**



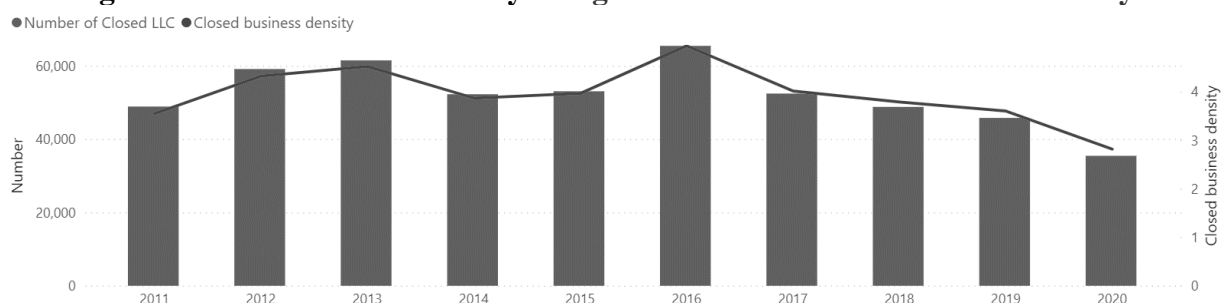


This table estimates the number of recently registered businesses with limited liability (or its equivalent) per calendar year.

The latest industry density is expressed as the number of recently recorded corporations per 1,000 working-age individuals (those ages 15–64). The units of dimensions are private, standard sector businesses with limited liability. The data can support understanding the trends in new company creation across provinces and revenue levels.

Nowadays, Romania is encountering a time of economic increase that is higher than the EU average. According to some projections, the nation will restart on the upswing in the forthcoming years. Development has been strong since 2013, driven by healthy exports and strong industrial production. Since 2010, the outcome of the number of Romanian companies has grown: in 2011, the total number of companies outgrew the pre-crisis level, which was expected in part to the remarkable development of personal entrepreneurs in 2011. Nevertheless, the number of individual entrepreneurs also often raised in the subsequent years, while the number of players was either steady or declined slightly since 2010.

**Figure 2. The number of recently deregistered businesses with limited liability**



This table estimates the number of deregistered businesses with limited liability (or its equivalent), per calendar year.

The closed business density represents the number of closed firms per 1,000 working-age people (those ages 15–64). The units of dimensions are private, formal sector businesses with limited liability. The data can help comprehend trends in the deregistration of limited liability corporations in the business registry databases.

**Table 2. SMEs — basic figures in 2021**

Class size	Number of enterprises			Number of persons employed			Value added		
	Romania		EU-28	Romania		EU-28	Romania		EU-28
	Number	Share	Share	Number	Share	Share	Billion €	Share	Share
Micro	430,925	88.4%	93.0%	930,720	22.8%	29.7%	13.6	17.6%	20.8%
Small	46,299	9.5%	5.9%	903,635	22.1%	20.1%	13.5	17.5%	17.6%
Medium-sized	8,533	1.8%	0.9%	857,129	21.0%	16.8%	13.6	17.6%	18.0%
<b>SMEs</b>	<b>485,757</b>	<b>99.7%</b>	<b>99.8%</b>	<b>2,691,484</b>	<b>65.8%</b>	<b>66.6%</b>	<b>40.8</b>	<b>52.7%</b>	<b>56.4%</b>
Large	1,667	0.3%	0.2%	1,397,566	34.2%	33.4%	36.6	47.3%	43.6%
Total	<b>487,424</b>	<b>100.0%</b>	<b>100.0%</b>	<b>4,089,050</b>	<b>100.0%</b>	<b>100.0%</b>	<b>77.3</b>	<b>100.0%</b>	<b>100.0%</b>

SMEs have an essential role in Romania’s general ‘non-financial industry sector. They generate 52.7% of absolute value added and 65.8% of total occupation, which is inferior to the separate EU averages of 56.4% and 66.6%. The moderate productivity of Romanian SMEs, estimated as value added per person hired, is approximately €15,100, quite inferior to the EU average of approximately €44,600. Romanian SMEs use an average of 5.5 people, overreaching the EU average of 3.9.



In 2021, general SME value added increased by 43.1%, with micro businesses causing the most increased rate, at 63.1%. Over the identical period, SME occupation increased by 7.0%. SME value-added evolution exceeded the value-added growth of big companies, which grew by 34.0%. Occupation rate in large firms rose at a comparable rate to that of SMEs, by 6.8%. In 2021, SME value added resumed its maturation, increasing by 14.6%, while SME occupation rate increased by 2.6%.

### **3. Entrepreneur of the year 2021**

According to data provided by the European Commission, the founder of a startup is male (82.8%), has a university degree (84.8), is currently 38 years old and was 35 years old when he founded the business.

This underlines the fact that, in reality, most founders have skills acquired through university education (84.8%), practical knowledge and experience. It also shows that the development environment of startups is a sophisticated one.

Also, 94.4% share critical information with the team, 77.8% have invested some or all of the savings they have in founding the business and 89.4% give the team / staff a great deal of freedom of action.

Why do they start their own business?

- self-fulfillment (79.1%)
- desire for independence (62.8%)
- because they identified a market opportunity (7.65%)

Entrepreneurship is seen as a career opportunity - 1 in 2 Romanians in urban areas would like to become entrepreneurs. Other information observed after the analysis are:

- The main obstacles identified by the respondents are the unpredictability of the fiscal environment and the high level of taxes (74%)

- in starting their own business, 36.75% of Romanians would choose to build a business from scratch, while 33.4% would develop a business based on their own hobbies and skills developed

- Only 14% would buy a franchise or carry on a family business.

Interest in entrepreneurship showed that 46% of Romanians see entrepreneurship or freelancing as an ideal career alternative, 36% prefer to be employed full-time, while 6.2% opt for a part-time job. Among the advantages / benefits that the respondents identified in this career direction are:

- the opportunity to work in a field they are passionate about (7 out of 10 respondents)
- the freedom to choose the team to work with
- the fact that they would have no bosses
- the opportunity to earn more money

Respondents who do not see entrepreneurship as a viable option for them cite as important reasons factors such as:

- high competition in the market
- responsibilities that come with the status of entrepreneur
- business partners who do not comply with their payment obligations
- fear that they will not have enough free time

According to data provided by the Trade Register, the number of newly established companies is growing - in 2019 more than 116,000 companies and PFAs were established. In March 2020, the COVID-19 crisis severely affected entrepreneurial initiatives, regardless of their legal form (SRL, PFA, II, etc.), with decreases of up to 74% compared to 2019. In the coming months the situation was even worse. The most popular domains are:

- Trade,

- Construction,
- Transport
- Professional, scientific and technical activities.

Demographically, the proportion of male founders versus female founders is unbalanced. The data from 2019 show us that the highest percentage is represented by:

- males - 62.52%,
- the share of females being at 37.48%.

On average, the founders of Romanian business are:

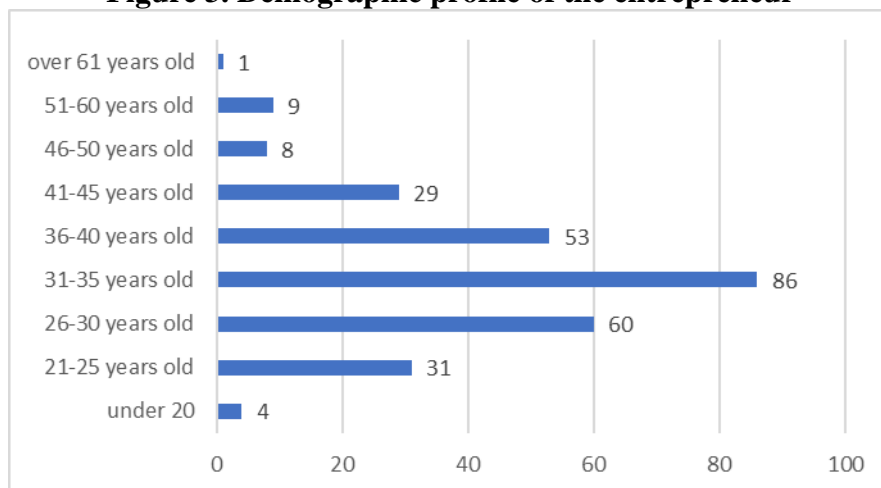
- Males
- aged between 40 and 49 years
- with higher education.

They have a corporate background, multiple entrepreneurial initiatives and play multiple roles in their startups. According to the data extracted from this research

- In terms of age, the best represented segment is 31-45 years old (here we find 60% of respondents).

- In terms of formal training, most followed faculties are Technical (16%), Economics, IT&C or Humanities (14%), and 13% are graduates of Business or Administrative faculties.

**Figure 3. Demographic profile of the entrepreneur**



- 20% of respondents are experienced entrepreneurs and have several active businesses (three or more).

- 65% of them assume multiple roles, the top 3 responsibilities being: sales and business development, management, operational.

- most respondents are on their first initiative / business (53%)

- Most of the entrepreneurs participating in the study have previous professional experience in the corporation, followed by those who were employed in small companies, freelancers and employees in public institutions or NGOs.

#### **4. The regional and local startup ecosystem**

According to the 2018 EU Startup Monitor, an overwhelming proportion of businesses provide an online service / product. Only 0.7% offer offline solutions. In addition to well-represented sectors such as IT / Software Development (19.1%) or Software as a Service (18.5%), new companies were also created in trendy sectors such as Green Technologies (4.0%) and FinTech (5.1%). The profile of European startups

- Status: 46.1% are new entrants, 33.7% are in the process of expanding their business

- Typology: 82.1% are B2B (business to business) and generate all their revenues (46.5%) or in main (25.3%) by collaborating with other companies.

- Geographical area in which it operates: start-ups that record revenue are mostly in continental Europe (84.2%), with a large base in the country of origin of the company (62.4%), followed by others EU countries (17.7%) and the United States (8.9%)

- Expansion in international markets: 88% of startups plan to enter markets in one or more countries in the next 12 months.

- Popular sources of financing: founders' savings (77.8%), business angels (29%) or venture capital (26.3%).

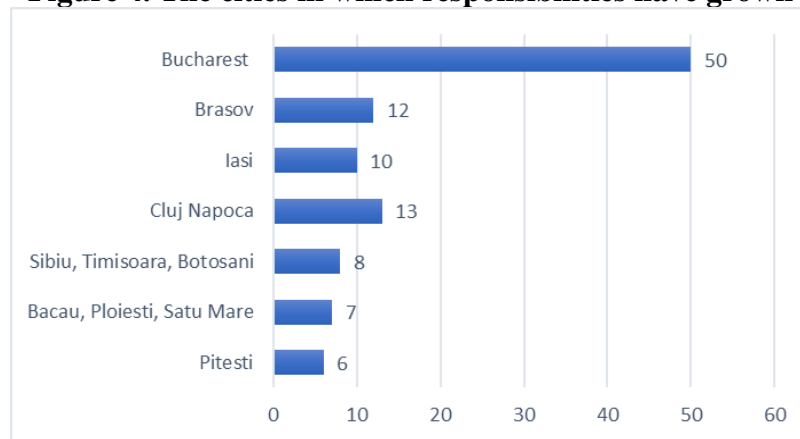
From the Romanian perspective, the data presented by this study show that:

- 62% of the businesses referred to are operational, they have customers

- 38% are startups in the early stages, still working on the idea or launch of the product

- Muntenia and Bucharest claim one third of the projects referred to, followed by Transylvania, with a number of 78 projects and Moldova, with 66

**Figure 4. The cities in which responsibilities have grown**

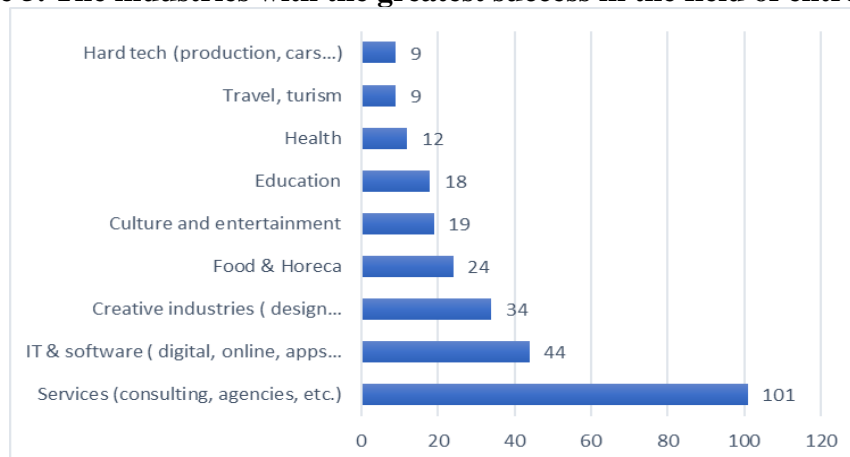


From an industry point of view, many green initiatives stand out. There are also many wellness solutions, healthy eating, micro farming, coaching, holistic therapy centers, applications with information on the health of young children or smart wallet for blind. Even consulting services for HR companies, specialized in the wellbeing of employees and their clients, etc.

- 41% of businesses are a mix between B2B and B2C, and the ratio of B2B versus B2C is balanced: each represents 29%

- 28% of them address the local market, 33% - national, 10% - regional and 29% international

**Figure 5. The industries with the greatest success in the field of entrepreneurship**



The obstacles identified by Romanian entrepreneurs in starting a business include:

- bureaucracy, which they see as the main problem (42%).
- legislation (unclear, unstable) - 12%
- relationship with state authorities (difficult to approach, with employees often incompetent) - 8%
- excessive taxation - 6%
- corruption (especially among institutions) / bribe - 5%.

Another impediment identified refers to local mentalities (31%). However, 7% of respondents believe that the local business environment is no different from the international one. Regarding the accessed sources of financing accessed, one can see the preference for non-reimbursable funds, followed by the funds from angel investors. The sources of funding used are similar in proportion to the trends observed at European level:

- 88% of entrepreneurs financed their business with their own funds (exclusively or in combination with other sources)
- 76% financed their business from a single source
- 63% used exclusively their own funds to start their own business

## 5. Conclusions

According to the number of newly established companies in 2021, the most active sectors are those in trade and car services (25,976 companies), increasing by 17% compared to 2018, construction (12,841), by 25% more, professional activities, scientific and technical (10,888), manufacturing (9680) and transport and storage (9352). The less active and declining sectors of over 50% are in the fields of agriculture, forestry and fishing (7947 companies). In recent years, there has been an increase in the development of the business environment around large cities. Thus, as expected, most shareholders are in Bucharest (324,831). The next cities with the most shareholders are from the counties of Cluj (79,156), Timiș (65,970), Ilfov (63,154), Constanța (57,623), Bihor (48,166) and Brașov (46,945). The counties with the fewest shareholders are the counties of Călărași (11,633), Tulcea (10,920), Ialomița (9935), Covasna (9419) and Mehedinți (9168).

Instead of conclusion the study attempt to indicate that adaption and innovation are the key, especially in a crisis, when it is in fact more needed. And paradoxical is easier in these periods because of the instinct of survival. Like Charles Darwin noted, “*it is not the stronger or the larger who survive, but those more able to adapt*”.

## 6. Bibliography

1. Brown, J. David, John S. Earle, and Dana Lup. "What makes small firms grow? Finance, human capital, technical assistance, and the business environment in Romania." *Economic Development and Cultural Change* 54.1 (2005): 33-70.
2. Chivu, Local entrepreneurship and social services in Romania. Territorial analysis, European Research on Management and Business Economics, Volume 25, Issue 2, 2019,
3. Frâncu, L. G.. "The effects of bureaucracy over the business environment from Romania." *Theoretical and Applied Economics* 21.2 (2014): 115-125.
4. Rumler, F., “Estimates of the open economy New Keynesian Phillips Curve for Euro Area countries”, *ECB Working paper series*, no. 496, 2005;
5. Păunescu C, Popescu MC, Duennweber M. Factors Determining Desirability of Entrepreneurship in Romania. Sustainability. 2018; 10(11):3893.
6. Țâmpu, Diana Larisa, and Carmen Costea. "A Concerning View In The Liquidity Crisis Through The Game Theory." *Journal of Information Systems & Operations Management* 6.1 (2012): 175-184.
7. Larisa, Tampu Diana. "The motivation to sustainable development in times of administrative crisis." *Acta Universitatis Danubius. Administratio* 7.1 (2015).

8. Annual Report - macroeconomic and budgetary developments and prospects – Fiscal Council of Romania, March 2011;

9. <http://databank.worldbank.org/ddp/home.do>

10. <https://www.cia.gov/library/publications/the-world-factbook/index.html>

11. <http://www.ecb.int/stats/html/index.en.html>

12. [http://ec.europa.eu/index\\_en.htm](http://ec.europa.eu/index_en.htm)

13. <http://www.imf.org/external/data.htm>

14. <http://startupmonitor.eu/EU-Startup-Monitor-2018-Report-WEB.pdf>

15. <https://www.onrc.ro/index.php/ro/statistici>

16. <https://www.amwayglobal.com/amway-global-entrepreneurship-report/>

# THE EFFECTS OF PANDEMIC CRISIS CAUSED BY THE COVID-19 REGARDING HUMAN RESOURCES

Adriana Monica, Tegledi<sup>1</sup>  
Boni Mihaela, Straoanu<sup>2</sup>  
George, Enescu<sup>3</sup>

## Abstract

*The effects of the SARS-COV 2 Pandemic on the labor market have been devastating, to say the least, generating a general destabilization of the business environment and raising the number of unemployed people.*

*The total or partial lockdown of some economic activities, the social distancing, the quarantine, the flight and circulation restrictions have all been factors which have affected all activity domains, but also all members of society.*

*Romania, along with every other member states of the EU, will have to adopt the most adequate measures regarding the economic relaunch and the support for people who have been affected by the pandemic.*

**Key Words:** *active population, working population, unemployment, employees, unemployment rate.*

**JEL: Classification: E24**

## 1. Introduction

The International Labor Organization estimated that the impact of COVID-19 has affected 81% of the international workforce (International Labor Organization, 2020), which represents about 2.7 billion workers, directly influencing the activity sectors, with lesser effects in sectors such as: health and social activities, education, public administration and defense, public services, at the opposite pole being sectors such as accommodation and food activities, furniture activities, car repairs, production activities.

The rapid expansion of the global pandemic has led to the identification of developing economic activities, as well as implicitly adapting them to a new type of work – work from home.

## 2. Research Methodology:

This research has the objective of presenting and developing the concept of the labor market during the pandemic.

Starting from specialized literature, from national and international analysis, we set out a definition of effects produced by the pandemic crisis, as well as a presentation of the evolution of unemployment based on age and environment. To reach this objective we've used a fundamental research methodology, we've appealed to comparative analyses of national and EU-level data series.

## 3. Workforce Market in Romania

In this study we've tried to present a part of the sanitary crisis-generated transformations on the labor market, the analysis being redone using data given by the National Institute of Statistics, but also using official reports from the Ministry of Work and Social Protection, starting from the evolution of Romania's population and the workforce's evolution.

The residential population of Romania on the 1st of January 2020 was 19.328.838 people; comparing it to 2019, the number dropped by 30.005 people, due to a negative birth rate as well as international migration (graph no. 1).

---

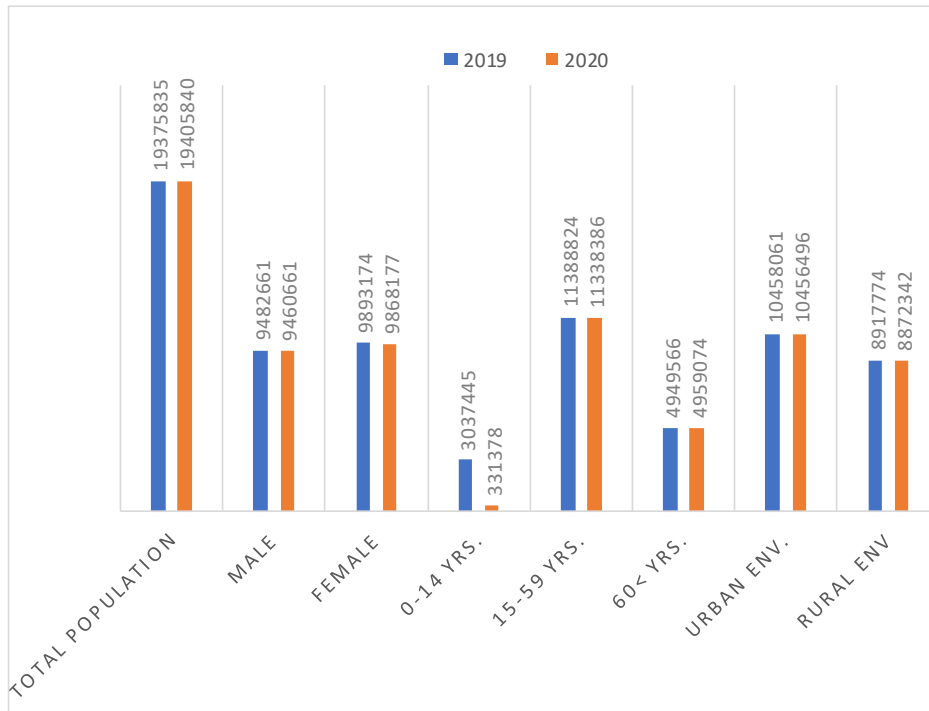
<sup>1</sup> Associate professor, Petroleum and Gas University of Ploiesti, Romania.; Post-graduate, Valahia University of Targoviste, monica\_tegledi@yahoo.com

<sup>2</sup> Associate professor, Petroleum and Gas University of Ploiesti, Romania

<sup>3</sup> Lecturer, Petroleum and Gas University of Ploiesti, Romania,

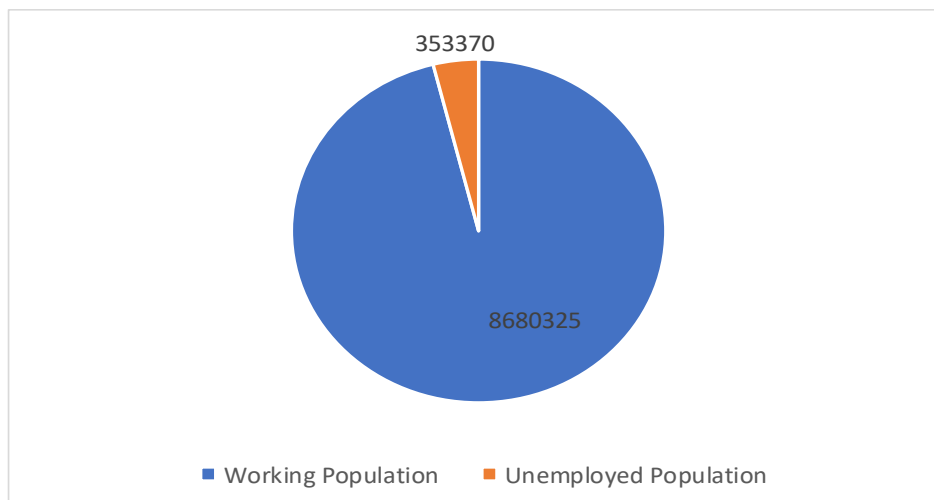
The structure of the residential population is formed of 51.1% women, and if we analyze it through the environment distribution, we can see that 56.4% of the population is located in the urban environment.

Moreover, we can observe that based on the age of the residential population, there's been an accentuated growth of people above the age of 60, representing a rapid process of demographic aging.



Graph no. 1 – The Residential Population based on sex, age and environment  
*Source: INS own data processing*

Regarding the structure of the residential population from the point of view of economic activity participation, we've identified that, in 2019, 9.033.695 people were classified as working population (Graph No. 2), respectively 46,55%, while 10.372.145 people were not working.



Graph No. 2 - The Structure of the Working Population in Romania, 2019  
*Source: INS own data processing*

In 2020, the working population has recorded a drop when compared to the preceding year, reaching 8,973 million people. The structure of this drop contains: 94,96% of the working population and 5,04% of the unemployed. From the unemployed, 23,3% are young people (15-24 yrs.). Among these youngsters there's been recorded a rate of unemployment of 17,3%, an effect of the sanitary crisis, trying to keep the effects of the pandemic under control.

The data published by the National Statistics Institute shows that, on average, for every one working person there's 1,2 people from other categories, which represents a large degree of economic dependency.

If, from the inactive population, we subtract 4,7 million people (representing the average number of retirees) and 3,5 million people (representing students), there's a difference of approximately 2,2 million people who are maintained by other people or the state, or who earn their living by other types of income (rent, dividends, etc.) as well as stay-at-home people, categories with a raised vulnerability in crisis conditions (Chivu & Georgescu, 2020).

The unemployment rate has risen from 3,9% in 2019 to 5% in 2020. Regarding women, there was a 1,3% increase, while in the case of males it was 1%.

Regarding the level of education, the people with primary, secondary and professional studies are the most affected, registering a number of 204 thousand unemployed.

Guy Ryder, the general director if the International Labor Market, declared: "On the current trajectory, as the labor market starts to return, there's a major risk of inequality accentuation. We can see a powerful redirection and pretty good perspectives for people coming from countries with high income and with workplaces for specialists with high qualifications. I believe the others will be on the opposite side."

The sanitary crisis has affected employees from all activity domains, but mostly the ones who worked in the Hospitality Industry; many of them either went into technical unemployment, or remained without a workplace.

From the data given by the Ministry of Work and Social Protection we can observe the effects of the sanitary crisis on the Romanian salariables nationally as well as on activity sectors regarding the number of suspended or canceled work contracts.

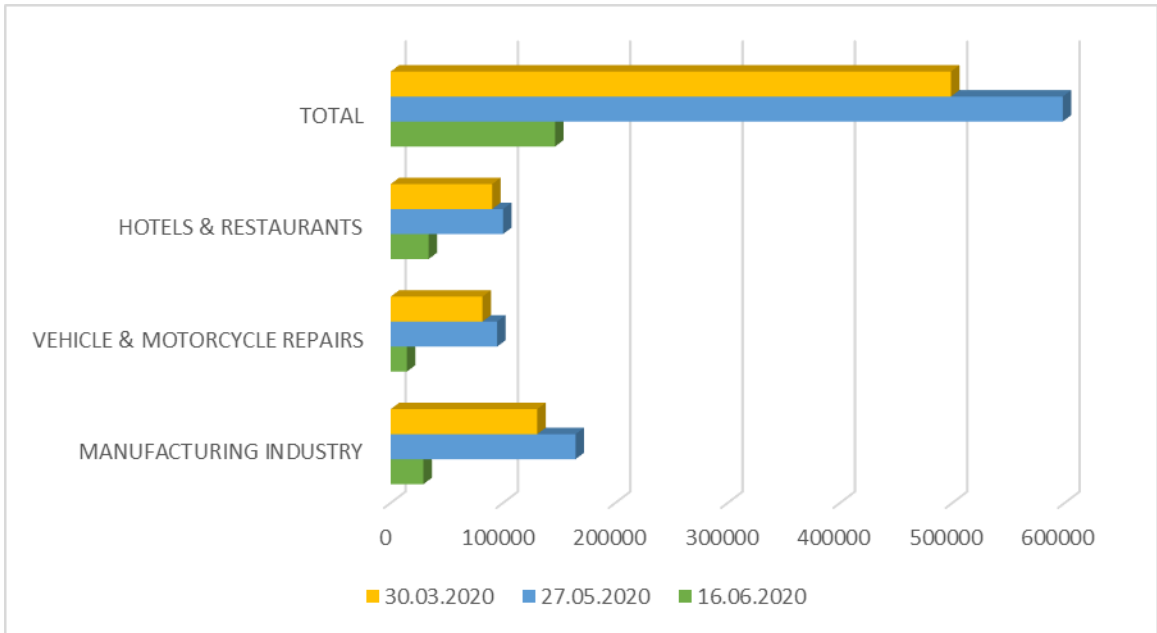
Therefore, on March 30th 2020 there were 498.778 work contracts registered as suspended (representing technical unemployment) and 111.340 canceled contracts, in the conditions that the number of salariables at this date was 5,569 million. The last report made by the Ministry of Work and Social Protection, on May 27th 2020, regarding canceled contracts, shows a significant increase, reaching numbers of 424.389 contracts and, respectively, 598.264 suspended work contracts (Table No. 1).

Table no. 1 - Number of Contracts Suspended & Canceled, between 30.03.2020 – 16.06.2020

	<b>30.03.2020</b>	<b>27.05.2020</b>	<b>16.06.2020</b>
<b>SUSPENDED WORK CONTRACTS</b>	498.778	598.264	146.314
<b>CANCELED WORK CONTRACTS</b>	111.340	424.389	-

*Source:* processing data provided by the Ministry of Labor and Social Protection



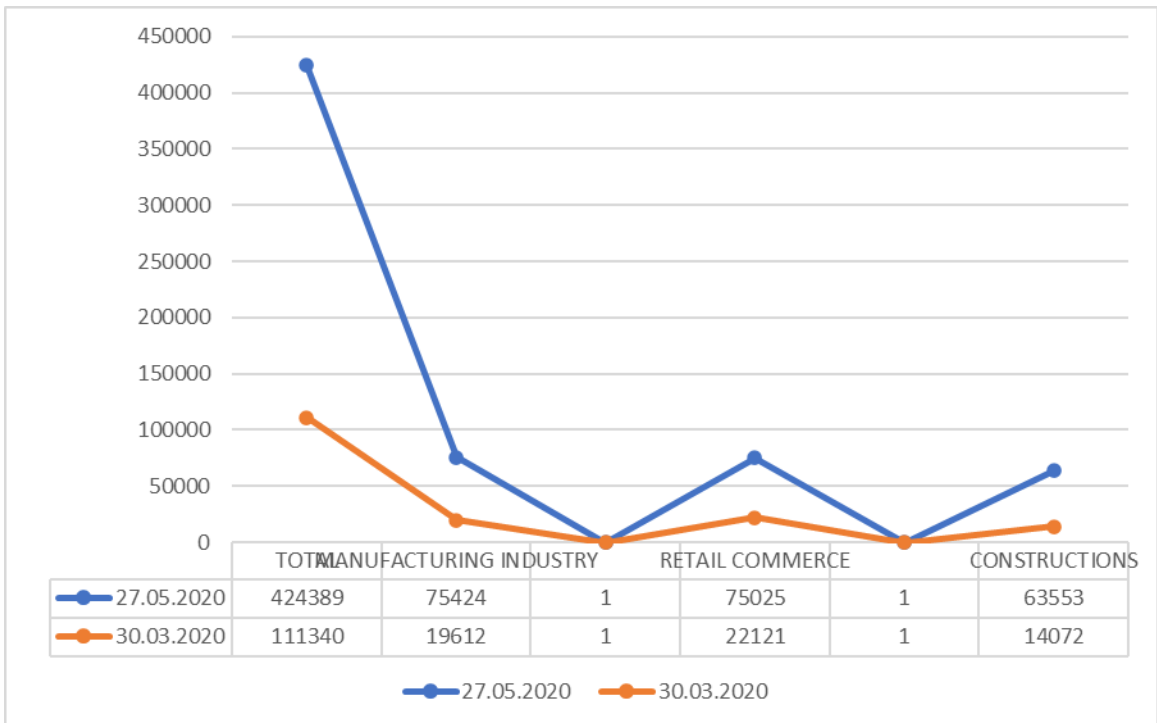


**GRAPH NO. 3 - The Number of Suspended Work Contracts, between 30.03.2020 – 16.06.2020**

*Source:* processing data provided by the Ministry of Labor and Social Protection

The sanitary crisis, as we can see, has strongly affected the three activity domains by registering over 50% of suspended contracts, reaching the maximum point of 1,046 million on the 10th of April 2020.

The canceled individual contracts situation has been represented in Graph No. 4.



**GRAPH NO. 4 - Canceled Work Contracts, between 30.03.2020 - 27.05.2020**

*Source:* Based on data provided by the Ministry of Labor and Social Protection, [www.mmuncii.ro](http://www.mmuncii.ro).

As we can see, the construction domain has also been affected by the pandemic, reaching a percentage of 11,6% in relation to the number of salarieds, respectively 406,5 thousand people.

Until 30.03.2020, there was a number of 550.000 people who benefited of technical unemployment given by the government, of which 490.017 worked within companies and 59.744 where physically independent persons, those who had liberal professions or earned their income independently.

#### **4. Measures Applied in Romania for the People Affected by the SARS-COV 2 Pandemic:**

The Romanian Government has tried to stop the effects of this pandemic through the imposed measures, therefore it has canceled debts and other penalties owed on the 31st of March 2020 and those with the pay-term between 01.04.2020 – 31.12.2020, with the condition that they are paid until 15.12.2020. Also, there were also bonuses given to the people who paid their taxes until 30.06.2020.

Through Urgency Ordinance no. 33 from March 26th 2020 regarding some fiscal measures, a bonus was granted to corporate taxpayers who pay the tax due on the first quarter of 2020 by the deadline of April 25th 2020. This bonus was calculated as such: 5% for big taxpayers, 10% for middle taxpayers and 10% for the others.

The parents were granted free days to supervise their children, with the condition that study centers temporarily suspended courses according to Law 19/2020.

Moreover, the period for granting technical unemployment was increased during the urgency state, as an effect produced by the spread of SARS-COV 2.

#### **5. Conclusions:**

The effects of the pandemic were felt throughout the entire country, through the implementation of social distancing, travel limitations, hygiene measures, working from home etc.

The suspension or canceling of work contracts, the reducing of active salarieds by over 900.000 (April 2020) are effects which have been registered on the labor market, with socially devastating consequences.

The most affected sectors were the manufacturing industry, hotels & restaurants and retail commerce which have registered 50% of suspended contracts and over 50% of canceled contracts were in constructions, the manufacturing industry and retail commerce.

Acknowledgement: This work is supported by project POCU 153770, entitled “Accessibility of advanced research for sustainable economic development - ACADEMIKA“, co-financed by the European Social Fund under the Human Capital Operational Program 2014-2020

#### **Bibliography:**

1. Albu Lucian Liviu – Macroeconomic Impact Evaluations of COVID-19, May 2020;
2. Chivu Luminița, Georgescu George - Labor market vulnerabilities under the COVID-19 impact in Romania, June 2020;
3. Eurofound - Employment and labour markets COVID-19: Implications for employment and working life;
4. Eurofound – Workforce and Labor Market Occupation, 7<sup>th</sup> July 2021;
5. UN Report – The Labor Market will not reform until 2023;
6. Vasile Valentina, Boboc Cristina, Ghiță Simona, Apostu Andreea Simona – The effects of the SARS-COV 2 pandemic on employment. The role of public politics and labor market resilience in the context of business environment adaptation, May 2020;
7. International Labour Organization - How will COVID-19 affect the world of work?, [https://www.ilo.org/global/topics/coronavirus/impacts-and-responses/WCMS\\_739047/lang-en/index.htm](https://www.ilo.org/global/topics/coronavirus/impacts-and-responses/WCMS_739047/lang-en/index.htm), March 2020;
8. Romania in Numbers 2021;

## SECTION VI SOCIAL AND EDUCATIONAL POLICIES

### ECONOMIC APPROACHES REGARDING ROMANIAN CRAFTSMAN'S GUILDS, AT THE BEGINNING OF THE 20TH CENTURY

**Diaconu Camelia Manuela<sup>1</sup>**

**Abstract:**

*The guild represents one of the many forms of association that formed a society, whose coagulation criterion was the profession. These forms of association originated from the administrative organs, being emanations of a class in the process of formation, attracting to its ranks the merchant craftsmen class. The production and sale of goods by guilds, in other words industrial and commercial aspects, were completely intertwined with the sphere of services rendered to the population. The purpose of organizing craft guilds was to establish new functions required by the society of that period, fulfilling both economic, social, political-military and religious roles. Through the guild was carried out the perpetuation of the profession, the defense of professional, economic and social interests. It also had an educational function of learning a craft, which ensured economic stability to the functioning of the guild by acting as a well-determined social organism.*

**Keywords:** *Guild, economy, craftsman, economy, corporation, status.*

**J.E.L. Classification:** *A29, A30, B19.*

#### **1. Introduction:**

Guild research was part of the evolution of the Romanian society, facing a double difficulty: The complexity of the phenomenon and the fragility of the documentation on which the reconstruction of their history is based.

Crafts, guilds, later manufactures and factories are characteristic of cities, that is why in many of the specialized works and their number is regarded as an index of the degree of urbanization, and the existence of industry was considered a fundamental feature in the definitions given to the urban phenomenon.

The artisans created the so-called guilds in order to defend against competition, to help each other, to create equal opportunities for work and gain, to protect professional interests. With the development of crafts, the communities of artisans were flexible and even dynamic, through the dynamics of the assumed functions.

The organization of craftsmen in associations is one of the most difficult and complex problems in the history of crafts in Moldova. This difficulty results from the lack of necessary documents to follow the process of setting up guild organizations.

In Romanian historiography, the subject of this analysis is not found as a point approach, writing associated with guild economy is a secondary aspect in our entire research. The attempts of some historians, belonging to this period, to explain some aspects of guild analysis, were starting points for the given subject.

The theme is extremely generous in terms of the aspects it involves, which is why in this approach we try to present some economic approaches to guild activity. The present approach cannot propose an exhaustive analysis of the subject, but rather merely attempts to point out some of the economic aspects that it would, in our view, entail.

---

<sup>1</sup> PhD Candidate, "Ștefan cel Mare Suceava" University, Romania; e-mail: camelia.manuela@yahoo.com

## **2. Definition of guild**

The Romanian word guild comes from the Slavonic word from bratswo, which means brotherhood. The great historian A.D. Xenopol assumed that the guild institution was part of the Roman heritage, which was given a Slavic name, admitting that the guilds began to function with the cities. "A guild," said Nicolae Iorga is distinguished only when competition arises between those who exercise the same occupation. With all the idealistic conception, the question of the process of establishing craft guilds was very close to historical truth. "The (old) guilds formed by their own will developed according to their own needs. The old ones helped themselves with a proud sense of brotherhood; today they often bear man with unflinch of heart and working power, which political interests impose upon them under the shield of the state". Nicolae Iorga minimized the internal contradictions, the social conflicts in the field of craft production, reaching even the idealization of such social relations in the Romanian industry, through foreign competition, coming from the East and West, as well as the causes that led to the decline of the indigenous guilds.

The term "guild" means an economic association consisting of members belonging to the same professional category (fur, barbers, tailors, butchers, carpenters, carpenters, soaps, blacksmiths), whose main purposes were the common defense of those of the same profession (craftsmen or merchants) against state abuses or competition; ensuring markets for the sale of own products or goods exposed to competition; and ensuring a monopoly of the supply of raw materials.

## **3. Composition of guilds**

Some guilds could be made up of members belonging to different professional categories, resulting in the joining of several guilds into one, depending on interests. Obtaining an economically and politically advantageous position by a guild in relation to competition or obtaining economic advantages from the state was not possible without the cooperation of all its members, but also without a certain discipline. Within the guilds there were internal regulations, but also a hierarchy of its members (craftsmen, journeymen, apprentices) with attributions for each, a governing body that had both the role of coordinating the guild's activities and that of representing the guild in relations with the state or with the competition. The guild had representatives in other shopping centers, the management being informed about the prices practiced, the activity of the competition, the economic measures taken by the authorities or information in the political field.

The guilds had as their object the defense and development of professional interests, but did not seek to share benefits. Professional interests were limited by their very nature, from those of commercial, agricultural, technical, economic, to those of a cultural and social nature. The guilds exercised their activity only on the national level, respecting the superior interests of the nation.

They could not be affiliated with international organizations, or represented at international congresses, without the authorization of the Ministry of Labor. The following categories of people are included in the guilds, such as workers, private servants and craftsmen (apprentices, shoes, journeymen, factory workers).

The guild was an association of at least 25 craftsmen all practicing the same craft.

The purpose of the guild was to defend the interests and to strengthen the idea of the honor of the craft, to care for the teaching of the craft of the disciples and of the journeymen, and to care for the cleanliness of the apprentice, of the caliph and of the journeymen, etc.

The guilds' statutes necessarily included the name and purpose of the guild, the headquarters and possibly the headquarters of the sections, the rights and duties of the guilds, the original patrimony, its amount and contributions, the declaration of compliance with the Constitution and the laws of the country.

The guild's governing bodies were the general assembly and the steering committee. The General Assembly was the supreme body of the guild, composed of all the members who were up to date with the payment of the contribution. It shall be convened in cases fixed by the statutes or when 1/5 when the number of members entitled to vote requested in writing the meeting in order to defend the purposes.

The general meeting's fees were as follows: The establishment of the benefits and contributions to which the members were subject, the admission and exclusion of the members of the guild, the election of the steering committee and the control committee, with the determination of their duties, verification and approval of the balance sheet and management account, creation of new sections, acquisition of movable or immovable property free of charge or generous, modification of statutes, affiliation to the union, merger with another guild, liquidation or dissolution of the guild. The decisions of the General Assembly in order to be enforceable had to be submitted to the approval of the Ministry of Labor, which had previously taken the opinion of the Labor Committee.

The steering committee was elected by the general assembly, consisting of 7 guild members.

It represented a legal guild against the authorities and against third parties. The members of the steering committee had to be Romanian, have reached the age of 30, practice or have practiced the occupation for at least 3 years, entering the professional category to which the guild belonged.

Members enjoyed full civil and political rights without having suffered any criminal convictions or committing various crimes (abuse of trust, embezzlement of public money, fraud, forgery, theft, concealment, smuggling, coin making or seals).

The Committee of censors was composed of 3-5 members, one of whom was an expert accountant or licensed accountant, selected on the list of the Body of authorized Accountants of the county. The Ministry of Labor was constantly in control of the guilds' activity. This control was aimed on the one hand at operating and administering guilds according to the Constitution, laws and statutes, and on the other hand, at not working against good morals, public order and the security of the state.

The relations between the guild and its members were determined by the statute. They could be members of the guild, individuals of Romanian or foreign citizenship, who exercised the respective profession, being at least 18 years old. They could become members and those without work, but who effectively exercised the profession at least one year before entering the guild. They were entitled to withdraw from the guild at any time without giving reasons provided that the latter had communicated to the Management Committee at least 6 months before the end of the social year.

Several guilds assembled together formed a corporation, comprising about 1000 members. When the number of members of a single guild exceeded a thousand people, then that guild could make a corporation by itself (but with the Central House's authority). It was administered by a council composed of the members of the committees of all the guilds that made it up and of the representatives of the workers and workers who were not part of the guild. When the corporation was composed of a single guild, then the council consisted of 7 members, elected by the general assembly. Corporations had a legal form that could buy (with the authorization of the Central House) only buildings necessary for their headquarters, or for the establishment of schools, hospitals, sanatoriums, polyclinics and swings.

#### **4. Organization and operation**

At the basis of the organization of labor in craft guilds, some reasons could be distinguished, such as the need to regulate production, due to the limited market or the need for social requirements, by the formation of professional communities and professional groups. Most

craft guilds were founded in the 14th century and over time it entered various phases of development, with frequent legislative changes subject to constant political promulgation.

The organization and functioning of the guilds was carried out through the statutes, approved by the political power, where issues related to the economic and legal life of the guild were regulated. These were issued, analyzed and approved in the general assembly of the guild where both external and internal issues were discussed (such as the reception of new craftsmen, the punishment of those who violated the statutes, the Regulation of the production process, etc.). The most important gathering of the guild was the one organized in the first week after Christmas or even on new year's day, at which time the activities and the account of the guild of the previous year were presented.

From an economic point of view, the guilds provided a sufficient production, having a fairly good quality at an acceptable price. Non-conforming products were a problem for the entire guild, not just for the craftsman. Because of this, those who were dealing with the sale of products at a distance from the place of production had to make sure that they were worked very carefully and that they arrived safely. This was not only a matter of honor for the guild, but also a gain for the craftsman by defeating the competition. As for the social role of the guild, it was given by the close ties between its members, organizing real parties on the occasion of the reception of new members where all the guild craftsmen were invited with their wives. When a guild craftsman had a financial problem, the guild helped him with money or various raw materials from his reserves. She also cared for the sick craftsmen, giving their family loans payable, both during illness and after recovery. From the moment of receiving a new guild, the heads of the guilds were careful not to embarrass them, watching the disciple's character in terms of his ethical qualities (honesty, loyalty, fairness). He who dared to disturb the harmony of a guild by various false accusations was severely punished. The guild's concern for its members was also manifested in the most difficult times, such as the death of a craftsman who was buried at the guild's expense.

The guild was also a religious community, not just a social-economic community. From a religious point of view, its influences were as important and profound as they were from an economic point of view. Faith and religious traditions contributed to the outward manifestation of the guild and at the same time formed the bond between the members. Each guild had a calendar Saint as its protector, and the ceremonies were fixed in connection with the celebration of that Saint.

Participation in religious services was mandatory, with guilds having their own altar on which the holiday service was officiated or candles were burned. In the place of worship each guild held its own place, separate from the other guilds, where the craftsmen had to settle according to their own rank.

#### ***4.1. Economic matters***

The necessity felt in our country to have labor arms was quite high, and although the labor was paid quite well there was a small number of labor. Thus, the lack of arms and the need for work made the guilds of craftsmen from neighboring countries have an interest in emigration to our country. Getting used to living here in our country, and professing their profession professionally, they have offered us both the experience and the art of their talent over time. By competing with national labor under the promptness and speed of the work, it disadvantaged Romanian workers from two perspectives: One represented the working resources that were almost dry, and another was given by the capture of the works of foreign craftsmen under the guise of competition.

According to the law and the regulations of the Senate works enterprises, the Technical Commission prepared an estimate on the works to be executed, and then by auctioning the one who gave a favorable price was granted the work. Some bidders had 12-13

specialists in that profession (according to the estimate), and others ended up with 24 craftsmen. The question was why some entrepreneurs had twice as many craftsmen for the same work as others.

A good construction entrepreneur to serve his interests does not care much about the quality of the work, but rather the speed of its completion. It brought in 20 workers and over 100 workers who were very poorly paid. The *Salahors* were paid 2 lei a day, while the craftsman was paid 6 lei a day, from which a profit for the entrepreneur of 400 lei is deducted daily. The principle was that the construction would be completed as soon as possible, not interested in the fact that over time there was a chance that the construction would deteriorate and require radical repairs. For him it was a benefit to do so, because it was another gain for him which was also realized at the expense of the state.

According to the statistical data in the commercial trades were found 30% Romanian bakers (the rest being Greek, Jewish, German or other nationalities), shoemakers (50%), and the remaining 20% of Romanian merchants owned shops (the rest being Jews). The Jews brought their raw material from abroad and sold it at the price of the factory, not taxing 5% of the commodity. Interestingly, according to some simple calculations, in commercial registers, a Jew passed his liabilities worth 100-200 thousand lei, of which 30-40 thousand lei was considered "white money for dark days". The impediment to this financial scheme was the risk of going to jail, but the important thing was that the one who served the sentence was finally left with the 30-40 thousand, as a dowry, in the name of his wife. Of the 5% of the income obtained, there was thus a beautiful amount of about 1500-2000 lei per year.

These procedures were accepted by most commercial entrepreneurs, little of whom were honest craftsmen. In general, commercial trades were taken over by foreigners, some of them, such as barbers, were owned by Jews, accounting for 30% of all barber property. From here we can see the tendency of foreigners, especially Jews, to take over most trades (being masters of trade and trades), while Romanians became their porters.

As for all kinds of exploitation (of forests, of oil) they were contracted in the vast majority of them by other cohabitating ethnicities. This market being taken over by foreigners, the Romanians had only to become servants or state officials. Thus, the idea of leasing land and forests from the state domains and of the big owners to the corporations of the Romanian craftsmen was envisaged, under the guarantee of a special law, having the spirit of solvency on the part of the corporation.

This commissioning was also to be regulated by various directives, in the sense that the State would be entitled to benefits on raw materials and raw materials from net income, but also to have a minimum rent on the lease price of the exploitation from net income. Thus, the state was obliged to hire officials, who were in charge of keeping the accounts, but also exploiters from among the Romanians. Thus, the income was expected to be double and the owner (state or private) would have won without losing the lease or being pulled over by the tenant. The state also created new revenues, which entered the state budget, improving the financial condition of both the state and the people (who were under pressure from the weight of foreign contracts).

The law of creditworthiness of the craft corporation provided that the corporation should have nothing of the exploited, without the assistance of the state, and that the product should be sold by stock exchanges and not by *samsars*. Thus, the resulting price was to be deposited at a deposit house, which only released it after the balance sheet approved by the corporation and verified by a joint venture institution. The main public policy clause was that the owner should not be entitled to dispose of this income even through the intervention of justice, the fund being free from any burden from the beginning of the exploitation concession. The corporation could guarantee the amounts needed to buy the working tools used in operation, and the supply was to be checked both in terms of quantity and quality, in

proportion to the amount of the sums for which they guaranteed, but not more than 30-40% of the cost of the tools. Thus, the corporation took responsibility for the idea of social credibility.

As far as the capital of the craft corporation was concerned, it was a fixed one obtained by the owner. Thus, the operating enterprise required two types of capital: One fixed consisting of buildings and the other working with which the enterprise was set in motion by purchasing working tools and machines.

The capitalists, aiming to be removed by the appearance of craftsmen, will feel the necessity for these capital to pay back, and this could only be achieved by the guarantee of a special law by which capital was to be established in societies. In such circumstances, a benefit from the net income as interest of capital was granted by the association. As for the capital necessary to supply the tools of exploitation, they were to be placed with corporations with the authorization of the State, and then sold for the purchase of the capital necessary for this purpose. The advantage was that the sale of shares was a majority for craftsmen and was otherwise a kind of guarantee, and the disadvantage was that this placement was an unpleasant one in terms of the lack of currency in the country. Thus, the corporations for Aces could procure working capital, they could foresee in their statutes the condition of admissibility of the one who possesses one or even two shares (being easily accepted before the others). On this occasion, the actions of craftsmen who were looking for an occupation with great interest could have been more easily placed. The craftsmen's shares were set in small amounts, reaching the figure of 50 lei per share. The loans contracted from the craftsmen's corporations and their shares were to be authorized and approved until it was proved that they owned the operating concession from the state or even from the private. The bottom line was that the corporation could borrow on the income of its future work. It was to be divided into specialties, forming each specialty a society to permanently arrange and deal with the improvement of the fate of its members.

The reasons of the Romanian craftsmen were inclined to find jobs in the factories. An example would be that for a carpentry factory where the raw materials were extracted, the salahas were used (which had the task of cutting the trees and transporting them to their destination) and this whole stage was the motto of the raw material.

The mass aggregation of the manual work carried out by the Romanian craftsmen was done in almost all the factories which in turn had various divisions and subdivisions. Thus, for the extraction of raw materials were first used the salahores (which processed the raw material), and as a subdivision of it was the transformation of the raw material into firewood or planks, beams or spokes made by the tesslers or cutters. All these subdivisions meant the occupations of a series of craftsmen. Another subdivision was the transformation of the raw material into various furniture objects, which also involves other subdivisions (such as the painting and assembly of the ironwork accessories or various ornaments made by the wood and iron sculptors). It could be seen that, for the wood industry alone, a minimum of 8 trades were required.

The industry could progress much more, if all its branches were given to the use of the Romanian industry and the Romanian craftsman.

The iron industry was the heaviest of all industries, for it consisted of 7-8 trades (clay workers were iron casters, clay sculptors, montators and mechanical blacksmiths).

Among the main crafts that fed the Romanian population at the beginning of the 20th century was represented the masonry. For the maintenance of the establishments and institutions subordinated to the state, county or commune, it had to address only to the association of builders. They were required to perform the work promptly and accurately, without being exposed to fraud or any construction flaw.

In addition to this association of builders, brick factories, stone quarries or lime kilns were also established, because the constructions had to be executed at much more advantageous prices. In addition to this factory was born the lime industry, which used many other materials needed in construction and which consisted of over 27 trades.



The first two industries together with their trades worked hand in hand, for one without the other could not exist. Once these industries were combined in the sense of procuring work for craftsmen, in these industries they did not have the necessary arms to fill the demands of the market.

As for the tannery and fabric industries, as well as the alcohol and wine industries, small industries that were also part of the nation, were not so productive or so gnarled. The leather or tanned industry was important because its productivity was a strictly necessary industry from which the lowest class of the people could not be dispensed. The organization of the tanner industry would have meant that all the capitalist traders of meat for consumption would have established both factories for the processing of meat to be sold in cans, and factories for the tanning of hides, soap, wax, footwear. Their capital, once put into operation, had to be transformed into things of strict necessity.

The fabric industry was safer without prejudice, if it had not stretched the thread of competition between the skilled nationalists and those who were part of foreign competition. The wool, the flesh, the bones, the skins, and all that was necessary were exported after the needs of the people were satisfied, and what remained was exported, and the money would remain in the country.

Other trades such as barbers, pavers, printing houses were to be placed on guilds, thus there was the guild of barbers, typographers or company painters. Although there were very few people who could not change their jobs, they could not change their jobs into a more sought-after one.

The guilds could not have maintained themselves if they failed to defend the assets of their members from the tendencies of the agents of public administration.

#### **Bibliography:**

1. Anghelescu I. N., *Evoluția economică a Țărilor Românești*, vol. I, Editura Tipografia profesională „Dim. C. Ionescu”, București, 1916, p.187-267.
2. *Codrul Cosminului*, Buletinul Institutului de istorie, Anul IV și V, 1927-1928, Cernăuți, 1929, p.575.
3. Drimba Ovidiu, *Istoria culturii și civilizației*, vol. II, București, 1987, p. 295.
4. Eudoxiu Hurmuzachi, Nicolae Iorga, *Documente privind istoria României*, vol.II, București, 1903 (DIR)
5. Iorga Nicolae, *Istoria industriilor la români*. București, 1927, p. 141.
6. *Lege pentru recunoașterea și funcționarea breslelor de lucrători, funcționari particulari și meseriași*, Editura Librăriei, Universala Alcalay&Co., București, 1938.
7. Missir, B. M., *Legea pentru organizarea meseriilor și regulamentul privitor la aplicarea ei, precedate de dezbaterile corpurilor legiuitoare și de proiectele de legi anterioare*, București, Editura “Atelierele Grafice I. V. Socecu”,1905, p.5.
8. Niculescu Ștefan, *Organizarea breslelor*, Editura Institutul de arte grafice Eminescu, București, 1901, p.8.
9. *Organizarea meseriilor, creditului și asigurărilor muncitorești, Lege promulgată prin decretul regal, nr.375 din 25 ianuarie 1912*, Editura Gutenberg, București, 1912
10. Pascu Ștefan, *Mesteșugurile din Transilvania până în secolul al XVI-lea*, București, Editura Academiei, 1954, p.143.
11. Pavlescu Eugen, *Economia breslelor în Moldova*, Editura Fundația Regelui Carol, București, 1939, p.56.

Surse online: <http://www.monitoruljuridic.ro>

# SCHOOL ORGANIZATIONS IN THE PANDEMIC CRISIS COVID-19. CHALLENGES AND OPPORTUNITIES

Nicușor, Diaconu<sup>1</sup>

Melania-Andreea, Stănciulescu (Diaconu)<sup>2</sup>

## Abstract

*The spread of infection with the SARS-CoV-2 virus at the beginning of 2020 led the governments of the European states to take drastic measures to limit mobility by instituting quarantine and isolation measures, and in state institutions, including educational ones, physical presence was excluded, including in Romania.*

*The continuation of the activities, implicitly the didactic ones, had to be carried out through online activities, a situation in which School Effectiveness becomes a difficult concept to measure, because it is related to different criteria, defined according to the specifics of each school unit, the results of the students and the added value by the school institution. The uncertainty in which each school organization evolved did not only have a negative impact on the quality of the educational act, but had much more complex implications and, certainly, echoes in the medium and long term.*

*At the moment, over the echo of the pandemic crisis, the energy crisis and the threat of an imminent economic crisis overlap. The present work aims to highlight the importance of quality assurance in European (and implicitly Romanian) pre-university education, in crisis situations.*

**Key words:** crisis, uncertainty, education reform, quality, resilience.

**JEL Classification:** H12, I28

## 1. Introduction

Along with Romania's integration into the European Union, issues of effectiveness and efficiency of our education system also arose, issues that came back into sharp focus with the outbreak of the Covid-19 pandemic. To understand the scale of the impact of this crisis on education systems, an analysis must look at several basic aspects, such as:

- The standard of living of the population - the level of well-being and technology has increased in recent years, but the number of people living in poverty is still quite high. The chances of recovery lie in the creation of an effective education system (Holmberg, J., 2017).

- Globalization - society's activities, including education, operate in close dependence worldwide; globalization implies a high level of culture and civilization of different peoples, a fact that is impossible to achieve without an effective education system (Agasisti, T., 2011).

- Unemployment rate - the professional training of an individual is related to unemployment; a priori, we can state that unemployment rates decrease as the individual's professional and educational training increases; an ineffective educational system leads to a low level of education, which explains the level of the unemployment rate in a country (Dandeu, A.A., 2017).

- Educational management - the field of education has undergone, in the last 20 years, many structural and content changes, accompanied by updates of the concepts with which it operates. Thus, the notion of administration - which has become much less comprehensive - is replaced by educational management, then, more recently, educational leadership joins.

- Educational leadership - Practice has demonstrated that real leadership and quality management are decisive factors in differentiating educational organizations that evolve in similar conditions and even more so when they evolve in crisis situations. The role of leaders is to determine to what extent the organizations they lead are prepared to face the challenges and - at the same time - to develop the skills necessary to manage them. In education, leadership must undertake irreversible transformations, based on the personal and educational

---

<sup>1</sup> PhD Student, VALAHIA University, Târgoviște, Romania, e-mail: diaconu.nicusor@yahoo.com

<sup>2</sup> PhD Student, VALAHIA University, Targoviste, Romania, e-mail: mellandreea@yahoo.com

values of the leaders(Bennis, 1989), transposed into institutional objectives and doubled by visionary strategies; what must be remembered is that – unlike other fields – education is a strategic field, with centralized policies and strategies. Here, the leader's ability to harmonize his own vision with the national strategy and to deliver the organization the way to a quality education, beyond the limitations of the system, comes into play.

The Covid-19 epidemic, which started at the end of 2019 in China and spread rapidly around the globe, had a strong impact on European states (and not only); according to a UNICEF report, in 20 countries in Europe and Central Asia schools were closed and in 19 countries pre-school education units were closed, thus affecting 49.8 million children (Regional Office of the United Nations Fund for Children (UNICEF) for Europe and Central Asia) (2020). The effects are still felt today, even if, officially, the pandemic episode has been overcome. Thus, the education systems were forced to update quickly, in a context characterized by uncertainty, lack of procedures and limited resources, with the objective of ensuring access to education for all children and the quality of the teaching process.

## **2. The response of European education systems in a pandemic context**

The spread of the infection with the SARS-CoV-2 virus led the governments of the European states to take drastic measures to limit mobility and carry out current activities, calling for a preventive approach rather than one based on certain data. Therefore, quarantine and isolation measures were instituted in many European countries and others, and educational institutions were closed, including in Romania. These measures had to be countered by ensuring some measures to continue the didactic process, in the online system. This required educational platforms as well as devices and tools to facilitate access to online learning. The World Health Organization recommends in its documents the adoption of a system based on risk analysis, a system that takes into account several factors when deciding to reopen schools: the vaccination rate, epidemiological factors, the state and capacity of the public health system, community participation , as well as the government's ability to provide social and economic support to the most disadvantaged categories. Also, through the Framework Document initiated by the institutions of the UN system, the resumption of the educational process in physical spaces was supported, drawing attention to the negative effects of the interruption of education, as follows:

- Disrupting the educational interaction in the classroom can have a major effect on the child's learning ability;
- The longer marginalized children stay away from school, the less likely they are to return to schools;
- Pupils from the poorest families are five times more likely to drop out of primary school compared to those from rich families;
- Non-participation in school activity increases the risk of teenage pregnancy, sexual exploitation, child marriage, violence and other threats;
- Prolonged closure of schools disrupts the provision of essential services that depend on school activity such as immunization, nutrition, mental and psychosocial medical support, potentially causing stress and anxiety, due to loss of interaction with colleagues and interruption of daily routine;
- The negative effects will be significantly worse for marginalized children, such as those living in conflict zones or experiencing protracted crises, from migrant, forcibly relocated, minority families, children with disabilities or institutionalized children.

### ***2.1. The Romanian school, in a pandemic context***

In Romania, the decision to close schools at the outbreak of the pandemic, in march 2020(CNSSU, 2020), was accompanied, in most cases, by the organization of remote teaching

activities, in extremely diverse conditions, with or without the use of electronic means for teaching and communication . The appeal to this crisis solution and home isolation has put teachers, children and parents in a new position, the learning results in the second semester of the 2019-2020 school year being, in most cases, unsatisfactory, compared with face-to-face learning from the periods before the crisis generated by the Covid-19 pandemic. Also, in the absence of similar studies and experiments, the dramatic situation in the months of March-June in Romanian education, as well as the delay in the implementation of firm preparation and prevention measures during the school holidays (June-September) have seriously called into question the start of the new school year in mid-September, as had been established by order of the minister before the outbreak of the pandemic. Despite these justified fears, the Romanian Government has decided that the educational process in physical spaces will be resumed. The solution proposed by the Government of Romania, with the resumption of the educational process in physical school spaces, is part of the global and European consensus in this regard, learning in a physical regime, face to face, being for our country the only method tested and known by all educational actors through which can ensure a relatively accessible and quality education.

The new school year 2021-2022 started in September 2021 with physical presence, but according to the forecasts during the summer - when an explosion of cases of infection with the Delta variant was announced in October - the situation became acute, again, in the middle of the tenth month . At this point, the Government's strategy has changed, leaving to the choice of the school units, respectively the Board of Administration, the type of continuation of the didactic process, respectively with physical presence or at a distance: according to the joint Order of the Ministry of Health and Education, No. 5338/01.10.2021, amended on 05.11.2021 for the approval of the measures to organize the activity within educational units/institutions under epidemiological safety conditions for the prevention of illness with the SARS-CoV-2 virus, the operating scenario of the educational unit/institution during the school/university year, it will be updated according to the confirmed cases of illness with the SARS-CoV-2 virus in a class/group/educational unit, the County School Inspectorates/School Inspectorate of the Municipality of Bucharest (ISJ/ISMB) and the directions of public health/Directorate of Public Health of the Municipality of Bucharest (DSP/DSPMB) approves the proposal of the board of directors of the pre-university education unit/related and forwards for approval to the county committees for emergency situations/the Committee of the Municipality of Bucharest for Emergency Situations (CJSU/CMBSU ), the operating scenario for each educational unit. Also, starting on November 8, 2021, it was decided that the resumption of classes will be done online for all pre-university education units where less than 60% of the staff is vaccinated. The uncertainty in which each school organization evolved did not only have a negative impact on the quality of the educational act, but had much more complex implications and, certainly, echoes in the medium and long term. Schools are not only an environment in which didactic processes take place, but also an environment for learning social and emotional skills, an environment for interaction and social support. Referring to the complexity of the school institution, as we outlined it, closing schools not only disrupted the education process of children, but also limited access to various social and medical programs run through the school, deepening social inequalities. The way in which the teaching staff, the management of the educational units, the managers of the education system and the decision-makers at the local and governmental level have managed to face these challenges will have an impact on the direct beneficiaries of the education services, the students, and - inevitably - on the communities of which they are a part; the whole society will feel in the medium and long term, from an economic point of view, but also from a social point of view, the impact of the decisions taken in this unprecedented crisis situation. Thus, a better resilience of the education system can be obtained by planning with

priority a quality inclusive education system for the categories of marginalized beneficiaries or at risk of marginalization; starting from this principle, the foundations can be laid for resetting and rebuilding a better performing education and better schools.

### **3. Future strategies for quality inclusive education**

The crisis caused by the COVID-19 pandemic has hit pre-university education systems across the European Union. In this complex situation, the resources available to Member States, through recovery and resilience mechanisms, are essential for the necessary reforms, so that European education systems become more resilient, flexible and adaptable. In Romania, it is becoming increasingly important to use all available funds to finance education reform. In addition to the amount available under the Recovery and Resilience Mechanism, the amount available under the Operational Program "Education and Employment" for the period 2021-2027(PNRR, 2021) will be directed towards the modernization and development of the educational infrastructure, in parallel with the change in the teaching- learning and the development of innovative educational resources aimed at increasing the efficiency of the education system, keeping the quality of education in the foreground. To support these national efforts, the European context offers an opportunity to link the Romanian education system to the evolving trends of society and the economy of the future. The European Union Action Plan for Digital Education 2021-2027(U.E., 2021) provides a common framework for improving the performance of the European education system, promoting the use of new technologies in the educational process and developing the digital skills of students and teachers. It is desirable that Romania, in the education reform process, pursue two European strategic priorities related to digital education, namely *the development of a strong digital educational ecosystem and the improvement of digital skills and competences for digital transformation*.

*The EU Digital Education Action Plan 2021-2027(U.E., 2021)* is based on the plan for the previous period and sets out the European Commission's vision for high-quality, inclusive and accessible digital education in Europe. It is a call to action for closer cooperation at European level, to draw conclusions from the crisis caused by the COVID-19 pandemic during which technology has been used at an unprecedented level in the field of education and training, a call to adapt education and training systems in the digital age.

#### *The European space of education*

At the level of the European Union, the right to a quality and comprehensive education, vocational training and lifelong learning is the first principle of the European Pillar of Social Rights. The European Union's intensive economic recovery efforts have made education a central part of its strategic development plan. The European Education Area proposes cooperation at the level of the European Union to harmonize and support the development of the education systems of the member states. The six directions of cooperation targeted in the European Education Area offer Romania the opportunity to improve the performance of its education system by addressing some persistent system problems that have not received adequate answers in the last three decades, namely:

- the quality of education;
- equity and gender equality;
- green transitions and digital transitions;
- teachers and trainers;
- higher education;
- geopolitical aspects of education.

In order to reduce the gap between Romania and other member states, national efforts to improve and modernize education must be synchronized with European priorities. The history of the last three years has shown us that, instead of planning based on the predictability of the evolution environment, we must consider planning in an environment

characterized by unpredictability and design flexible systems, characterized by a good capacity for resilience and response in situations of crisis. Thus, the EC's new action plan on education (U.E., 2020) defines the measures by which member states can be helped to face the challenges and take advantage of the opportunities offered by education in the digital age and is based on - as I have already shown - two strategic priorities:

- encouraging the development of a high-performance digital education ecosystem,
- the development of digital skills and competences relevant to digital transformation.

*Encouraging the development of a high-performance digital education ecosystem* aims at the effective planning and development of digital capabilities (infrastructure, equipment, connectivity), motivated and competent human resources (teachers) in the digital field; structuring high-quality educational content is another essential component that requires accessible tools and secure platforms that align with privacy and ethical standards. A good infrastructure, hardware and software, is not enough when the issue of digitization in education is raised, but the entire didactic process must be rethought; the teaching-learning process must be restructured in such a way as to stimulate students' creativity, form their critical thinking, enhance and value individual study so that students develop their competences and support skills for adapting to an unpredictable environment, in continuous evolution, to a dynamic and digitized economy.

*The development of digital skills and competences relevant to digital transformation envisages* training of basic digital skills and competences from an early age, digital skills - including combating disinformation, IT training, a good knowledge and understanding of technologies that require an intensive use of data- such as artificial intelligence, as well as the development of advanced digital skills that can foster the growth of digital specialists and guarantee a balanced representation of girls and young women in studies and professions in the digital sector.

In this context, updating the European Digital Skills Framework becomes essential.

In order to be able to implement these strategies, unitarily, at the level of the member states, the strengthening of cooperation and the exchange of information in the field of digital education at the level of the European Union can play a more active role in terms of: identifying, sharing and consolidating good practices supporting Member States and the education and training sector through tools, frameworks, guidelines, technical expertise and research.

#### **4. The need for a resilient education system, the lesson learned during the pandemic crisis**

At the moment, over the echo of the pandemic crisis, the energy crisis and the threat of an imminent economic crisis overlap. In this context, government officials and school institutions are facing a real challenge: planning the educational process in a period characterized by uncertainty. To the already lost learning time, which has seriously impacted the direct and indirect beneficiaries of education services, other unknowns are now added, increasing the anxiety of teachers, children and families, making planning and decision-making difficult. At least in the last two years, the most used term - in different environments - is RESILIENCE, as a reference to the response of individuals, organizations to face potential dangers that could hinder their ability to adapt and respond in crisis situations (Dumitrașcu, 2020). The term resilience, originating from the sphere of psychology and psychiatry (Johnson & Wiechelt, 2004), has also established itself in fields such as social and economic sciences. A resilient system, as a structural part of a resilient society, can face and react to shocks or profound structural changes, adopting one of two attitudes: shock resistance or adaptation (Manca, Benczur, Giovannini, 2017). If the shock is not of extremely high intensity nor of duration, the system can absorb it, based on its own resistance capacity that will help it to overcome the crisis situation, with as few losses as possible (Giovannini,

Benczur, Campolongo, Cariboni and Manca, 2020). The second attitude, adaptation, assumes a certain level of flexibility, which will lead to changes in the system (Manca et al., 2017).

By adopting a resilient behavior, the system will improve its capabilities and have the power to respond to potential challenges, adapting to new conditions in the long term. The shock generated by a crisis situation must be seen - in the end - as an opportunity, a lesson about what and how to act in the future, in other crisis situations (Manca et al., 2017). Increasing the resilience of the education system, in the context of designing sustainable educational policies, can only be achieved on the basis of solid decision principles, so that all students are guaranteed access to an inclusive and quality education. In order to develop resilient education systems, strategies in the field must take into account several essential elements (UNICEF Regional Office for Europe and Central Asia, 2020), namely:

*Social exclusion* - as the period of the pandemic crisis has just proven, in such situations the factors of social exclusion become acute: incomes decrease, the unemployment rate increases, the state of health among the population becomes precarious. All these have a direct impact on the educational environment (absenteeism among students is increasing, a higher level is recorded in terms of the school dropout rate) and on the local community, spreading to the government level. We can talk about a quality education only by considering the exclusion factors of priority importance, on all four segments involved: the student and his family, the school, the local community and the government level.

*Planning and communication in a context marked by uncertainty* - it is very true that school organizations cannot control political decisions but they can focus on what they know, can control and have the competence to do; more precisely, they must focus on the provision of quality educational services, on inclusive education and - last but not least - on the well-being of specialists in the system. When discussing the restructuring of the education system, with the objective of a better quality education, there must be a vision shared by the whole society, considering the impact of the results of the education system on society. At this point, it becomes essential to involve stakeholders at all levels, in all stages of the planning process, to ensure the availability of real, active support from them, especially in contexts of uncertainty. A transparent communication, in contexts marked by uncertainty, ensures a good and correct understanding of the strategies and future plans of the school organization, on the part of all actors involved, facilitates the exchange of information at the local level, so that the community can mobilize its resources in concrete directions, effectively and efficiently.

*Crisis situations create opportunities for development* - with all the disruptions that the pandemic situation has caused in education, it should be noted that it also offered opportunities; thus, new ways of teaching and learning, new approaches in communication with students and their families, new roles were experimented to facilitate the increase in the level of well-being of the learners. The indisputable gain are experiences passed through, transformed into lessons learned and which must, for the future, be taken into account in the processes of planning and reform in education. This is an opportunity not to be missed, which requires a planning process designed to continuously assess the situation, which intends to address inequalities, which encourages recording and documentation of intervention processes and outcomes, and which monitors and evaluates practices to improve their effectiveness and support successful actions.

## **Conclusions**

The article highlights the main elements from which one must start in the restructuring of the education system, with the objective of building a system with much better resilience and which will offer the beneficiaries a higher quality education, regardless of the challenges of future times. School organizations provide services whose quality influences the development of the communities they belong to, thus resulting in an imperative need to ensure

the quality of education. Change in school organizations is a complex process involving organizational members, education beneficiaries and the community. The quality of education from the perspective of change in the field of education has a major role: it determines the progress of contemporary society and favors the adaptation of the system in a context of uncertainty. The quality of education, from the perspective of change, is materialized in the quality of educational services, in the creation of trust and the adoption of those measures aimed at the optimal achievement of the proposed objectives, regardless of the attributes of the context at a given moment. At the moment, still strongly feeling the effects of the pandemic crisis, going through an unprecedented energy crisis and preparing for the impact of a global economic crisis, uncertainty is the attribute of the present and future times. Education, as a system, will have to be prepared to adapt in real time and this will only be possible if we discuss a flexible system, characterized by a good capacity for resilience. Change, rapid and profound, will be the main future coordinate of education.

#### **Acknowledgement:**

This work is supported by project POCU 153770, entitled " Accessibility of advanced research for sustainable economic development - ACADEMIKA ", co-financed by the European Social Fund under the Human Capital Operational Program 2014-2020

#### **References**

1. Agasisti, T., How competition affects schools performances: Does specification matter?, *Economics Letters* Vol. 110, Issue 3, 2011
2. Bennis, W., *On Becoming a Leader*, Arrow Books, 1998
3. UNICEF Regional Office for Europe and Central Asia, *Creating resilient education systems in the context of the COVID-19 pandemic, Considerations for decision-makers at the national, local and school unit levels*, 2020, Online: <https://www.unicef.org/romania/ro/rapoarte/crearea-unor-sisteme-de-educa%C5%A3ie-reziliente-%C3%AEn-contextul-pandemiei-de-covid-19> [accessed on 31.10.2022]
4. Dandeu, A.A., *Employment Unemployment Benefits And The European Social Policy*, Ecoforum, vol. 6, Nr.1, 2017
5. Dumitrescu, V., *Reziliența societală și managementul comunicării în gestionarea pandemiei de Covid-19*, *Revista română de sociologie, serie nouă*, anul XXXI, nr. 5-6, p. 289-305, București, 2020, Online: <https://www.revistadesociologie.ro/sites/default/files/04-vdumitrescu.pdf> [accessed on 31.10.2022]
6. Giovannini, E., Benczur, P., Campolongo, F., Cariboni, J. and Manca, A., *Time for transformative resilience: the COVID-19 emergency*, EUR 30179 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-18113-2, doi:10.2760/062495, JRC120489, Online: <https://publications.jrc.ec.europa.eu/repository/handle/JRC120489> [accessed on 31.10.2022]
7. Holmberg, J., *The Relative Efficiency of Swedish Secondary Schools: An estimation using Stochastic Frontier Analysis*, UMEA University, 2017
8. Johnson, J.L., Wiechelt, Introduction to the Special Issue on Resilience. *Substance Use & Misuse* 39 (5), 2004.
9. Manca, A.R., Benczur, P., Giovannini, E., *Building a Scientific Narrative Towards a More Resilient EU Society*. JRC Science for Policy Report, European Commission. Luxembourg: Publications Office of the European Union, 2017,



Online: <https://publications.jrc.ec.europa.eu/repository/handle/JRC106265>  
[accessed on 31.10.2022]

10. Guvernul României, CNSSU, Hotărârea nr. 6/2020 privind aprobarea unor măsuri suplimentare de combatere a noului Coronavirus, Disponibil la: [https://gov.ro/fisiere/pagini\\_fisiere/HOT%C4%82R%C3%82RE\\_nr.\\_6\\_din\\_09.03.2020\\_privind\\_aprobarea\\_unor\\_m%C4%83suri\\_suplimentare\\_de\\_combatere\\_a\\_noului\\_Coronavirus.pdf](https://gov.ro/fisiere/pagini_fisiere/HOT%C4%82R%C3%82RE_nr._6_din_09.03.2020_privind_aprobarea_unor_m%C4%83suri_suplimentare_de_combatere_a_noului_Coronavirus.pdf) [accessed on 31.10.2022]
11. [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12453-Digital-Education-Action-Plan/public-consultation\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12453-Digital-Education-Action-Plan/public-consultation_en) [accessed on 31.10.2022]
12. [https://ec.europa.eu/info/strategy/priorities-2019-2024/economy-works-people/jobs-growth-and-investment/european-pillar-social-rights/european-pillar-social-rights-20-principles\\_ro#relatedlinks](https://ec.europa.eu/info/strategy/priorities-2019-2024/economy-works-people/jobs-growth-and-investment/european-pillar-social-rights/european-pillar-social-rights-20-principles_ro#relatedlinks) [accessed on 01.11.2022]
13. <https://education.ec.europa.eu/focus-topics/digital-education/action-plan> [accessed on 02.11.2022]
14. <https://ec.europa.eu/jrc/en/digcomp/digital-competence-framework> [accessed on 02.11.2022]
15. <https://mfe.gov.ro/pnrr/> [accessed on 01.11.2022]

# THE EDUCATIONAL PROCESS UNDER THE IMPACT OF THE COVID-19 PANDEMIC

Moisevici - Serb, Diana<sup>1</sup>  
Lazarescu, Stefania<sup>2</sup>  
Ilie, Suzana Camelia<sup>3</sup>

## Summary

*The Covid 19 pandemic remains a sad episode in people's lives, but also in the history of nations. Its effects were felt both in the business environment, as well as in the educational one. The significant number of cases of illness, including the deaths generated by it, have made the representatives of the state institutions to develop a series of laws designed to protect the citizens, one of them regarding the circulation. All these have lead to work adaptation, underlying the development of the instructional-educational process through several platforms.*

**Keywords:** *education, pandemic, technology, teleworking.*

**JEL Classification:** I21

## 1. Theoretical approach

Work, regardless of the economic and social context, is the essential factor, in the current period, because it ensures the well-being of individuals. In its sphere is established the salary that reflects the monetary expression, or the value of the work performed by an individual. The labor market directly influences the economy and the other components of social life (Cazes S., Nesporova A., 2014).

Educational institutions have had to make a change during the pandemic, to work from home to protect their own human resources. At this "new normal", many people worked at their homes, and in the meantime supervised their children, whose schooling was, for a long time, online (Gajendran R., and Harrison D., 2007).

Teleworking, working from home or online, legislated in Romania by law 81/2018, is defined as a form of organization by which the employee voluntarily performs the duties specific to the position he holds, in another job than the one arranged by the employer, at least one day a month, using information and communication technology (<http://ina.gov.ro/wp-content/uploads/2020/09/Articol-Telemunc%C4%83-INA.pdf>). In response to the COVID-19 pandemic, Member States have adopted, prolonged or announced unprecedented measures to support citizens and the sectors that are affected (<https://ec.europa.eu/>).

## 2. Case study

The purpose of the study: to identify the impact of the Covid 19 pandemic on the motivation of teachers.

Research objectives:

*O1: Highlighting the impact of the pandemic on the effort during online teaching;*

*O2: Knowing the perception of employees on adapting to the conditions imposed by COVID 19;*

*O3: Identify the effect of the pandemic on teacher motivation and performance.*

Assumptions:

**H1: The COVID 19 pandemic has generated a much greater effort on the part of teachers;**

**H2: The teaching staff has adapted to the changes generated by the pandemic;**

**H3: Covid restrictions have influenced teachers' motivation and performance.**

---

<sup>1</sup> Prof, Economic College, "Ion Ghica", Târgoviște, Dambovita, dianaserb10@yahoo.com

<sup>2</sup> Prof, Economic College, "Ion Ghica", Târgoviște, Dambovita

<sup>3</sup> Prof, Economic College, "Ion Ghica", Târgoviște, Dambovita

Direct research was used, which was based on a poll. The researched community - 30 teachers from a school from the pre-university educational environment in Dâmbovița County. The tool used was the questionnaire developed and tested by the authors of the paper. The questionnaire was applied face-to-face to the research participants. Respondents were presented with the purpose of the questionnaire, but also guaranteed that the information was confidential.

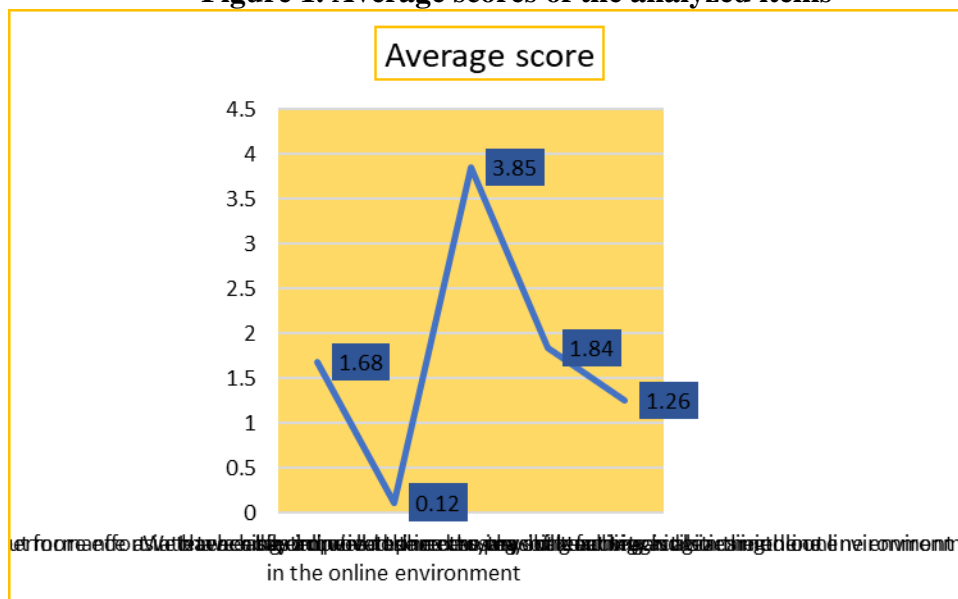
The analysis and interpretation of the results took place with the help of EXCEL, and the most important are presented below:

**Table 1. Average scores of the analyzed items**

Item	Average score
I put more effort into teaching online compared to physical teaching	1.68 - agreement
My performance as a teacher has improved since the teaching activity is also carried out in the online environment	0.12 - indifference
I have adapted well to the new way of teaching and learning	3.85 - agreement
We have easily acquired the necessary skills for teaching in the online environment	1.84 - agreement
I feel motivated in carrying out teaching activities in the online environment	1.26 - indifference

Source: article author

**Figure 1. Average scores of the analyzed items**



Source: article author

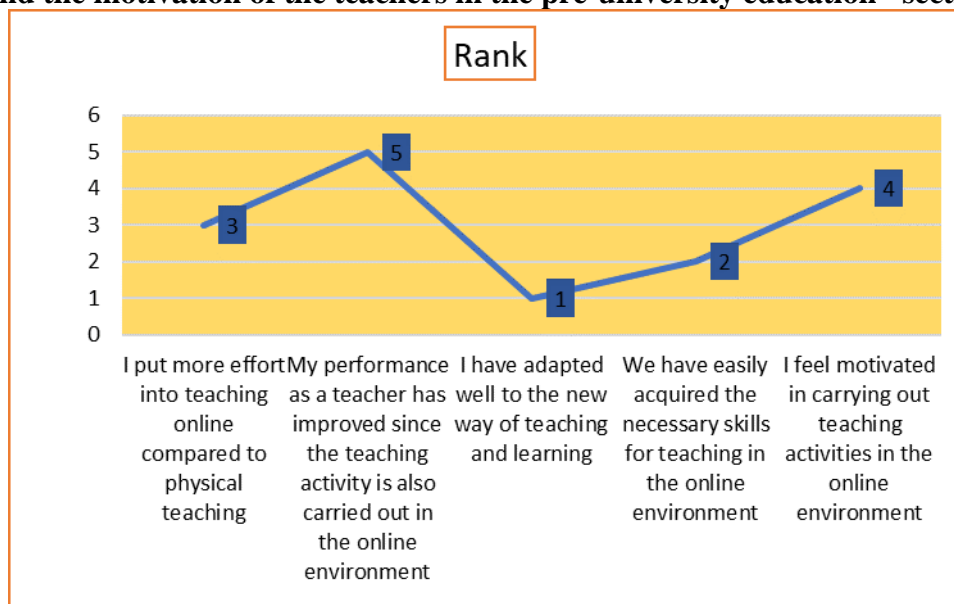
The item “I have adapted well to the new way of teaching and learning” obtained the highest value of the average score 3.85 (agreement), and at the opposite pole is the item “My performance as a teacher has improved since the teaching activity is also carried out in the online environment” with the lowest value 0.12 (indifference).

**Table 2. Ranking of the items of the section "The crisis of the Coronavirus pandemic and the motivation of the teachers in the pre-university education" section**

Item	Rank
I put more effort into teaching online compared to physical teaching	III
My performance as a teacher has improved since the teaching activity is also carried out in the online environment	V
I have adapted well to the new way of teaching and learning	I
We have easily acquired the necessary skills for teaching in the online environment	II
I feel motivated in carrying out teaching activities in the online environment	IV

Source: article author

**Figure 2. Ranking of the items of the section "The crisis of the Coronavirus pandemic and the motivation of the teachers in the pre-university education" section**



Respondents' opinions on the statement **"I put more effort during online teaching compared to physical teaching"** are as follows:

- total agreement 30 %;
- 31% agreement;
- 28% partial agreement;
- disagreement 9%;
- total disagreement 2%.

The respondents' opinions regarding the statement **"My performance as a teacher has improved since the teaching activity is also carried out in the online environment"** are the following:

- total agreement 7%;
- 30% agreement;
- 39% partial agreement;
- disagreement 18%
- total disagreement 6%.

The respondents' opinions regarding the statement **“I have adapted well to the new way of teaching and learning”** are as follows:

- total agreement 28%;
- 43% agreement;
- 25% partial agreement;
- disagreement 4%.

**“We have easily acquired the necessary skills for online teaching”**

Most of the respondents, 42% show total disagreement with this statement, 5% disagreement, 28% total agreement, 24% partial agreement, and 1% agreement.

**“I feel motivated in carrying out teaching activities in the online environment”**

Of the respondents participating in the study, 8% present total disagreement, 11% disagreement, 37% partial agreement, 31% agreement and 13% total agreement.

### **3. Conclusions**

The objectives of the research were achieved through questions addressed to teachers working in a unit with an educational role. The relative frequency of responses generated the confirmation of all hypotheses within the research methodology.

The teachers participating in the research have adapted on the fly to online teaching, but also to the use of educational platforms. Both the motivation and the performance of the research participants did not suffer as a result of the transition from face-to-face to online teaching.

The time physically worked at work was less compared to that spent at home, in front of the computer, and this can be explained by the fact that the organizations did not have enough spaces to ensure the physical distancing required by the legislation in force. At the level of all EU countries, teleworking was carried out, but not in a high percentage.

### **Bibliography**

1. Gajendran R., and Harrison D., (2007), The good, the bad, and the unknown about telecommuting: meta-analysis of psychological mediators and individual consequences, *Journal of Applied Psychology*, Vol. 92, No. 6;
2. Cazes S., Nesporova A.,(2014), Labour markets in transition: balancing flexibility and security in central and eastern europe;
3. [https://www.greenpeace.de/sites/www.greenpeace.de/files/2020-08-19\\_gpd\\_homeofficestudy\\_english.pdf](https://www.greenpeace.de/sites/www.greenpeace.de/files/2020-08-19_gpd_homeofficestudy_english.pdf);
4. <http://ina.gov.ro/wp-content/uploads/2020/09/Articol-Telemunc%C4%83-INA.pdf>.

# URBAN EDUCATION VERSUS RURAL EDUCATION IN ROMANIA

Irina-Denisa, Munteanu<sup>1</sup>

## Abstract

*Studying educational inequalities represents a popular topic especially in developing countries. Unfortunately, Romania is divided into two distinct parts when it comes to education at the urban and rural levels. However, the minimal level of school education which does not lead to a drop in the chances of integration into society is always changing. In the past century it changed from primary to lower secondary and then to higher secondary. Romania has low rates of secondary participation as compared to most European countries. Recently the urban-rural divide started to decrease, but it still exists. This study is designed to obtain an updated perspective on the differences between Romanian county towns from the point of view of secondary level graduates and economic development. The results confirm previous studies and affirm the presence of inequalities between the two environments. This study may represent a new signal for public education authorities.*

**Key words:** *education, urban, rural, Romania, high school graduates*

**JEL Classification:** I20, I21, I29

## 1. Introduction

Romania is a member country of the European Union, but in terms of education, it differs significantly from other member countries, such as the Netherlands, Sweden, Norway, Germany etc. This is because of the great differences that exist between urban areas of the country and rural areas. The differences are both in the number of graduates and in terms of school infrastructure or educational opportunities. This leads to major discrepancies between urban and rural, which is also observed in economic indicators, such as average income or unemployment rate.

Education is the basis of every society. Over time, the compulsory level of education has increased, so the completion of high school and the passing of the national baccalaureate exam are necessary to get most opportunities in the labor market. In the contemporary educational context, the choice of high school for the continuation of studies represents an important moment in the student's life. Marking, at the same time, the end of the primary and secondary cycles, the moment crowns the capitalization of the cognitive acquisitions of this period and represents a first step in choosing the professional route. The decision regarding the choice of high school considers various factors, such as: the personality of the student, the preferences in terms of subjects studied, the cognitive or practical skills, but also the external pressure exerted by the parent or the group of acquaintances. However, the final choice depends to the greatest extent on the average obtained for admission, the distribution being made hierarchically according to the preferences. However, the presence of high schools is limited depending on the school population in the area. Thus, students from rural areas who come from disadvantaged backgrounds where there is no high school and cannot attend studies in a nearby locality, are deeply disadvantaged. With additional expenses related to transportation, the need for school supplies, food or even accommodation, most often they give up the completion of their studies and choose to work. Therefore, this study aims to provide an updated picture of the number of high school graduates at county level and at locality level in Romania, while also specifying the main conclusions that emerge.

---

<sup>1</sup> PhD Student, Faculty of Cybernetics, Statistics and Informatics, Bucharest Academy of Economic Studies, irinadmunteanu@gmail.com

## 2. Literature review

Pre-university education in Romania is an integrated part of the national education system, which brings together authorized state or private units. There are three compulsory levels of education: primary education, lower secondary education and the first two years of upper secondary education. High-school education comprises three routes: the theoretical route (humanities and real profiles), the technological route (technical and service profiles) and the vocational route (military, theological, sports profiles). The vocational route represents a particular case because the admission also involves practical eliminatory tests supported in the period prior to the National Evaluation. There are two stages of distribution, the first being in June, and the second in August, dedicated to students who have not completed the school year. The results of both sessions are published online by the Ministry of Education and Research by counties, by schools or in the alphabetical order of the candidates.

If for the choice of primary school, students are enrolled in the schools to which they are assigned according to their domicile, for upper secondary education, parents and pupils can opt for the high school whose educational offer corresponds to the child's development and learning needs. Thus, based on the national methodology (Order of the Minister of Education and Research no. 4.802/2010 with subsequent additions), parents together with students have the opportunity to create a list of options of the high schools in the county where they want to study, to be distributed on the basis of a computerized software according to the admission average obtained. This average is calculated by the formula:

$$MA= 0,2ABS+0,8EN$$

ABS represents the general graduation average of grades V-VIII, and EN is the average obtained at the National Evaluation held at the end of class VIII. This is calculated as an arithmetic mean between the grade obtained in the Romanian Language and Literature test and the one obtained in the Mathematics test. In order to reduce the possibility of inequity, it was chosen to reduce the weight of the gymnasium graduation average and to give greater importance to the national exam. Studies show that students with high marks in such tests are more likely to have academic successes and choose prestigious schools (M.M. Suphey et al, 2018).

In Romania, the chance of being admitted to one high school or another can be calculated according to the last admission average of the previous year. Thus, schools cannot show preferences towards students, they cannot select them according to grades of a certain subject or according to any custom exam. Mainly, high schools want students with as high admission averages as possible, reflecting in this way, a high performance of future students, which means maintaining attractiveness for next year. The distribution model seems to be one that eliminates discriminatory or strategic behaviors, being in fact a system based on meritocratic criteria (A. Gheba, 2018).

This distribution system is also found in Hungary and Finland, with the mention that in it, students can opt for only 5 schools in their preferences (M. Salonen, 2014). Also in these countries, students are assigned taking into account the grades obtained in the final exams. A special case is Germany. There is its own distribution system in each Länder. In the case of Berlin, students can opt for 3 high schools after consulting with the coordinating teachers. Following the applications received, the schools establish the list of students admitted according to their own criteria (the average in the gymnasium, the marks obtained at the final evaluations, the foreign languages studied, the existence of a sibling who is already studying there, the existence of social needs) (C. Basteck, K. Huesmann, H. Nax, 2015). At the same time, in Frankfurt, the obtained marks are not used as a separation element, establishing from year to year its own criteria (proximity of the home to the school, if the student has brothers / sisters in the school, family income, social problems). The system also applies in countries such as Spain and Italy. This mechanism also has a disadvantage. Students will be tempted to



apply to the schools where they are most likely to be admitted, and not where there is a profile that meets their needs.

However, none of the things presented above matter when there is no high school in the locality of residence. Thus, in rural areas there are students who cannot access high school education because of their background. In this way the discrepancies appear. The topic of educational inequities is a main topic in the field of educational research both in Romania and internationally. The most recent empirical research, using different models, variables, and time spans, confirmed regional economic divergence in Romania (e.g. (Moroianu, et al., 2015), (Goschin, 2017)). As for the timeliness of the studies, they are mainly from the period 2000-2015. The main conclusions are that inequities do not refer only to performance, but also to the access itself to education (Shavit, 2007), the causes often consist of the family environment (Mare, 1981) and that economic factors such as the economic recession or the disappearance of the socialist regime contribute significantly to the deepening of inequities (Voicu&Vasile, 2010). The concept of equity in education refers to inclusion (all students should have access to a minimum level of schooling, such as high school graduation) and non-discrimination depending on ethnicity, gender, socio-economic environment etc. (Field, Kuczera & Pont, 2007).

### 3. Methodology

The data used in this study were taken from the TEMPO database of the National Institute of Statistics in Romania. These include the number of high school graduates at the county and local level during 2019-2020. These years were chosen being the most current available. All the localities that contained data on the variable of interest were selected and maps were processed using the Tableau software.

Subsequently, a simple regression model was processed regarding the link between the number of high school graduates in 2020 for each county and the average gross salary at the county level for 2020. The classic pattern of simple linear regression is in the form of:

$$y_i = \alpha + \beta x_i + e_i, \quad (1)$$

- $i = 1, 2, \dots, 42$  (counties)
- Variables  $y_i$  and  $x_i$  - registration of phenomena in county  $i$
- $\alpha$  și  $\beta$  – model parameters,
- $e$  - errors.

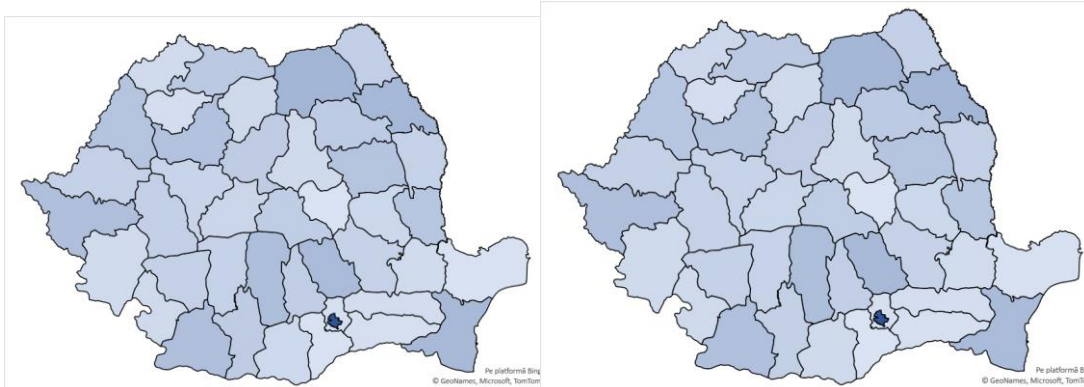
The assumptions of the linear regression model are:

- Linear relationship.
- Multivariate normality.
- No or little multicollinearity.
- No auto-correlation.
- Homoscedasticity.

### 4. Results and discussions

As can be seen from the maps below, there are no significant differences between the two years analyzed. Bucharest remains the area with the highest number of graduates (16000 graduates), and Giurgiu and Covasna counties the lowest number (around 1100 graduates).

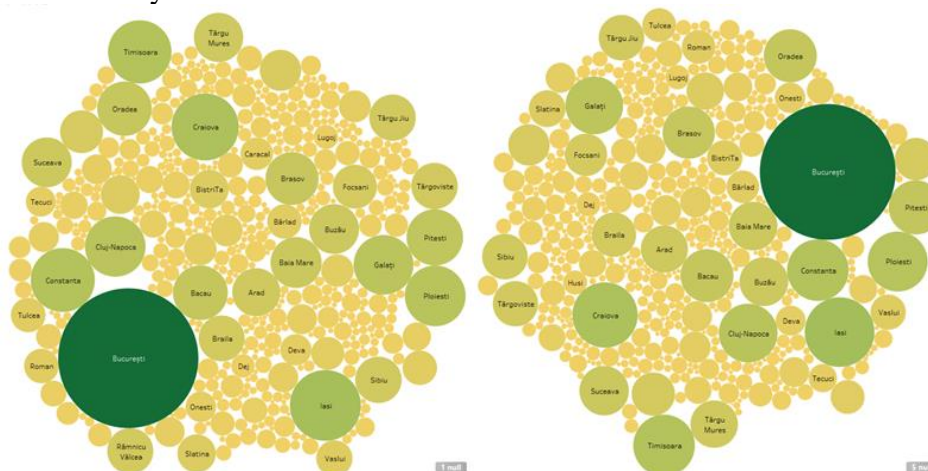




**Figure 1. Map of high school graduates at county level – 2019 and 2020**

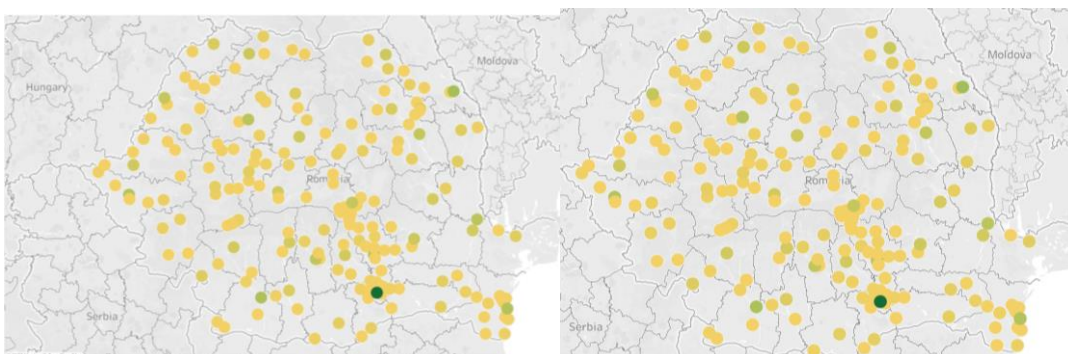
Source: created by author based on collected data

Regarding the data at the locality level for the number of graduates in 2019 and 2020, there are six illustrations below, two for each year, to suggest in the best possible way the current situation. Again, there are no significant differences between the two periods. Bucharest remains the city with the highest number of high school graduates, followed by Iasi, Timisoara, Cluj-Napoca, Constanța, Ploiești. Also, in the figures from point 3, it can be noted that there is a cumulation of high schools in the Muntenia area, as well as a deficit in the north of the country.



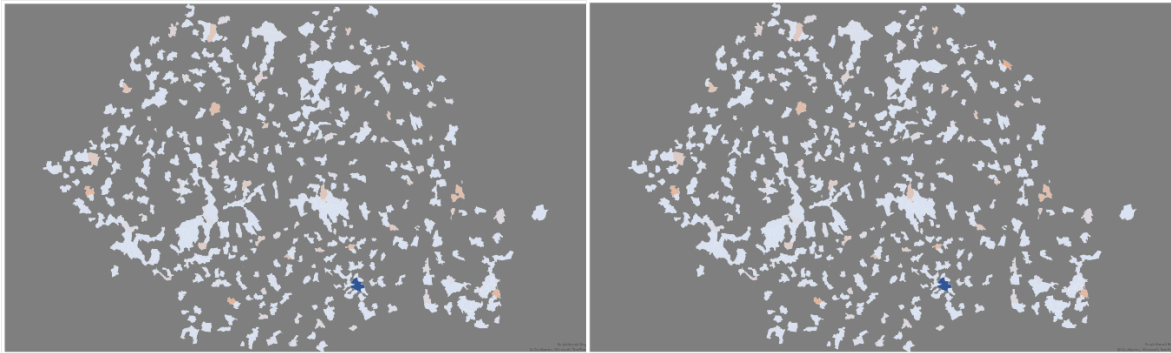
**Figure 2. Map of high school graduates at locality level – 2019 and 2020**

Source: created by author based on collected data



**Figure 3. Map of high school graduates at locality level – 2019 and 2020**

Source: created by author based on collected data



**Figure 4. Map of high school graduates at locality level – 2019 and 2020**

Source: created by author based on collected data

Moreover, it can be seen that in each county there is a pole with a large number of high school graduates, this being the very city with the role of county residence. This is normal, as they are the largest cities, with a large school population and multiple sources of educational opportunities.

As regards the simple linear regression model, the results confirm the validity of the model as well as the fact that the statistical coefficients are statistically significant. This model explains the variation of the dependent variable, the average gross income per county, at a rate of about 52% through the chosen independent variable, the number of high school graduates in each county. Below are the main results.

**Tables 1-3. Regression Summary**

<i>Regression Statistics</i>	
Multiple R	0.719874517
R Square	0.51821932
Adjusted R Square	0.506174803
Standard Error	423.0295923
Observations	42

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	7699556.465	7699556.46	43.0253300	7.74057E-08
Residual	40	7158161.44	178954.036		
Total	41	14857717.9			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	3999.646015	115.9260933	34.50168897	2.21583E-31	3765.350641	4233.941
Graduates	0.183013094	0.027901019	6.559369639	7.74057E-08	0.126623032	0.239403

Thus, the regression model obtained is of the form:

$$y_i = 3999.64 + 0.183013x_i + e_i \quad (2)$$

The regression model can be interpreted as follows: in a county where there would be no graduate, the average gross income would be 3999 lei. For each graduate who exists in the county, the average gross income increases by 0.18 lei. As expected, it can be said that graduating from high school brings added value in the case of the average income, but this is very low. This may be since it is tertiary education that brings a significant plus to the salary, since employees with higher education receive higher incomes from the qualification obtained.

## 5. Conclusions

The choice of high school is a very important step in the educational, but also for the personal evolution of a young teenager. Because Romania applies a "deserving" system of distribution based on the marks obtained at the National Evaluation and based on the graduation average of the gymnasium, these are the main criteria in choosing a profile.

The results obtained in this study are in accordance with the present reality and with the studies already existing in the literature. There are significant differences between education in urban and environmental education, with students being victims of social and educational inequities. It can be clearly seen how the county residences register a large number of high school graduates compared to other localities in the same county, which also leads to an economic development. This also confirms that education means evolution.

Analyzing the link between the variables, it has been observed that there is a moderate link between the number of high school graduates and the average gross income in a county. Applying the linear regression model, good results have been achieved that can be used for estimation. The increase by one unit of the number of graduates in a county leads to an increase of 0.18 lei in the average gross monthly income in that county.

Applying a technique that has brought valid results, the analysis can also be a starting point for those interested in pursuing educational inequities in urban-rural areas. In addition, the lack of such current research maximizes its need for a better understanding of the educational context present in Romania. Also, based on these predictions, high schools can decide if there is a need to improve the educational offer, supplementing the places available for enrollment. Another future direction of research could look at whether there is a link between the number of high school graduates and other economic indicators such as the unemployment rate or the average income at the locality level, as well as whether there is a spatial dependence between counties or localities regarding these variables.

This research also presents several limitations that need to be taken into account. The main disadvantage is the small number of analyzed variables. Also, the lack of a longer time interval for the analysis provides only a momentary image without capturing the dynamics of the phenomenon studied.

We consider this subject to be of interest for teachers, academic world, and researchers since education has an important impact on future generations.

## 6. References

1. Basteck, Huesmann, K. & Nax, H. (2015). *Matching Practices for secondary schools– Germany, Matching in Practice*, s.l.: European network for research on matching practices in education and related markets.
2. Field, S., Kuczera, M. & Pont, B. (2007). *No More Failures: Ten Steps to Equity in Education*. Paris: OECD.
3. Gheba, A. (2018). Admiterea la liceu în România: o analiză din perspectiva mecanismelor de repartizare. *Sfera Politicii*, pp. 102-126.
4. Goschin, Z. (2017). Exploring regional economic convergence in Romania. A spatial modeling approach. *Eastern Journal of European Studies*, 8(2), pp. 127-146.
5. Mare, R. (1981). Stability in Educational Stratification. *American Sociological Review*, 46(1), pp. 72-87.
6. Moroianu, N. D., Constantin, D. L., Herteliu, C. & Novac, A. (2015). Empirical Weighted Modelling on Inter-County Inequalities Evolution and to Test Economic Convergence in Romania. *The USV Annals of Economics and Public Administration*, 15(3).
7. Salonen, M. (2014). *Matching practices for secondary schools– Finland*, s.l.: The Finnish National Board of Education.
8. Shavit, Y. (2007). *Educational Inequality in George Ritzer*. Blackwell Encyclopedia of Sociology ed. s.l.:Blackwell Publishing.
9. Sulphery, M., Al-Kahtani, N. & Syed, A. (2018). Relationship between admission grades and academic achievement. *The International Journal*, pp. 648-658.
10. Voicu, B. & Vasile, M. (2010). Rural-Urban Inequalities and Expansion of Tertiary Education in Romania. *Journal of Social Research & Policy*, Volume 1, pp. 5-24.

# QUALITY MANAGEMENT IN ONLINE EDUCATION

Iuliana Pârvu<sup>1</sup>  
Cristina Ciami<sup>2</sup>

## **Abstract**

*This paper addresses the main challenges that the management of higher education institutions must consider to ensure the quality of online educational processes. The paper highlights the place of online education in the context of distance education and argues the need to discuss online education as a permanent way of carrying out teaching activities in universities and not as a state of exception. The paper proposes for discussion five categories of factors considered by the authors as influencing the qualitative level of the online teaching-learning processes. Also, the paper expresses the fact that the theoretical and practical approaches related to the evaluation of the quality of education carried out through information and communication technology are still at the stage of validation to identify the most appropriate and relevant indicators for expressing the quality of online education.*

**Key-words:** *quality management, higher education, on-line education*

**JEL Classification:** I2; I23

## **1. Introduction**

Online education is no longer a trend, as it was expected in the 2000s, but has become a reality. Relevant studies such as: *Global Higher Education Market 2016 - 2020*; *Going the distance: Online education in the United States* (Allen & Seaman, 2011); *Study looks at online learning vs. traditional instruction* (Angiello, 2010), *Post-secondary educators' professional development: Investigation of an online approach to enhancing teaching and learning* (Schrum, Burbank, Engle, Chambers & Glassett, 2005) and others, revealed aspects such as:

- In the fall of 2012, 69% of those who held management positions in higher education in the USA, affirmed that online education is a relevant component of the long-term organizational development strategy, considering the fact that of the 20.6 million of existing students at the time, 6.7 million were enrolled in online courses (32.52%). Moreover, this represented an upward trend in the number of students participating in online courses compared to the previous period.

- Many higher education institutions appreciate online education as a way to offer quality educational services at low costs;

- Between 1995 and 2003, a higher rate of increase in the offer of online courses is observed compared to the growth rate of traditional courses and the number of online courses almost tripled.

Without insisting on the evidence, we can formulate the conclusion that online university education is a reality that was not determined by the pandemic context that society went through - it only highlighted a new reason why online education is necessary and, above all, forced the entire academic environment to turn to this form of education. In fact, the current economic-social context - characterized by the transformation of higher education into mass education, by the need for lifelong learning, by the existence of a large number of non-traditional students, by the need to have a job during the years of study, through a high degree of mobility of human resources etc. - requires the use of information technologies for the development of higher education processes in accordance with the social reality in which we live.

The present work addresses the issue of quality management of didactic activities carried out online so that the educational processes carried out in this way reach their maximum potential. Among the aspects that the management of higher education institutions

---

<sup>1</sup> Associate Professor PhD, Spiru Haret University, iuliana.parvu@spiruharet.ro

<sup>2</sup> Lecturer PhD, Spiru Haret University, cristina.sandu@spiruharet.ro

that carry out online didactic activities must address are: ensuring economic efficiency; ensuring and maintaining a quality educational process; ensuring fair access for all students to teaching activities; underpinning practices and working procedures that can enable online learning to be sustained and developed as a core activity in university teaching and learning.

## **2. The evolution of on-line education**

The online educational process is a form of distance education, defined as a teaching method in which the student and the teacher are physically separated. Distance education is not a form of development of the educational process that we appreciate as specific to contemporary society. Thus, Isaac Pitman is recognized as the pioneer of distance education, as he began teaching shorthand by correspondence in 1840 in England. Pitman sent postcards to students instructed to transcribe passages from the Bible and return them by mail for correction (Verduin & Clark, 1991). Thirty years later, in 1873, Anna Eliot Ticknor founded the Society for the Encouragement of Home Study in Boston which founded the correspondence school model. A year later, Illinois Wesleyan College became the first academic institution to offer "in absentia" degree programs (Emmerson, 2004). Subsequently, the need for correspondence education continued to expand until the early 1900s, as a number of barriers (family obligations, financial, geographical etc.) prevented obtaining a degree from a traditional university (Verduin & Clark, 1991).

As technology has advanced, so have the forms of distance education. In 1919, professors at the University of Wisconsin began using a home-made radio station for teaching purposes, later known as WHA and becoming the first federally licensed radio station dedicated to educational broadcasting. The 1920s were the beginnings of the use of radio for educational purposes, so during this period 176 educational institutions in the US were licensed to hold courses by means of radio. In Europe, radio education was even more popular than in the United States.

Naturally, the need for education using audio-visual means began to manifest even before the technical means of its realization existed. Thus, in 1913, Thomas Edison said "The use of books for learning in schools will become an outdated method. Students will be educated through images. It is possible to teach any field of human knowledge through moving images. Our educational system will be completely changed in the next ten years" The pioneers of the use of television for education and those who intuited its potential were the professors from the universities of Iowa, Kansas and Michigan. Beginning in 1952 in the United States television channels with exclusively educational content began to be reserved and in 1966 there were 632 such channels, one-third licensed to state and local educational systems, another third to colleges and universities and a final third for community organizations. In the late 1960s and early 1970s, the use of radio and television in education intensified, not as a medium of distance education, but as a useful classroom tool to explain and demonstrate the concepts being taught.

The use of television for distance education, in the sense that the student and the teacher interact asynchronously, has not been successful in this area, as televised lectures usually consist of the instructor reading the lectures, making it difficult to maintain the viewers' attention. But after the mid-1970s, this changed as the British Broadcasting Corporation (BBC) introduced a standard for television course developers to follow, so that educational programs would appeal to audiences. During the same period, the use of computers as an educational delivery medium began to be implemented, although academia was not yet willing to adopt this new technology.

The use of computers for education first appeared in the corporate environment in the 1980s when computer programs were used to train new employees (Rudestam and Schoenholtz-Read, 2002). University degree programs were introduced in 1989 at the

University of Phoenix. Shortly thereafter, in 1991, with the advent of the World Wide Web, the University of Phoenix became one of the first educational institutions to offer online education programs through the Internet, and over time other universities followed suit. In 1992, the Alfred P. Sloan Foundation, a philanthropic organization, developed Asynchronous Learning Networks (ALNs) to explore educational alternatives for those unable to attend traditionally organized courses. The Sloan Foundation also funded institutions that offered online educational programs to improve the quality of this process. The intensification of online educational activities has become evident since 1998.

Today, as information and communication technologies improve, the most common version of distance education is becoming online education, which involves the use of the computer and the Internet as a mechanism for carrying out teaching activities. Online education has not only changed the landscape of distance education, but is also having a major impact on higher education as a whole. Many authors appreciate that this form of organization and development of educational processes is a state of fact and a privilege for those who, for various reasons, cannot afford to attend a traditional class. Moreover, the debates on this topic highlight the need to shift the focus from how to make online education accessible to as many people as possible to how to ensure the quality of education, understanding not only the educational content but, also, how technology can be used to motivate, inspire and educate 21st century students.

### **3. Determinants of quality in the online education process**

The quality of online activities is an aspect of interest for all those involved in the process and, of course, for the management of higher education institutions that run such courses. However, this area of interest is at the beginning, not having outlined a widely accepted theory and practice regarding how to evaluate the quality in the field of the teaching-learning process using information and communication technology.

Analyzing proposals and approaches presented in specialized literature and in the practice of organizations involved in ensuring the quality of online education, we formulate our own opinions regarding the manner in which the quality of the online teaching-learning process can be evaluated from a managerial perspective. Thus, we identified 5 major categories of indicators:

1. *The support given to the student by the teaching staff in the distance education process* - Refers to the assessment of the quality of communication and cooperation with the teaching staff who provide online courses

2. *The course contribution to the development of transversal skills in the distance educational communication process* - Refers to the extent to which the courses contribute to the development of social interactions between participants as well as to the development of their ability to critically analyze the taught concepts.

3. *Efficiency of the learning process* - Refers to the effort that learners must allocate to the learning experience as well as the relationship between benefits and costs.

4. *Information transparency* - Refers to the students possibility to obtain online information about courses from the institution that organizes the study program

5. *Didactic materials and the organization of the learning process* - Refers to the learning support provided by the methods and didactic materials used in the online courses

Within each category of indicators, we propose a series of subcategories on the basis of which the analysis can be carried out:

<b>1. The support given to the student by the teaching staff in the distance education process</b>	
<b>Subcategories</b>	<b>Assessment Methods</b>
1.1. The quality of the interaction between the teacher and the student - highlights the extent to which, although the educational communication takes place at a distance, the student can receive feedback from the teacher and, in turn, can give feedback to the teacher	<ul style="list-style-type: none"> <li>- There is a context regulated by internal procedures regarding students' access to online communication with teaching staff, and this is known and respected by both students and teaching staff</li> <li>- The teaching staff, during the courses, offers students online feedback to clarify the concepts presented in the courses</li> <li>- The way in which the course is designed requires the student to be periodically monitored regarding the progress</li> </ul>
1.2. The mediation quality of the learning process - highlights the ratio between the active moderation of the learning processes by the teaching staff, through communication, respectively the passive moderation, through the didactic materials transmitted by the teaching staff	<ul style="list-style-type: none"> <li>- Student participation rate in the active learning process;</li> <li>- The existence, on the e-learning platform, at the level of each course, of practical applications, case studies, role-playing games etc. through which students are asked to solve certain concrete situations corresponding to the courses</li> <li>- The method of examining students;</li> <li>- Students' preference for synchronous/asynchronous learning</li> </ul>
1.3. The personalization level of course support – highlights the extent to which students who benefit from online courses can receive support from teaching staff outside the subject of the courses, with additional information depending on the interests of each individual student.	<ul style="list-style-type: none"> <li>- Teaching staff are willing to use various means of distance communication to communicate with students individually</li> <li>- Students can request the support of teaching staff, during their individual study, when they face various problems</li> <li>- Average number of participants in virtual courses</li> </ul>

<b>2. The course contribution to the development of transversal skills in the distance educational communication process</b>	
<b>Subcategories</b>	<b>Assessment Methods</b>
2.1. The role of the course in the development of social interaction - highlights the extent to which the online didactic activities contribute to the development of social interactions	<ul style="list-style-type: none"> <li>-The frequency of online discussions, other than those that involve teaching courses, between teaching staff and students, but also between students</li> <li>- The number of group activities carried out during the course</li> <li>- Students' opinion on the quality of social interactions generated by the course</li> </ul>
2.2. The role of the course in the development of the ability to critically analyze the taught concepts - highlights the extent to which the online didactic activities contribute to the development of the ability to critical thinking	<ul style="list-style-type: none"> <li>-- The extent to which students are assessed for expressing their own opinions in relation to the theoretical concepts taught</li> <li>- The frequency of online debates mediated by the teaching staff</li> </ul>



<b>3. Efficiency of the learning process</b>	
<b>Subcategories</b>	<b>Assessment Methods</b>
3.1. Flexibility of the distance education – refers to the extent to which the online learning process is flexible in terms of time. The extent to which the operation of the e-learning system allows students to carry out the learning process at flexible times, from various places, will be evaluated	<ul style="list-style-type: none"> <li>- The extent to which, at the institutional level, students' preference is taken into account regarding the schedule of teaching activities organized in the e-learning system</li> <li>- The extent to which students can access teaching materials at different points in time</li> <li>- The extent to which students can access teaching materials from different places.</li> </ul>
3.2. Non-financial costs of the distance education – refers to the effort required to keep students motivated and focused on the course, even if the learning effort is done individually	The evaluation will be done by questioning the teaching staff involved in the process of developing online teaching methods, regarding the degree of difficulty of designing didactic activities so that they can be carried out in the e-learning system
3.3. Financial costs of the distance education - Refers to the possible financial efforts that the student must make in order to benefit from online learning	The extent to which such costs exist is assessed.
3.4. Benefits of participating in the distance education process, other than those related to the learning objectives - Refers to the extent to which the student, by participating in online learning, obtains benefits other than those related to the learning objectives.	The evaluation will be done by questioning students and teaching staff regarding the benefits, as well as the limits
3.5. Benefits resulting from the use of ICT - Refers to the extent to which the student's interest in online learning is determined not only by the content of the course and the convenience of attending the course, but also by the opportunity to become familiar with ICT	At the level of each course, the digital skills that the students develop will be identified, as a secondary benefit of attending the courses.

<b>4. Information transparency</b>	
<b>Subcategories</b>	<b>Assessment Methods</b>
4.1. Transparency of organizational information regarding courses and the qualification obtained following participation in courses - It refers to the extent to which students are satisfied with the information transmitted online by the educational institution about aspects related to the organization of courses, the structure of courses, the objectives of learning, skills, the qualification obtained, the qualification of the teaching staff, the accreditations of the institution organizing the courses	It will be determined based on an evaluation of the existing online information, made available to those interested, by the faculty



4.2. Transparency of organizational information specific to each course/discipline - Refers to the extent to which students are informed, through online display, about the organizational aspects specific to each course in the curriculum	The existing online information, made available to students, corresponding to each course will be evaluated.
--	--

<b>5. Didactic materials and the organization of the learning process</b>	
<b>Subcategories</b>	<b>Assessment Methods</b>
5.1. Course support - This criterion refers to the satisfaction that students have with regard to online access to course support and other didactic materials necessary for the distance learning process	<ul style="list-style-type: none"> <li>- The extent to which the course organization in the distance education system corresponds to the specificities of the learning program and the learners</li> <li>- The extent to which the access to the didactic materials is easy - aspects related to the presentation of the course will also be considered</li> <li>- The extent to which didactic techniques are adapted to the distance educational process</li> <li>- The extent to which the didactic materials are in a process of continuous improvement in terms of the online educational process</li> </ul>
5.2. Bibliographic materials - refers to the students satisfaction regarding online access to the bibliographic materials needed for the course.	The degree to which it is easy for students to access the online bibliography specific to each subject, will be evaluated.
5.3. Diversity of course presentation resources - This dimension refers to the satisfaction that students have regarding the diversity of media resources used to support the course (audio, visual, films, texts etc.).	The extent to which teachers use various teaching-learning methods during the educational process is evaluated.
5.4. Conducting the student assessment process – Refers to the extent to which student assessment is an integral part of the distance education process, which implies that the assessment is consistent with the way the course is conducted, with the information and requirements conveyed during the progress of the course.	<ul style="list-style-type: none"> <li>- The extent to which there is a balance between formative and summative assessment carried out in the distance educational system</li> <li>- The extent to which the course progress allows students to assess their educational evolution in achieving course objectives</li> <li>-- The extent to which, within the evaluation process, the integrity of the evaluation process can be guaranteed</li> <li>- The extent to which remote assessment of students does not disadvantage them</li> <li>- The extent to which the assessment process is adapted to be carried out remotely.</li> </ul>
5.5. Technical aspects specific to the distance educational process – Refers to the technical aspects that define the teaching-learning process	<ul style="list-style-type: none"> <li>- The extent to which online learning materials are designed to work effectively across various equipment and connectivity platforms</li> <li>- The extent to which the didactic materials have a graphic aspect capable of facilitating learning</li> </ul>

	<ul style="list-style-type: none"> <li>- The extent to which the software used in the distance education communication process is regularly updated.</li> <li>- The extent to which the e-learning platform is easy to navigate, which means it is intuitive, consistent and efficient.</li> </ul>
--	--

#### 4. Conclusions

In this paper, the major problems faced by the successful and consistent adoption of the online education process in universities were presented. The paper argued that this issue must be adopted with interest by university management, because online education is a reality of the present and the future of education. For the maximum potential of the online educational process, there are several limits that must be overcome through appropriate managerial approaches. These limitations refer to: difficulties in ensuring social interactions between participants in the educational process - students and teaching staff; difficulties in developing transversal skills such as teamwork, communication skills etc.; the financial and non-financial efforts that both students and teachers must make to support the online education process and the extent to which these efforts are outweighed by the benefits; the ease with which students can carry out online and other activities likely to support the online educational process (obtaining information, administrative actions, etc.); adaptation of didactic materials and online teaching-learning methods.

Starting from these limits, the paper proposes a series of indicators to measure the quality of the online educational process, indicators that, through the proposed assessment methods, also suggest the measures that can be implemented by the university management to overcome the identified difficulties.

#### References:

1. Allen, I. E, & Seaman, J. , 2011, Going the distance: Online education in the United States. The Online Learning Consortium, [https://sloanconsortium.org/publications/survey/going\\_distance\\_2011](https://sloanconsortium.org/publications/survey/going_distance_2011)
2. Angiello, R. , 2010, Study looks at online learning vs. traditional instruction. Education Digest, 76(2), pp. 56-59.
3. Crawford-Ferre, H.G.& Wiest, L.R., 2012, Effective On-line Instruction in Higher Education, The Quarterly Review of Distance Education, 13(1), 2012, pp. 11–14
4. Misut, M., Pribilova, K, 2015, Measuring of Quality in the Context of e-learning, Procedia - Social and Behavioral Sciences, 177 , pp. 312 – 319, [www.sciencedirect.com](http://www.sciencedirect.com)
5. Kentnor, H, 2015, Distance Education and the Evolution of Online Learning in the United States, Curriculum and Teaching Dialogue, 17 (1 & 2), [https://digitalcommons.du.edu/law\\_facpub](https://digitalcommons.du.edu/law_facpub)

# ANALYSIS OF THE COMPETITIVENESS OF LABOUR MARKET IN THE REPUBLIC OF MOLDOVA

Galina Savelieva<sup>1</sup>  
Svetlana Zaharov<sup>2</sup>

## **Abstract**

*Actuality of research the particularities of labour force market and its interrelation with processes taking place in economy, demography and social sphere increases. Globalization of the world economy and growing integration processes in Europe, population decline, ageing and migration of working-age population, as well as transition of the Republic of Moldova to market economy have aggravated existing problems and added new ones in the context of labour market competitiveness, both at internal and external levels. The process of transformation and adaptation to changes both in the economy and in its derivative segment or labour market are lengthy and have specific particularities and difficulties. This paper presents the research results of the impact of the principal factors the demographic and socio-economic nature that influence the sustainability of labour market development and its competitiveness. In particular, it evaluates the impact of demographic factors on the labour force reproduction and the increase in the demographic dependency on the working age population, as well as the impact of factors of socio-economic nature, motivation for labour activity, increase in economic activity and employment. Low wages and an imperfect legislative and normative framework in labour relations created the preconditions for search and developing illegal (informal) employment, providing additional opportunities of job placement with flexible working regime and receive higher incomes. The research is based on statistical data and calculated secondary indicators using the population of usual residence. The suggestions for improving the situation on labour market and increasing its competitiveness were elaborated on the basis of the obtained results.*

*The article was elaborated within the framework the Scientific Project “Migration, Demographic Changes and Policies of Stabilization the Situation”, registered in the State Register of projects in the field of science and innovation of the Republic of Moldova with the code 20.80009.0807.21 of the State Program (2020-2023).*

**Key words:** labour market, demographic factors, declining and ageing population, labour migration, wages.

**JEL Classification:** E24; J18; J21; J31; J60.

## **1. Introduction**

The labour market is a fundamental factor of socio-economic development of any state, including the problem of competitiveness, balancing and flexibility of labour market and protection of its workers becomes of particular actuality. One of the principal factors in the conceptual theory of labour market competitiveness is satisfaction of market demand for labour force, which, in turn, corresponds to the requirements for both quantity and quality of labour performed, which is established in the process using and exchanging of labour force. Labour market is a public socio-economic, institutional and organizational mechanism, that regulates the forms and level of economic activity of working-age population, labour remuneration and labour income, as well as the volume and structure of the necessities in labour force and its services. Equilibrium or balance in labour market reflects the equality of supply and demand of labour force, in case of labour force deficit and unemployment the situation in labour market is characterized as “non-equilibrium”. The functioning of labour market means the realization of its functions, which are conditioned by the interrelations and interactions of the different types of elements, its subjects of institutions. Labour market is a derivative of economic development and, in turn, it influences on economic development through the distribution of public labour by types of economic activities.

The demographic (decline of population and its ageing, migration and, as a consequence, change in its age-sex structure), socio-economic, institutional, natural-climatic factors, the

---

<sup>1</sup> PhD, Associate professor researcher, Center for Demographic Research, National Institute for Economic Research, Republic of Moldova, [savelievagalina@rambler.ru](mailto:savelievagalina@rambler.ru), [gts6@mail.ru](mailto:gts6@mail.ru)

<sup>2</sup> PhD, scientific researcher, Center for Demographic Research, National Institute for Economic Research, Republic of Moldova, [zaharov.svetlana@gmail.com](mailto:zaharov.svetlana@gmail.com)

international environment and the domestic political situation in the country, personal characteristics and orientations, values and attitudes of the worker affect on the functioning of labour market. At the same time one more notion emerges - the labour market model, which gives a systematic view of the existing mechanism of its functioning and regulation in the country, including its quantitative and qualitative characteristics, their dynamics and level of realization. The basis or the essence of the model consists its main components - demand and supply of labour, price of labour (employee's wages). The actuality of research the particularities and development of labour market is connected to the objectives of building a socially-oriented economy in the Republic of Moldova in conditions of globalization of the world economy and growing integration processes in Europe, as well as processes of population decline and its ageing and migration of working-age population. On the basis of the above-mentioned the evaluation of modern labour market in the Republic of Moldova is presented.

## 2. Purpose of the research, data and methods applied

The purpose of the research is to analyse the impact of factors on the sustainability, balance of the national labour market and, as a consequence, to ensure its competitiveness. In the process of research the methods of study the scientific literature and legal document, comparative analysis, analysis and synthesis, evaluation of measurement and analysis of empirical data, generalization, concretization, monitoring, formalization (reflecting of results, conclusions) were used.

In order to achieve the study's objectives, a complex and systemic approach was used, as well as scientific methods, including quantitative and qualitative analysis, graphical analysis, authors' calculations, etc. Official statistical data from the National Bureau of Statistics of the Republic of Moldova, Ministry of Labour and Social Protection, National Social Insurance Fund were used in the analysis, as well as some indicators necessary for the study were calculated by the authors. When calculating the indicators, the number of the population with usual residence was used, defined as the place where a person lived predominantly during the last 12 months indifferent of temporary absences (for the purpose of recreation, vacation, visits to relatives and friends, business, medical treatment, religious pilgrimages, etc.).

## 3. Results and Discussions

### 3.1. Impact of demographic factors

The development of the national labour market in the Republic of Moldova in recent years has taken place in the context of population decline, migration processes and population ageing, which has become irreversible. Demographic processes affected the reproduction of working-age population (labour force), the structure of labour force by age and sex, as well as its distribution throughout the country (geography of distribution, urban-rural). The population had a tendency to *decline*: as of 01.01.2019, the population decreased by 6.4% or 180.2 thousand persons as compared to 01.01.2014, and while for the year, as of 01.01.2021, the population decreased by 1.8% as compared to 01.01.2020. At the same time, for almost 30 years, since the beginning of the 1990s, the population 60 years old and over old constituted over 20% (in 1990 *ageing coefficient* it was 12.8%, in 2000 - 13.6%, in 2010 - 14.4%, in 2018 - 18.4%, and increased to 22.5% in 2020).

**Table no. 1. Population, Republic of Moldova\***

	2014	2015	2016	2017	2018	2019	2020	2021
<b>Population</b> (as of January 1), total, persons								
Including: % of total population	2,869.226	2,844.673	2,824.387	2,779.952	2,730.364	2,686.064	2,643.883	2,597.107
-under working age, 0-15 years old	19.1	19.1	19.2	19.5	19.7	19.7	19.6	19.4
-working age, 16-56/61 years old	62.3	61.7	61.1	60.1	59.1	59.7	59.1	59.4

	2014	2015	2016	2017	2018	2019	2020	2021
-over working age, 57/62+ years old	18.6	19.2	19.7	20.4	21.2	20.6	21.3	21.2
Natural increase rate of population, ‰	-0.5	-0.3	-0.6	-0.1	-1.0	-1.5	-3.8	-
Males, persons	1,375.745	1,367.311	1,359.212	1,333.392	1,305.304	1,282.755	1,262.351	1,239.905
Females, persons	1,493.481	1,477.362	1,465.175	1,446.031	1,425.060	1,403.309	1,381.532	1,357.202
Females/Males, %	108.56	108.05	107.80	108.40	109.17	109.40	109.44	109.46
Average age of population, years	37.4	37.7	37.9	38.1	38.5	38.8	39.2	-
<b>Life expectancy at birth, years</b>	69.3	69.4	69.9	70.8	70.6	70.9	69.8	-
Males	65.2	65.2	65.7	66.7	66.3	66.8	65.9	-
Females	73.6	73.7	74.2	74.9	75.0	75.1	73.9	-
<b>Ageing coefficient, as of January 1, %</b>	17.5	18.1	18.5	19.2	20.0	20.8	21.7	22.5
Males	14.5	15.0	15.4	16.0	16.7	17.5	18.3	18.9
Females	20.3	21.0	21.5	22.2	23.0	23.9	24.9	25.8

\* Since 2014, data on the population with usual residence has been used.

Since 01.01.2019, the retirement age has increased and constituted 63 years for males and 58 years for females.

Since 01.01.2021 the retirement age for females has increased to 59 years.

Source: NBS data, www.statistica.md

The consequence of the above-mentioned demographic processes is an increase in the values of the population's indicators of demographic dependence. Thus, the *total index of nonworking age population* increased to 68.4 persons per 100 persons of working age. The share of young population aged 0-15 years is below 20% (19.4%) with the decline in the share of working-age population aged 16-56/61 from 62.3% on 01.01.2014 to 59.4% on 01.01.2021 and the increase in the share of population aged 57/62+ years, or from 18.6% on 01.01.2014 to 21.2% on 01.01.2021. The population's indicators of demographic dependence increased to 36 persons over working age per 100 persons of working age and the under working age index to 33 persons per 100 persons of working age.

**Table no. 2. Indices of demographic dependence (demographic dependency ratio), per 100 persons of working age population, by dependent age groups, as of January 1\***

	2014	2015	2016	2017	2018	2019	2020	2021
<i>Non-working age population, total</i>	60.6	62.0	63.7	66.5	69.4	67.5	69.6	68.4
<i>Population under working age</i>	30.6	31.0	31.4	32.5	33.4	33.0	33.3	32.7
<i>Population over working age</i>	30	31.0	32.0	34.0	36.0	34.5	36.3	35.7

\* Working age population 16-56/61

Source: NBS data, www.statistica.md

### 3.2. Characteristics of labour market

The analysis of the economically active and employed population showed that the situation on labour market was more stable between 2014 and 2021, while the changes in employed population from 2019 are related to methodological changes introduced by the NBS (transition to EU standards and new methodology for the Household Labour Force Survey) and the COVID-19 pandemic crisis.

As the analysis shows, the economically active and, consequently, employed population tends to decrease, including the Employment Rate of working age population(15+), which in 2019 was only 40.1% and in 2020-2021, taking into account the impact of the pandemic crisis, was respectively 38.8% and 39.8%. At the same time, it should be noted that the unemployment rate is quite low, at 3.2% in 2021 - 3.2%.

Analyzing the employed population by types of economic activities, it can be noted that the change is insignificant - 21.5% are employed in the agricultural sector, their number increased by 0.4% compared to 2020 (in 2020 - 21.1%). Non-agricultural activity employs 78.5% of the total employed population (78.9% in

2020), including 14.4% in industry (14.6% in 2020), including 11.9% in manufacturing (11.7% in 2020), 7.7% in construction (7.2% in 2020) and 56.4% in services (57.1% in 2020). Looking at the gender gap, the largest discrepancy in non-agricultural activities is recorded in the service sector, where employed females 20.4 p.p. more than males, followed by the construction sector, where males predominate or 12.3 p.p. more, and in the agricultural sector, males employed more than females by 8.3 p.p.

**Table no. 3. Principal characteristics of economically active and employed population, Republic of Moldova**

	2014	2015	2016	2017	2018	2019*	2020*	2021*
<b>ECONOMICALLY ACTIVE POPULATION, THOUSAND PERSONS INCLUDING</b>	1,019.6	1,038	1,035.3	999.7	1,018.1	919.3	867.3	871.6
<b>EMPLOYED POPULATION, THOUSAND PERSONS</b>	981.5	989.1	993.7	960.8	988.5	872.4	834.2	843.4
<b>EMPLOYED POPULATION, % OF ECONOMICALLY ACTIVE POPULATION</b>	<b>96.3</b>	<b>95.3</b>	<b>96.0</b>	<b>96.1</b>	<b>97.1</b>	<b>94.9</b>	<b>96.2</b>	<b>96.8</b>
<b>EMPLOYMENT RATE OF WORKING AGE POPULATION, (15+), %</b>	41.7	42.4	43	42.4	44.5	40.1	38.8	39.8
<b>UNEMPLOYED (ILO), THOUSAND PERSONS</b>	38.1	48.8	41.6	38.9	29.6	46.9	33.1	28.2
<b>UNEMPLOYMENT RATE, % OF ECONOMICALLY ACTIVE POPULATION</b>	<b>3.7</b>	<b>4.7</b>	<b>4.0</b>	<b>3.9</b>	<b>2.9</b>	<b>5.1</b>	<b>3.8</b>	<b>3.2</b>
<b>EMPLOYED POPULATION BY PROFESSIONAL STATUS</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
- HIRING WORKERS	66.3	63.7	61.0	62.9	59.6	77.8	78.1	78.2
- PRIVATE ENTREPRENEURS (AT THEIR OWN EXPENSE)	30.6	31.7	33.5	32.7	35.7	17.6	17.2	16.7
- UNPAID FAMILY WORKERS	2.4	4.0	4.9	4.1	4.4	4.2	4.3	4.5
- EMPLOYERS, MEMBERS OF COOPERATIVES	0.7	0.6	0.6	0.3	0.6	0.4	0.4	0.6
<b>EMPLOYED POPULATION BY TYPE OF ECONOMIC ACTIVITY, %</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
AGRICULTURE, FORESTRY AND FISHERIES	23.7	23.2	24.2	22.6	39.3	21.0	21.1	21.5
INDUSTRY	13.5	13.8	13.8	13.4	11.0	14.8	14.5	14.4
CONSTRUCTION	6.1	6.2	5.8	5.4	4.6	7.0	7.2	7.7
WHOLESALE AND RETAIL TRADE; ACCOMMODATION AND PUBLIC CATERING ACTIVITIES	18.2	17.1	18.1	19.3	14.5	18.8	17.8	17.5
TRANSPORT, STORAGE; INFORMATION AND COMMUNICATION	7.1	7.2	7.2	6.9	5.5	6.9	7.4	7.1
PUBLIC ADMINISTRATION, EDUCATION, HEALTH AND SOCIAL PROTECTION	21.7	22.5	21.5	22.8	17.8	22.6	23.1	22.9
OTHER ACTIVITIES	9.7	10.0	9.4	9.6	7.3	8.9	8.9	8.9
<b>EMPLOYED POPULATION BY FORMS OF PROPERTY, % OF TOTAL</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
PUBLIC PROPERTY	25.8	26.1	23.8	25.2	22.8	29.3	29.8	28.8
PRIVATE PROPERTY	66.3	66.2	68.8	66.8	69.3	60.7	59.7	60.2
OTHER TYPES OF PROPERTY	7.9	7.7	7.4	8.0	7.9	10.0	10.5	11.0

\* Based on the estimation of the indicators, the number of the population with usual residence was used. Usual residence is defined as the place where the person has lived predominantly in the last 12 months independently of temporary absences (for recreation, vacation, visits to relatives and friends, business, medical treatment, religious pilgrimages, etc.). Starting with 2019, the data are not comparable with the previous period, because the CBGC methodology has been modified.

\* 2019-2020, Household Labour Force Survey (Labour Force Survey), is implemented by NBS RM according to the new survey research plan and according to the revised definition of employment.

*Source:* authors' calculations and NBS data, [www.statistica.md](http://www.statistica.md)

In 2021, the employment rate for males (44.7%) was higher than for females (35.4%), and by location it was 45.6% in urban and 36.0% in rural. The employment rate of working-age population (16-58 years for female and 16-62 years for male) was 50.9% and 47.5% for persons aged 15-64 years, with a low rate of 28.9% for 15-29 years.

Employment Gap between males and females is increasing due to a decrease in the employment rate of females (2014 - 5,9 p.p., 2021 - 9,3 p.p.). The employment rate before the age of 30 is decreasing, respectively decreasing in the age groups 15-24 and 25-34. The employment rates in the age groups 35-44, 45-54 and 55-64 years old began to recover in 2021. At the same time, it should be noted that the 65+ age group continued to decrease for both males and females.

The analysis of employed population in frameworks of education shows that the share of professional education is in stable demand on labour market. The share of employed population with higher education has not increased, due to a slow decline in the number of employed population with higher education.

The low unemployment rate also determines the low rates of males and females. The unemployment gap by gender is decreasing and in 2021 it reached 1.3 p.p. (Zaharov, 2021).

**Table no. 4. Labour market demography**

	2014	2015	2016	2017	2018	2019*	2020*	2021*
<b>EMPLOYMENT RATE, (15+), % INCLUDING:</b>	41.7	42.4	43	42.4	44.5	40.1	38.8	39.8
-MALES	44.8	45.3	46.1	46.1	48.1	44.2	43.1	44.7
-FEMALES	38.9	39.8	40.2	39.1	41.4	36.5	35	35.4
<b>EMPLOYMENT GAP BY GENDER, P.P.</b>	5.9	5.5	5.9	7	6.7	7.7	8.1	9.3
<b>EMPLOYMENT RATE, (15+), % INCLUDING BY AGE GROUPS</b>								
15-24	18.6	19.5	18.5	18.3	20.9	19.0	16.3	16.4
25-34	50.2	49.7	51.2	49.0	50.3	52.1	50.2	52.0
35-44	62.7	63.3	62.4	60.9	61.7	58.0	57.6	59.5
45-54	63.6	64.7	64.6	63.8	64.8	59.7	58	59.4
55-64	41.7	42.8	44.8	46	48.5	40.5	40.5	42.6
65 AND OVER	9.0	10.6	12.3	12.7	17.4	7.6	6.5	5.3
<b>EDUCATION LEVEL – TOTAL, %</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
HIGHER	23.6	23.4	23.2	23.4	22.6	27.9	28.3	27.9
SECONDARY SPECIAL	13.7	14.0	13.4	13.4	13.0	14.6	14.3	14.1
PRIMARY (SECONDARY) VOCATIONAL EDUCATION	23.9	22.5	22.2	23.1	23.3	22.7	22.6	22.7
LYCEUM, GENERAL SECONDARY	19.2	20.0	19.9	19.7	19.0	17.7	17.6	16.6
GYMNASIUM	18.9	19.4	20.7	20.0	21.4	16.7	17.0	18.5
PRIMARY SCHOOL OR WITHOUT	0.7	0.6	0.6	0.4	0.6	0.4	0.2	0.2
<b>UNEMPLOYED (ILO), THOUSAND PERSONS</b>	38.1	48.8	41.6	38.9	29.6	46.9	33.1	28.2
<b>UNEMPLOYMENT RATE, % OF ECONOMICALLY ACTIVE POPULATION</b>	<b>3.7</b>	<b>4.7</b>	<b>4.0</b>	<b>3.9</b>	<b>2.9</b>	<b>5.1</b>	<b>3.8</b>	<b>3.2</b>
-MALES	4.5	5.9	5.2	4.5	3.4	5.8	4.3	3.8
-FEMALES	2.9	3.4	2.7	3.2	2.4	4.4	3.2	2.5

Source: authors' calculations and NBS data, [www.statistica.md](http://www.statistica.md)

### 3.3. Wages

External dependence on energy and raw materials and the resulting economic and financial instability are the principal reasons for the low level of wages, which are the main source of income for the country's working-age population. At the same time, the wage gap between males and females is 13.6%, and the ratio of wages in budgetary and real sectors of economy is 81.2%.

**Table no. 5. Wages**

	2014	2015	2016	2017	2018	2019*	2020*	2021*
<b>AVERAGE MONTHLY WAGE OF AN EMPLOYEE IN THE ECONOMY (BRUT), LEI</b>	4 089.7	4 538.4	4 997.8	5 587.4	6 268.0	7 233.7	7 943.0	8979.8
COMPARED TO PREVIOUS YEAR, %	111.3	111	110.1	111.8	112.2	115.4	109.8	113.1
EURO	219.5	217.2	226.6	268.3	315.9	367.7	402.3	429.1
DOLARI SUA	291.3	241.2	250.8	302.2	373	411.6	458.6	507.9
<b>BUDGETARY SECTOR, LEI</b>	3 699.2	4 143.4	4 382.0	4 975.9	5 729.9	6 664.4	7 381.6	7828.6
COMPARED TO PREVIOUS YEAR, %	110.8	112.3	105.7	113.5	114.6	116.9	110.2	106.5
<b>REAL SECTOR, LEI</b>	4 238.8	4 692.3	5 237.2	5 815.5	6 459.4	7 420.4	8 135.7	9360.3
COMPARED TO PREVIOUS YEAR, %	110.9	110	112	111.3	112.5	113	110.2	114.2
<b>WAGE GAP BY SECTOR, BUDGETARY/REAL, %</b>	87.3	85.7	80.9	82.5	84.1	87.0	87.0	81.2
<b>MALES, LEI</b>	4 374.9	4 881.3	5 414.4	6 017.0	6 779.4	7 808.0	8 558.5	9672.6
<b>FEMALES, LEI</b>	3 831.8	4 235.2	4 631.4	5 204.0	5 800.7	6 709.8	7 387.2	8353.1
<b>WAGE GAP BY GENDER, FEMALES/MALES, %</b>	12.4	13.2	14.5	13.5	14.4	14.1	13.7	13.6

*Source: NBS data and authors' calculations*

Analysis of the Household Budget Survey data for 2021 ([www.statistica.md](http://www.statistica.md)) showed that the lowest average monthly disposable income is the income of workers employed in the agricultural sector, including farmers; its size does not even cover the subsistence level of a working-age person and the value of absolute poverty (the absolute poverty level of hiring worker is 37.9% and that of the self-employed - 35.4%). The ratio between incomes of persons in quintiles I and V evidences of social inequality (5.3 times in 2021).

Low labour earnings (wages) can be explained by the fact that in Republic of Moldova a large share of workers is maintained in agriculture, i.e. the sector with low labour productivity. At the same time, EU's countries have services and industry haw the main employment sectors, and the share of agriculture in Gross Value Added is not higher than 5%. The share of agriculture in Republic of Moldova was 11% in 2020 and the share of population employed in it is 21.5% in 2021. According to official statistics, in 2021, agriculture, forestry and fisheries contributed 4.2% to GDP growth with a share of 10.4% in GDP formation and GVA growth of 45.0% in respective activities, with a total GDP growth of 13.9% compared to 2020. The contribution of wholesale and retail trade; maintenance and repair of cars and motorcycles accounted for +2.2%, with a share of 14.9% in GDP formation and GVA growth of 14.5% in respective activities.

### 3.4. Republic of Moldova versus EU

A comparison of the Republic of Moldova with the European Union shows, that in EU countries the average monthly wage (gross) is much higher than in the Republic of Moldova, e.g. the amounts of wages in 2021 were: Bulgaria - 944.00 €, Hungary - 1344.00 €, Germany - 4640.00 €, Italy - 3360.00 €, Portugal - 2032.00 €, Romania - 672.00 €, Greece - 2176.00 €, Spain - 2720.00 €, Latvia - 1408.00 €, Lithuania - 1744.00 €, France - 4112.00 €.



**Table no. 6. Republic of Moldova versus EU**

	RM	EU
<b>Share of total GVA (Gross Value Added) by economic activity, 2020</b>		
AGRICULTURE	10.80%	1.80%
INDUSTRY	15.20%	19.50%
CONSTRUCTION	11.50%	5.60%
SERVICES	62.50%	73.10%
<b>RM VERSUS EU</b>		
EMPLOYMENT RATE (15-64), 2021, %	47.50%	68.40%
EMPLOYMENT RATE, FEMALES (15-64), 2021, %	43.80%	63.40%
GENDER EMPLOYMENT GAP (15-64), 2021, FEMALES/MALES, %	7.6 p.p.	9.9 p.p.
DEMOGRAPHIC DEPENDENCY INDICES, (POPULATION 0-14 AND ELDER PEOPLE (65+) PER 100 PERSONS AGED 15-64), 01.01.2021	49.80%	56.00%
POPULATION ( 65+) IN TOTAL POPULATION, AS OF 01.01.2021	14.90%	20.80%
UNEMPLOYMENT RATE (15-74), 2021	3.20%	7.00%
YOUTH UNEMPLOYMENT RATE (15-24), 2021	9.20%	16.60%
WAGE GAP BY GENDER, %	13.70%	13.00%

Source: authors' calculations and NBS data, www.statistica.md

### 3.5. Economically inactive population in relation to labour market

The stability and balance of labour market is influenced by both factors of natural character and factors of socio-economic nature, including the motivation of labour. At the same time, an important indicator is the ratio of economically active and economically inactive population. Thus, the share of economically inactive population prevails in the total working-age population(15+), including about 60% in the last 2 years. The number of economically inactive population significantly is exceeds the number of labour force on labour market, including most of them or 92.8% are not looking for or available for work (2021). Considering the possibility of covering the needs of labour market in labour force, the reserves to replenish the labour market is very small - it is real categories of students (13.5%), labour migrants, when they return to the country (6.4%), partly possible from other situations, but it is also all under the question.

**Table no. 7. Main characteristics of economically inactive population in relation to labour market in the Republic of Moldova**

	2014	2015	2016	2017	2018	2019*	2020*	2021*
<b>ECONOMICALLY INACTIVE POPULATION, THOUSAND PERSONS</b>	1,336.4	1,295.6	1,277.9	1,267.6	1,202.1	1,255.9	1,283.6	1,248.9
<b>MAIN MOTIVES FOR UNWILLINGNESS TO WORK:</b>								
- LOOKING FOR BUT NOT AVAILABLE FOR WORK	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1
- NOT LOOKING FOR, BUT AVAILABLE FOR WORK	1.1	0.9	1.1	0.7	0.5	1.2	0.7	0.6
- WANTS TO WORK, BUT IS NOT LOOKING FOR AND NOT AVAILABLE FOR WORK	0.2	0.4	0.9	0.7	0.6	0.5	0.4	0.2
- NOT LOOKING FOR AND NOT AVAILABLE FOR WORK	<b>87.4</b>	<b>88.0</b>	<b>87.8</b>	<b>87.4</b>	<b>86.5</b>	<b>89.7</b>	<b>91.8</b>	<b>92.8</b>
- OF WHICH THE <i>SHARE OF PENSIONERS</i>	46.0	47.6	47.6	47.6	48.6	50.3	49.2	50.3
- WENT TO WORK ABROAD	11.2	10.6	10.1	11.1	12.3	8.4	7.0	6.3

	2014	2015	2016	2017	2018	2019*	2020*	2021*
<b>INACTIVE POPULATION BY MAIN CATEGORIES, % OF TOTAL</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
-PUPIL, STUDENT	17.6	16.7	16.7	15.5	15.0	13.1	13.4	13.5
-PENSIONER	40.3	42.0	42.0	41.8	42.1	45.1	45.2	46.7
-HOUSEWIFE	11.1	11.2	11.5	11.5	11.3	13.0	13.1	13.3
-OTHER SITUATIONS	19.8	19.5	19.6	20.0	19.3	20.4	21.3	20.1
-WENT TO WORK ABROAD	11.2	10.6	10.2	11.2	12.3	8.4	7.0	6.4
<b>SHARE OF ECONOMICALLY INACTIVE POPULATION, % OF TOTAL WORKING AGE POPULATION**</b>	56.7	55.5	55.2	55.9	54.1	57.7	59.7	58.9
<b>PARTICIPATION RATE OF WORKING AGE POPULATION** IN ECONOMIC ACTIVITY, %</b>	43.3	44.5	44.8	44.1	45.9	42.3	40.3	41.1

\*\*Working age population, 15+

*Source:* authors' calculations and NBS data, [www.statistica.md](http://www.statistica.md)

From the analysis of the data (table no. 7) can also note, that the share of inactive population, which includes labour migrants temporarily working outside the country, tends to decrease, including this is connected with the COVID-19 pandemic crisis both within the country and in the host countries (pandemic, economic, energy crises, etc.).

### 3.6. Impact of the informal sector on labour market

The development of private property affected the forms of employment and labour relations between employers and employees: in 2021 the share of employed population in structures with private property was 60.2%, and with state property - 28.8%, or 31.4 p.p. less. In 2021, undeclared work was 6.6%, or practically at the level of 2020 (6.5%). The largest shares of workers employed informally were registered in agriculture (58,0%), construction (13,3%), trade (10,0%), industry (7,1%). The share of those employed in the informal sector in 2021 was 16.9% of those employed in the economy (in 2020 - 16.7%), and 22.8% had informal jobs (in 2020 - 22.4%), of those employed informally, 23.8% were hired workers. In the non-agricultural sector informal employment amounted to 11.3%, of which the largest share was registered in construction (65.1% of the total number of those employed in this sector). As it follows from the analysis, 6.9% of the total number of employed had informal work and at the same time received a wage "in an envelope", and these are mainly employed in agriculture (57.9%), construction (13.2%), trade (10.3%) and industry (7.3%). The share of workers for whom the employer does not remit mandatory social insurance contributions, depriving them social protection, including insurance in case of unemployment and future pensions, is 96% of the total number of employees in informal sector.

**Table no. 8. Dynamics of informal employment, %**

	2014	2015	2016	2017	2018	2019*	2020*	2021*
<b>Share of informal working places - total, % of total number - including by types of economic activity, % of total number for this type</b>	33.5	36.6	38.3	37.0	39.7	23.1	22.4	22.8
Agriculture, forestry and fisheries	77.4	82.5	82.3	82.5	82.9	64.3	65.7	65.0
Industry	6.3	6.0	6.4	5.0	4.8	5.6	4.3	4.0
Construction	59.3	62.6	58.6	60.0	61.3	64.0	65.4	65.1

	2014	2015	2016	2017	2018	2019*	2020*	2021*
Wholesale and retail trade, accommodation and public catering activities	15.8	15.6	16.0	15.3	12.8	11.7	8.2	8.6
Transport, storage, information services and communication	10.4	11.7	14.6	9.4	9.0	9.0	7.5	8.1
Public administration, education, health and social protection	0.3	0.5	0.6	0.3	0.6	0.2	-	0.3
Other activities	14.3	14.3	15.7	17.3	18.4	16.1	13.1	12.2
<b>Share of workers for whom the employer has not paid mandatory social insurance contributions, % of total number of employees in informal sector</b>	91.7	86.9	87.3	87.2	90	93.9	95.7	96.1

Source: authors' calculations

### 3.7. Labour migration

The number of labor migrants in the republic has a sustainable tendency to decrease, which continued during the pandemic. The share of labour migrants in the inactive population is gradually decreasing (2021 - 6.3%).

Analysis of labour migration by age groups showed that young people under 34 years old constitute the main share of migrants. Labour migration is practically absent at the age of 60 and over. The level of professional education of labour migrants is lower than the corresponding level of the employed population, confirming that the main place of work of labour migrants abroad are working places not requiring high qualifications, including in agriculture and construction.

**Table no. 9. Labour migration**

	2014	2015	2016	2017	2018	2019*	2020*	2021*
<b>WORKING AGE POPULATION (15+) WENT ABROAD IN SEARCH OR FOR WORK, THOUSAND PERSONS</b>	149.8	137.2	128.8	140.6	147.4	105.9	90.4	79.0
<b>SHARE LABOUR MIGRANTS FROM ECONOMICALLY INACTIVE POPULATION-TOTAL, %</b>	11.2	10.6	10.1	11.1	12.3	8.4	7.0	6.3
<b>LABOUR MIGRANTS BY AGE GROUPS, % OF TOTAL</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
15-24	27.7	23.9	24.4	18.5	18.9	19.2	19.4	17.6
25-54	68.3	71.7	71.1	76.0	76.3	75.8	73.4	75.6
55 +	4.0	4.4	4.5	5.5	4.8	5.0	7.2	6.8
<b>LEVEL OF EDUCATION OF LABOUR MIGRANTS, % OF TOTAL</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
HIGHER	10.1	11.4	11.8	13.0	10.5	12.0	13.8	11.8
SECONDARY SPECIAL	11.0	9.3	10.5	10.4	9.8	12.7	11.3	10.4
PRIMARY(SECONDARY) VOCATIONAL EDUCATION	26.9	27.0	22.2	26.3	28.5	28.1	31.9	28.5
LYCEUM, GENERAL SECONDARY	21.9	24.1	25.3	22.0	21.6	17.2	15.7	17.8
GYMNASIUM	29.5	28.0	30.1	28.0	29.0	29.9	27.2	30.2
PRIMARY SCHOOL OR WITHOUT	0.6	0.1	0.1	0.4	0.6	0.1	0.1	1.3

Source: authors' calculations and NBS data, [www.statistica.md](http://www.statistica.md)

#### 4. Conclusions

At present the national labour market is in a difficult situation, including as a result of demographic factors (population decline and ageing), structural transformation of economy due to the pandemic crisis, labour migration of professionally trained labour force, the prevailing share of economically inactive population, illegal employment and a number of other factors. Changes in country's labour market are influenced by global tendencies in neighboring countries as a result of the COVID-19 pandemic, rising of energy resources prices, tighter monetary policy as a result of anti-Russian sanctions, accelerating automation and the growing popularity of remote work and changes in the supply-demand structure of labour force in labour market.

As a consequence of influence the factors of socio-economic character, labour motivation, the ratio of economically active and economically inactive population is directed in favor of the prevailing share of inactive population (up to 60% or more). So, in 2020-2021 in this category up to 92-93% of the population, who not only do not search, but also do not want to work (the share of pensioners in this category in 2021 was 50.3%). From the analysis of labour market' indicators it follows that the participation rate of working-age population in economic activity, since 2018 decreased to 41.1% in 2021, or the lowest for 2014-2021. Coefficient of employment of working-age population in 2019 was 40,1%, in 2020-2021 it decreased to 38,8% and 39,8% respectively, male - 44,7% and female - 35,4%, in urban - 45,6%, and in rural 36,0%.

In 2021, undeclared work was 6.6%. The predominant share of informally employed persons is characteristic for agriculture (58.0%), construction (13.3%), trade (10.0%), and industry (7.1%). At the same time, out of those employed informally, hired workers constituted 23.8%. In 2021 6.9% of all employed people had informal work and received a wage in "an envelope", inclusive the biggest shares of them being in agriculture (57.9%), construction (13.2%), trade (10.3%). The practice of hiring without concluding individual labour contracts (on the basis of verbal agreements), which is specific to informal employment, is more common among male than among female and is also more common in rural than in urban.

An important factor in motivating labour is labour earnings, including its main component - wage, the low level of which is the reason for the existence of such phenomena as informal employment, labour migration. In 2021, the average monthly wage increased by 13.1% compared to the previous year, but taking into account the increase in the consumer price index, its growth was 7.6%. The wage gap between male and female is 13.7% and the ratio of wages in the budgetary and real sectors of the economy is 81.2%. In 2021 every second hired employee received an average monthly wage of less than 7 000 MDL, 22,8% had an average monthly wage within the limits of 7-10 000 MDL, 15,4% - an average monthly wage within the limits of 10-15 000 MDL, and only 11,3% had wage higher than 15 000 MDL. As a consequence, the low level of labour income, economic and financial instability, increased risk of poverty of the population engaged in economic activities (the absolute poverty rate of employees in agricultural sector in 2021 was 35.1% with the national average of 24.5%) are the principal reasons for labour migration processes, the majority of which (63% and more) are from rural.

Consequently, considering the above mentioned, the conditions of economic, social and demographic instability (including both internal and external), imbalance of supply and demand on labour market of the Republic of Moldova give the possibility to characterize the present situation as a crisis one and not as a condition of its sustainability, stabilization (from latin - stabilis), and competitiveness of labour market on internal and external plans in conformity with the accepted conceptual basis and corresponding criteria.

In order to improve the situation on labour market and increase its competitiveness, the following is proposed:

- improving the quality of labour force, first of all, its professional skills, IT skills, taking into account the involvement of social partners in financing the training of workers, including subsidizing the training costs of labour force, as well as low-wage work places in order to involve the youth and elderly of working-age population in labour market based on the implementation of the EU experience;

- expanding the scope of regime of flexible schedule of working time, which will allow combining different activities through part-time work, increasing the sources of labour income and other advantages for labour force development, child education or other requirements. This measure will also contribute to stimulating a reduction in illegal employment;

- improving the remuneration system by linking it more closely to the quality, complexity and volume of work performed, raising the minimum wage, implementing new forms and systems of remuneration taking into account the experience of EU countries, including the use of criteria for evaluation the quality of labour and employment standards by type of economic activity and ILO standards;

- ensuring a balance between the growing cost of labour, social protection of workers and maintaining the competitiveness of products and services;

- improvement of the normative legal basis (Labour Code of the Republic of Moldova, 2003) in the sphere of labour and employment, taking into account new forms of employment in conditions of development of IT-technologies, informatics;

- elaboration of programs for creating and promoting a diversified economy based on the development of innovative and productive objects, the integration of the scientific and educational complex, the subjects of entrepreneurial activity and institutional structure for the state regulation of labour market;

- raising the role of the National Employment Agency and its regional offices in increasing the employment rate and the efficiency of the use of labour, regulating the territorial mobility of labour force on the basis of operative interaction with economic agents, including in the placement of unemployed and returning migrant workers, programs on professional training and training in new professions, as well as in the elaboration of forecasts for labour market and the requirements for labour force in the medium term;

- improving social protection of employed population, including effective family policies in field of access to medical services (including the creation of conditions for more full employment for women with children on labour market), access to education, and activation of social partnership and the activity of the 3-sided Commission at national and territorial level to protect labour relations on labour market, creating healthy working conditions to ensure the working age abilities of employed population throughout their professional activities.

**Acknowledgements:** The article was elaborated within the framework the Scientific Project “Migration, Demographic Changes and Policies of Stabilization the Situation”, registered in the State Register of projects in the field of science and innovation of the Republic of Moldova with the code 20.80009.0807.21 of the State Program (2020-2023).

#### **References:**

1. Codul Muncii al Republicii Moldova, nr.154/2003. Monitorul Oficial al Republicii Moldova. 2003, nr. 159-162, art. 648.

2. SAVELIEVA, G.; ZAHAROV, S. (2022). Analysis of principal tendencies of labour market in the Republic of Moldova. In: HOLISTICA - Journal of Business and Public Administration, Vol. 13, Issue 1, pp. 143-158.

<https://sciendo.com/pdf/10.2478/hjbpa-2022-0010>,

<https://sciendo.com/it/article/10.2478/hjbpa-2022-0010>,

DOI:10.2478/hjbpa-2022-0010.

3. SAVELIEVA, G.; ZAHAROV, S. (2021). Challenges of Labor Market Transformations towards Social Policies in the Republic of Moldova. *Revista Economica Contemporană=The Journal Contemporary Economy*, Volume 6, Issue 3, pp. 95-120.

<http://www.revec.ro/article-2021-id-99-vol..6.nr..3-884-provocarile.transformarilor.pe.pia&.538;a.muncii.fa&.538;a.de.politici.sociale.in.republica.moldova.html>.

4. SAVELIEVA, G.; ZAHAROV, S. (2021). CORONAVIRUS PANDEMIC SHOCK: Labour market in the Republic of Moldova. In: Sustainable economic and social development of euroregions and cross-border areas (“Dezvoltarea economico-socială durabilă a Euroregiunilor și a zonelor transfrontaliere”): conferința științifică internațională, 29 octombrie 2021, Iași (România). Academia Română – Filiala Iași, Institutul de Cercetări Economice și Sociale „Gh. Zane”. Iași: Ed. PERFORMANTICA, Ediția a XVII-a, Vol. XL, pp. 429-440. ISBN: 978-606-685-831-1.

[https://ibn.idsi.md/sites/default/files/imag\\_file/429-440\\_0.pdf](https://ibn.idsi.md/sites/default/files/imag_file/429-440_0.pdf).

5. SAVELIEVA, G.; ZAHAROV, S. (2021). The impact of economic transformations on the development of informal forms of employment in the Republic of Moldova. In: ENE, C.M.; UZLAU, C.; BALAN, M. coord. *Trends in the current economic environment: Proceedings the 5<sup>rd</sup> edition of international conference, 3-4 december 2020*. Hyperion University of Bucharest, Faculty of Economic Sciences. București: Pro Universitaria, 2021, pp. 126-146. ISSN: 2810-322X.

6. ZAHAROV, S. (2021). Moldovan Labour Market Issues in Context of Demographic Changes. In: Sustainable economic and social development of euroregions and cross-border areas (“Dezvoltarea economico-socială durabilă a Euroregiunilor și a zonelor transfrontaliere”): conferința științifică internațională, 29 octombrie 2021, Iași (România). Academia Română – Filiala Iași, Institutul de Cercetări Economice și Sociale „Gh. Zane”. Iași: Ed. PERFORMANTICA, Ediția a XVII-a, Vol. XL, pp. 547-558. ISBN: 978-606-685-831-1.

[https://ibn.idsi.md/sites/default/files/imag\\_file/547-558\\_0.pdf](https://ibn.idsi.md/sites/default/files/imag_file/547-558_0.pdf).

7. ZAHAROV, Svetlana. (2020). Labour market in conditions of demographic changes. National Institute for Economic Research, Centre for Demographic Research. Chisinau, 118 p. ISBN 978-9975-89-187-5. (in Russian).

[https://ince.md/uploads/Monografii/Zaharov\\_monografie.pdf](https://ince.md/uploads/Monografii/Zaharov_monografie.pdf),

<http://dspace.ince.md/xmlui/handle/123456789/1188>.

[doi.org/10.36004/nier.monogr.331.2020](https://doi.org/10.36004/nier.monogr.331.2020).

# IMPACT OF DIGITALIZATION ON THE NEW COMPETENCES FOR ACCESS TO THE LABOR MARKET – POINT OF VIEW FOR VOCATIONAL AND TECHNICAL EDUCATION

Maria Cristina, Șerb (Tanislav)<sup>1</sup>

## *Abstract*

*Digitalization opens up a new field in recruitment and workforce composition. Cooperation between internal and external staff, staff in mixed teams and additional providers of highly qualified service for specific activities is already a reality today. Digital competence in vocational and technical education, which includes digital knowledge, attitudes and skills, has become a key competence in vocational education in most developed countries. Currently, Romania is one of the least digitalized countries in the European space, especially in professional and technical education. The present research presents the most important results regarding the impact of digitalization on the new skills in professional and technical education, necessary for access to the labor market in Dâmbovița county, the performance been analyzed simultaneously with the results obtained at the organizational level. The data were obtained by applying a questionnaire to a representative sample of teachers from professional and technical education in Dambovița county. They served to create an overview of training in professional and technical education, background on the current labor market integration.*

**Keywords:** digitalization, vocational training, professional training, transversal skills

**JEL classification:** I2/O3

## 1. INTRODUCTION

Along with technological progress, the **process of automation and robotization** has accelerated, with a continuous and unprecedented impact on the way companies operate. First, digitization has caused a radical change in the workplace and the way work is done. But at the same time, digitalization benefits all the actors involved: **the client, the company, the employee**<sup>2</sup>.

In general, questions arise regarding **current and future patterns of employment, including future forms of employment, the notion of „employee”, as well as the role of the social partners**. Moreover, there is a need for an adaptation of the current labour legislation in correlation with the digital future. Differentiations may occur according to the size of enterprises (there will be comparable situations between large and small ones), in their attempt to remain competitive in the market.

From the employer's perspective, qualification is a key challenge and one that needs decisive action. The skills challenge in the manufacturing sector is becoming more pronounced as the industry becomes more digitized.

The accelerating digital transformation of the economy means that almost all jobs now require some level of digital skills, as does participation in society in general. The collaborative economy is changing business models, opening up new opportunities and new pathways to jobs, requiring different skill sets and bringing challenges such as accessing upskilling opportunities. Robotization and artificial intelligence are replacing routine work, not only in the production department, but also in the office<sup>3</sup>. Access to services, including e-services, is changing and requires both users, providers and public administrations to have sufficient digital skills. E-health, for example, is changing the way people access and receive health care.

The demand for digital technology specialists has grown by 4% annually over the past ten years. However, digital skills are in short supply in Europe at all levels: there are a large number of vacancies for ICT specialists; almost half of the EU population lacks basic digital

---

<sup>1</sup> Economic College Ion Ghica, Targoviste, Romania; e-mail address: crisstinaro@yahoo.com

<sup>2</sup> Digitalisation and the World of Work, CEEMET (Council of European Employers of the Metal, Engineering and Technology-based Industries).

<sup>3</sup> COM(2016) 381 final: A new skills Agenda for Europe.

skills; about 20% of people do not have these skills at all. Member States, businesses and citizens must rise to the challenge and invest more in digital skills training (including programming/IT) across the spectrum of education and training.

It is estimated that 65% of children entering primary school today will likely end up in jobs that do not yet exist<sup>1</sup>. Therefore, it is quite complicated to predict exact skill requirements. However, we can identify a number of skills to cope with new occupations and tasks:

- **generic technical skills, software and hardware integration.** This needs to be addressed through an increased focus on specific STEM (Science, Technology, Engineering and Mathematics) skills and enhanced cooperation between companies and education providers (particularly from higher education).

- **electronics and software engineers** in product and process development. The increasing digitization of manufacturing means a growing need for **robotics and automation engineers with programming and coding skills.**

- **analytical skills.** The huge amount of data provided by various sensors, involves a number of data understanding skills.

- **cyber security skills.** Increasing amounts of software and Internet services across the industry mean an increase in cyber threats.

But, in addition, to technical skills, working with a more complex productive activity will also continue to require **soft skills** in the industry:

- the ability to cooperate;
- the ability to assume responsibility;
- ability to solve problems;
- the ability to communicate.

## 2. RELEVANCE AND IMPORTANCE OF STUDY

Starting from the premise that education (through the skills it develops) represents the best tool in combating social inequalities, a more accurate correlation is required between the development of the industry (by including the latest technological discoveries) and the labour market, in other words, an accurate anticipation of skills needs by analysing supply and demand data.

Policymakers need to ensure that *digital literacy and STEM fields* are prioritized in children's early education, both in mainstream and higher education. In some European countries, the school curriculum in primary education has notions of simple coding in computer science.

*Digital learning environments* are also being developed, integrated into all school curricula. The goal is not only to learn to use new equipment and programs (software), but also to be able to understand and control their operation and to create new ones.

Cooperation with the business environment (employers) should come first, because they play an important role in the demand for jobs, which is the basis for the design and development of some courses (at school, high school or university).

In particular, within *vocational and technical education* (IPT or VET), IT and digital literacy skills should be taught for all professions and education levels. This would, moreover, be a form of responsibility for the industry and the social partners, involved in the governance and definition of study programs.

Digitization opens up a new field in recruitment and workforce composition. *Cooperation between internal and external staff*, the staff in mixed teams and additional highly qualified service providers for specific activities is already a reality today. However, visions of global cooperation in virtual teams across borders and across companies raise

---

<sup>1</sup> WEF, „The future of Jobs and Skills”, 2016.



questions about integration, leadership and supervision, in addition to necessary adjustments in skills, working hours and workplace.

Also, at this time, a complex analysis is not yet done regarding the *clear demarcation between professional and private life*. Furthermore, as technologies become more and more advanced, the consequences of their use on personal health and safety become less and less certain, or anyway somewhat unknown. It is important for policy makers to recognize that employers cannot be solely responsible for health and safety issues that may arise through the use of technology, both in a person's working life and in their private life.

### 2.1. Materials and methods

The investigative approach regarding the impact of digitalization on the new competencies for access to the labour market – point of view for vocational and technical education, consisted of an analysis of the answers to the questionnaire provided by the teachers who carry out the practical courses in the 17 technological high schools in Dambovită County.

The basis of the sample calculation were the criteria related to gender and place of residence.

**Table no. 1**

#### TEACHING STAFF IN HIGH SCHOOL EDUCATION FROM PROFESSIONAL AND TECHNICAL EDUCATION

COUNTY ENVIRONMENT	TEACHING STAFF NUMBER	QUALIFIED TEACHING STAFF PERCENTS	
	TOTAL	TOTAL	FEMALE
Dâmbovița	1320	99,22%	99,63%
URBAN	1160	99,15%	99,60%
RURAL	160	100,00%	100,00%

Sursa: ISJ DAMBOVITA

The sample was calculated on a 95% confidence interval with a margin of error of 5% (tab. 2). *The information processing methods were carried out through Pearson correlations and principal components analysis*, using the Varimax rotation method (3 iterations) with Kaiser normalization.

**Table no. 2**

Error Margin	5%
Confidence Level	95%
N	<b>289</b>

The investigative approach regarding the impact of digitalization on the new competencies for access to the labour market – point of view for vocational and technical education used a complex research strategy, which combines both quantitative and qualitative methods, with the aim of obtaining results valid and faithful regarding the opinion of teachers in professional and technical education.

The analysis of the sample according to the *variable field of activity for the internship teachers*, the largest number of teaching staff is observed in the field of *Mechanics* (22.6%), followed by the fields of *Commerce* (14.2%) and *Tourism and Food* (10, 6%), while the lowest share can be seen in the areas of *Manufacture of Wood Products* (0.6%), *Agriculture* (1.4%) and *Media Production* (1.7%).

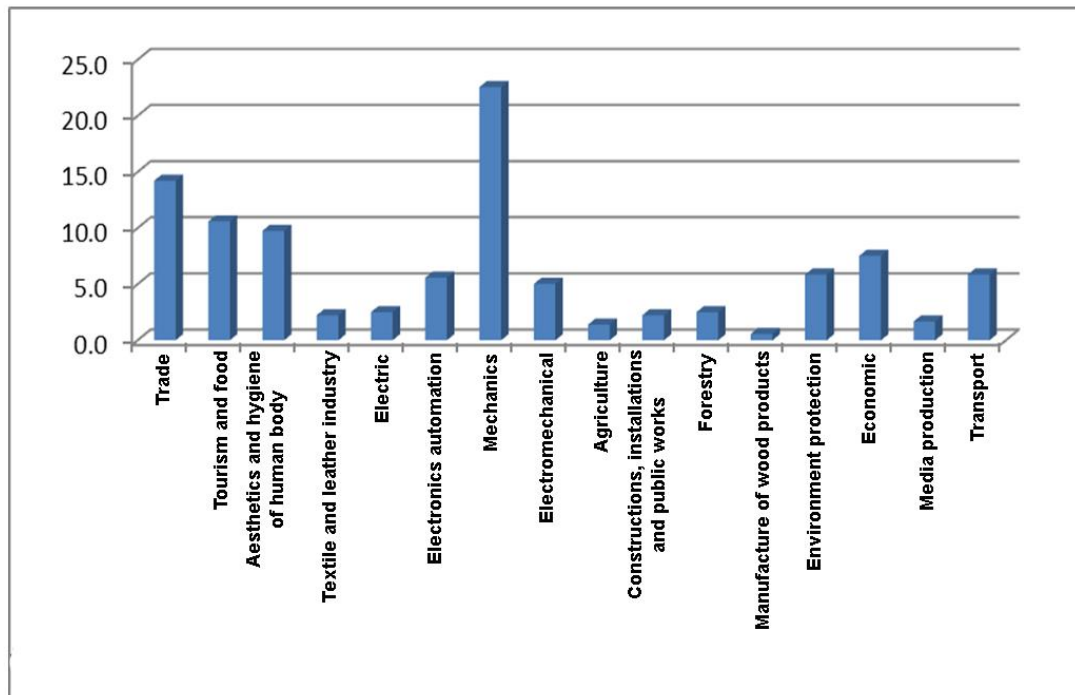


Figure no. 1. Distribution of teaching staff (%) by field variable

This distribution of teaching staff by fields is somewhat corresponding to the distribution of the number of students by fields. Students from the fields of *Mechanics* (26.9%), *Economics* (13.9%) and *Tourism and Food* (11%) predominate, while the lowest weights are for the fields of *Agriculture* (0.9%), *Manufacture of Wood Products* (0.6%) and *Construction, Installations and Public Works* (0.2%).

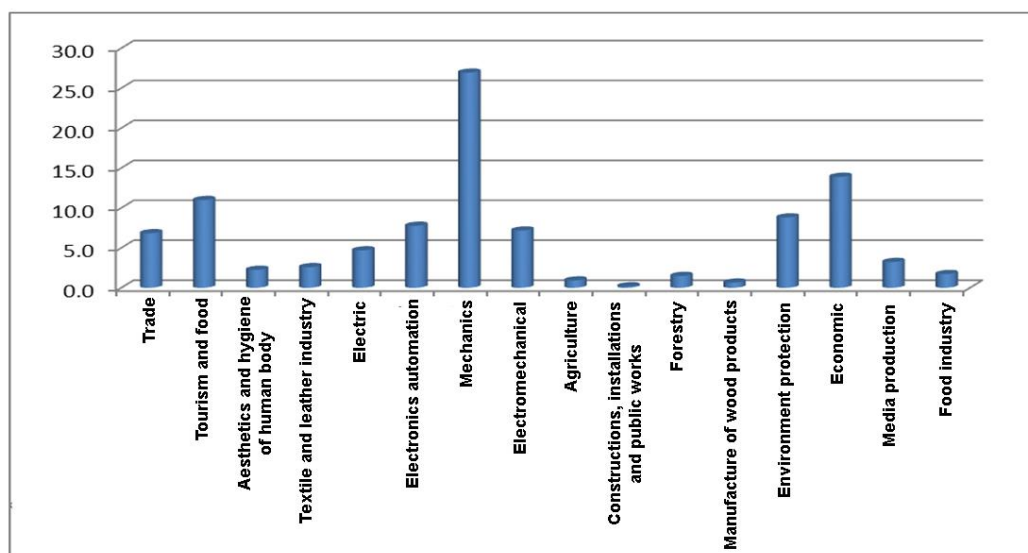
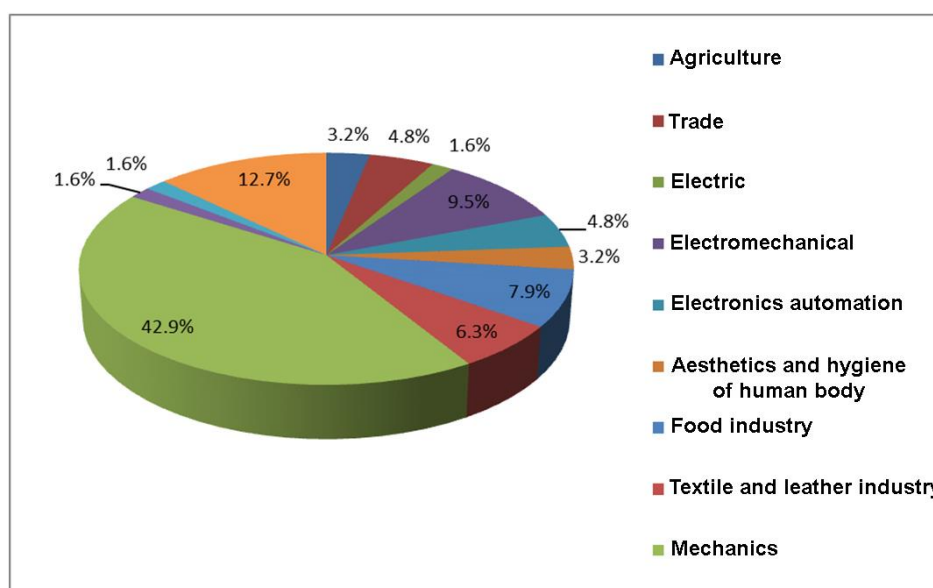


Figure no. 2. Distribution of students (%) by field variable

Considering the school-economic agent relationship, i.e. the tuition request from economic operators for professional and dual education, the following comparative analyses are noteworthy.

According to the *field of training* variable, it is observed that most requests are from the fields of: *Mechanics* (42.9%), with a series of professional qualifications - *car mechanic* - 25%; *metal construction welder and locksmith and technological equipment* - 16% each; *car*

*paint tinsmith* – 14%, etc.; *Tourism and Food* (12.7%), of which the *Professional Chef* qualification holds 50%; *Electromechanics* (9.5%), of which over 80% refer to the professional qualification of *electromechanics industrial machinery and installations*.



**Figure no. 3. Distribution of economic operators (%) according to the field of training variable**

## 2.2. The objectives of the study

The purpose of this research is to analyse the perceptions of the teachers who carry out the internships from the technological high-schools in Dâmbovița County to the economic agent, regarding the impact of digitalization on the new competencies for access to the labour market – point of view for vocational and technical education in the initial training management for the professional and technical education.

**The objective of the research:** Analysis of the problems encountered at a workplace and the lack of digital skills at the economic agent within the internships carried out by the school units of professional and technical education.

The qualitative and quantitative research regarding a workplace and the lack of digital skills is based on the following **hypothesis**: there is a positive association between the problems encountered at a workplace and the lack of digital skills.

## 2.3. Documentary Analysis

Digitization is expected to increase *workplace flexibility*. In general, mobile work equipment and opportunities to work more and more online reduce the somewhat rigid dependence on the operational workplace and generate corresponding desires among employees. Workplace flexibility gives people the chance to improve their work-life balance, bringing about equal opportunities in the process. However, workplace flexibility is not possible everywhere and this is especially true for sectors that produce bulky goods using heavy materials and machinery (in this case, departments or operating units will be maintained, where staff must be present at all times).

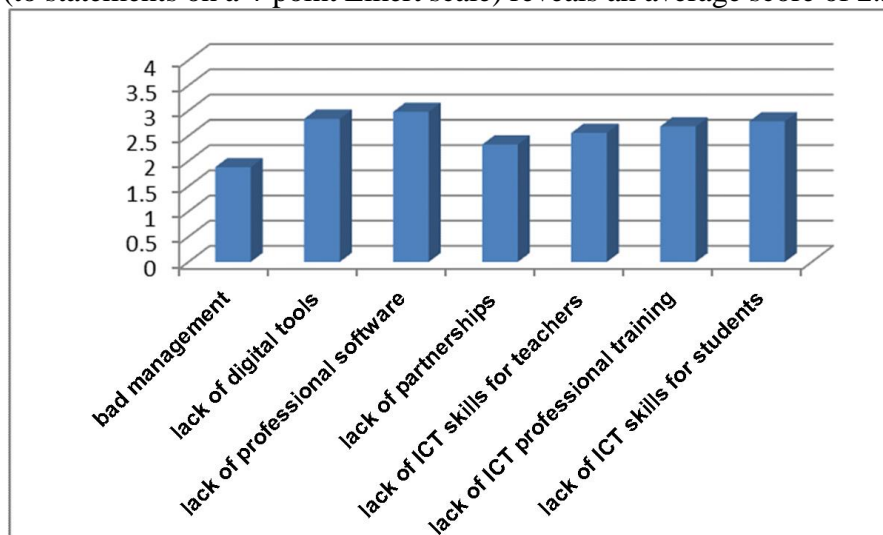
Digitization opens up a new field in recruitment and workforce composition. *Cooperation between internal and external staff*, the staff in mixed teams and additional highly qualified service providers for specific activities is already a reality today. However, visions of global cooperation in virtual teams across borders and across companies raise

questions about integration, leadership and supervision, in addition to necessary adjustments in skills, working hours and workplace.

All these trends can have the following implications at the level of initial vocational training: there will be an emphasis on the development of skills in critical thinking, intuition and analysis, literacy and the integration of experiential learning through soft skills.

### 3. RESEARCH RESULTS

*Professional software* offers support in the educational act and creates a virtual climate conducive to simulating real situations in the learning process at the workplace. The analysis of the answers (to statements on a 4-point Likert scale) reveals an average score of 2.58 (fig. 4).



**Figure no. 4. Distribution of scores obtained regarding the influence of obstacles in the use of professional software**

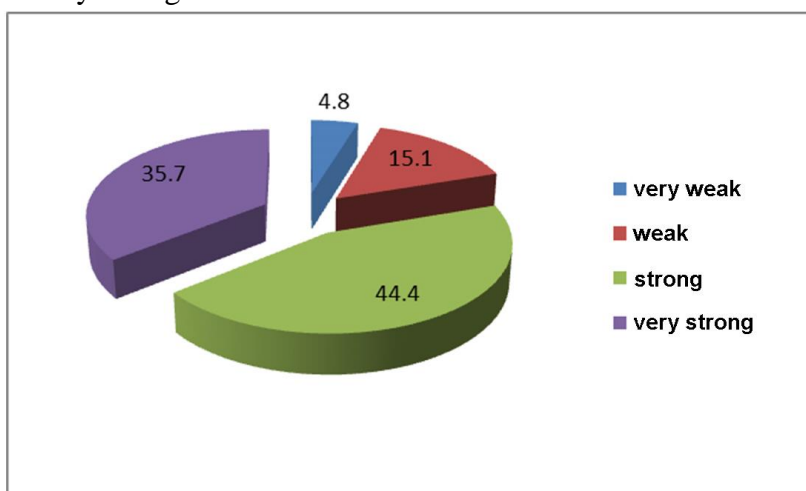
As this can be seen, the teaching staff consider the *lack of professional software* (average score 2.98) as an innovative teaching method, with the involvement of all participants, as the main obstacle in the introduction and use of digitization in professional and technical education. Moreover, this aspect is directly related to the *lack of digital tools* (computers, internet access) - average score 2.84. Practically, in order to connect the class and the students to a society of knowledge, which increasingly calls on the digital sphere, a connection to digital means is needed (access to information technology and use of professional profile software).

A second aspect that should be mentioned is the one related to the lack of training of the participants (teachers and students) in terms of using these digital tools: *the lack of basic ICT skills of the students* (average score 2.79); *the lack of training programs on the topic of digitization in the professional sphere of teachers* (average score 2.69); *the lack of professional skills in the use of teachers' professional software* (average score 2.56).

This problem could be solved by a closer collaboration between the school unit and professional economic agents, who can provide a series of professional software. Moreover, the *lack of partnerships with prominent economic agents* (average score 2.33) expresses an obstacle (with a low influence). Conversely, *poor management* (average score 1.88) hardly influences the use of professional software in a school unit. It is appreciated that this aspect is closely related only to the activity of teaching staff with groups of students.

For the professional insertion of graduates, in the conditions of globalization and technological progress, increasingly higher skills and relevant for the labour market are needed. In order to increase productivity (from the point of view of employers) and ensure decent jobs (from the point of view of the employee), a sufficient level of basic skills is required, to which new skills can be added.

In this case, the *school - economic agent collaboration* is the basis of a relationship that ensures mutual information (what the economic agent wants and what the school can offer). For vocational and technical education, about 80% of the teaching staff consider it to be a strong and a very strong collaboration.



**Figure no. 5. The school-business collaboration in order to identify new skills**

The European reference framework for key competences allows flexible and rapid adaptation of the graduate. In this framework, a category of *digital skills and the use of new information and communication technologies (ICT)* is distinguished. This aspect involves the use of electronic media at work, in leisure time and for communication, in other words to receive, evaluate, store, produce, present and exchange information and to communicate and participate in networks, via the Internet.

Being a characteristic of education in a group of students, the competence most often targeted by teachers in the activity with students is *sociability* (average score 3.52; 95% of teachers consider it almost always). In an education system, regardless of whether it is particularized on vocational and technical education, where the activity is centred on the student, the competence that pursues *creativity* (3.29) occupies a rather important place, especially in the evaluation of students.

Trying to incorporate the knowledge accumulated until the completion of the high school cycle, the students are led, by the teachers, in the direction of using *interdisciplinary knowledge* (3.19), but also to always have a point of view, through *critical thinking* (3.17). All this can lead students to develop skills aimed at *mental flexibility and the ability to solve complex problems* (3,10).

Much less, perhaps as a consequence of the reduced number of non-specialist hours, teachers mentioned *STEM* (*science, technology, engineering and mathematics*) and *SMAC* (*Social, Mobile, Analytical and Cloud*) skills, noting - about 60% of them develop these skills weekly.

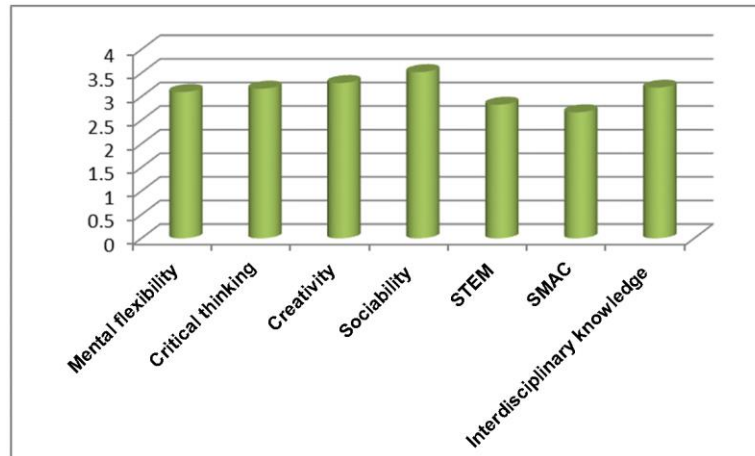


Figure no. 6. Digital skills and ICT use

Table 3. Principal component analysis (PCA) applying the Varimax rotation method with Kaiser normalization

	Component				
	1	2	3	4	5
A	-0,290	<b>-0,513</b>	0,151	-0,018	0,055
B	-0,042	0,049	0,022	-0,017	0,054
C	0,018	0,185	0,038	0,072	0,031
D	0,014	0,073	-0,066	-0,005	0,167
E	-0,134	0,004	-0,045	0,055	-0,003
F	-0,030	0,076	0,051	0,219	<b>0,662</b>
G	0,215	-0,031	0,232	<b>0,562</b>	0,237
H	0,098	0,086	-0,036	<b>0,829</b>	-0,010
I	<b>0,815</b>	0,007	-0,033	0,157	-0,003
J	<b>0,798</b>	0,241	0,226	0,114	0,001
K	0,162	-0,014	-0,020	-0,147	-0,094
L	0,132	-0,052	-0,261	0,012	-0,080
M	-0,058	-0,141	-0,287	-0,061	-0,315
N	-0,090	-0,138	<b>-0,746</b>	-0,136	0,114
O	-0,059	0,043	0,020	-0,149	-0,025
P	-0,257	0,001	0,067	-0,043	-0,098
Q	-0,221	-0,038	-0,068	-0,153	0,239
R	0,093	-0,021	<b>0,592</b>	-0,004	0,382
S	0,223	0,176	-0,041	-0,049	0,098
T	0,032	0,303	0,054	0,138	-0,255
U	0,138	-0,070	0,038	0,058	0,072
V	-0,081	0,012	0,189	0,034	0,146
W	-0,006	<b>0,783</b>	0,110	0,135	0,128
X	0,212	<b>0,645</b>	0,136	-0,083	0,014
Y	-0,052	0,331	-0,052	-0,111	-0,083
Z	0,071	0,042	-0,174	-0,058	0,400
A1	-0,024	0,121	0,074	0,008	0,328
B1	-0,041	0,247	0,051	0,195	0,072
C1	-0,089	0,119	-0,125	-0,022	-0,060
D1	0,181	0,124	0,000	-0,102	-0,011
E1	0,210	0,004	0,164	0,046	-0,189
F1	0,114	0,024	0,243	-0,070	0,136
G1	-0,045	0,075	-0,160	0,002	-0,025
H1	-0,098	0,026	0,048	0,071	0,038
I1	-0,206	0,023	0,066	0,052	0,026
J1	-0,030	0,114	0,167	0,100	0,074
K1	0,308	0,021	-0,198	-0,164	0,208

L1	0,000	-0,051	0,107	0,060	-0,042
M1	-0,075	-0,063	-0,069	0,237	-0,093
N1	-0,001	-0,033	0,227	0,122	-0,055
O1	0,086	-0,078	0,021	0,017	0,090
P1	-0,005	0,035	-0,017	-0,020	-0,024
Q1	0,065	0,060	0,107	-0,056	-0,129
R1	0,175	-0,059	-0,138	-0,182	0,099
S1	0,038	-0,073	0,190	-0,205	0,043

- Component 1 is defined by the implementation of information technologies in professional activities. Teachers who use information technologies in their daily activities (I; 0.815; N = 289), also implement them in the professional field (J; 0.798; N = 289). There is a weak negative correlation (A; -0.290; N = 289) between female teachers and IT implementation. Women are less computer literate.
- Component 2 is defined by the technological and scientific skills assessed/developed by teachers. Female teachers are less interested in technological and scientific skills (A; -0.513; N = 289). The most important technological and scientific skills of students are (in descending order):
  - o STEM (Science, Technology, Engineering and Mathematics) (W; 0.783; N = 289);
  - o SMAC - Social, Mobile, Analytical and Cloud (sociability in the digital environment) (X; 0.645; N = 289).
- Component 3 is characterized by collaboration with economic agents of the academic environment (R; 0.592; N = 289). In the use of professional software in school, the lack of partnerships with professional economic agents has a large negative influence (N; -0.746; N = 289).
- Component 10 is related to digital investments (H; 0.829; N = 289). Schools, which make digital investments, generally have a system for monitoring digital use (G; 0.562; N = 289).
- Component 4 is defined by the intensity of ICT use by teachers (F; 0.662; N = 289). The lack of professional software (M; -0.315; N = 289) and the assessment/development of critical thinking in students (T; -0.255; N = 289) have a weakly negative influence on the intensity of ICT use by teachers. The intensity of collaboration with economic agents (R; 0.382; N = 289), the need to reduce the time spent performing an activity (Z; 0.400; N = 289) and the need to make the work schedule more flexible (A1; 0.328; N = 289) have a weak positive influence on the intensity of ICT use by teachers.

#### 4. Conclusions

In this context, the impact of digitalization on the new competencies for access to the labour market - point of view for vocational and technical education in professional and technical education in training fields, highlights the following aspects: the lack of implementation of information technologies in professional activities in collaboration with the economic agent, the tendency to increase the dependence of public schools on business and technology partnerships for the formation of initial skills, the impossibility of implementing digital technologies where the local economy is poorly developed, the outdated mentality of teaching staff who must adopt a spirit of innovation through the development of skills digital professionals, the lack of a legislative framework to encourage innovation through cooperation and partnerships.

#### Bibliography

- Digitalisation and the World of Work, CEEMET (Council of European Employers of the Metal, Engineering and Technology-based Industries).
- COM (2016) 381 final: A newskills Agenda for Europe
- WEF (2016), The future of Jobs and Skills

# THE NEED FOR EDUCATION FOR SUSTAINABLE DEVELOPMENT IN ROMANIA

Alina, Voiculescu<sup>1</sup>  
Sorin, Manole<sup>2</sup>

## **Abstract:**

*Sustainable development is a new paradigm, specific to the 21st century, which must be a priority to all states, regardless of their level of development. Romania, as a member state of the UN and the EU, has taken important steps in assimilating the concept of sustainable development, by creating a Department of Sustainable Development and adopting a Strategy for Sustainable Development, by involving national and local authorities in various projects aimed at implementing sustainability in the Romanian economy and society.*

*In the university environment, sustainable development subjects are studied, both in bachelor's and master's programs, at some faculties, mainly those with an economic profile, and not only.*

*However, within pre-university education, with the exception of extracurricular activities or those within the "School Otherwise" program, of some isolated situations which aim at the participation of some schools in various projects related to sustainability, we cannot speak of remarkable achievements.*

*Through this approach, we aim to highlight the fact that students, as future adults, need to master certain concepts of sustainability in order to be able to identify them in everyday life, because without a sustained effort, there is the possibility of irreparable damage of living conditions and quality of life.*

**Key words:** *sustainability, globalization, sustainable development, sustainable development goals*

**JEL Classification:** *F64, I25, Q01*

## **1. Introduction**

The current economic evolution is unthinkable without the implementation of the global partnership for sustainable development. We live in a globalized world, so we cannot ignore what is happening across political borders. All efforts at different levels have the common goal of changing the direction of development in a positive sense.

The new vision that is taking shape regarding the future development of humanity starts from the need to ensure the health of the entire common living, made up of people, environment, institutions, communities, etc. as a premise of equal opportunities for present and future generations.

Sustainability, as a concept, was based on the idea that human activities are dependent on the environment and resources. Health, social security and economic stability of society are essential in defining the quality of life. Although this crisis was identified and responses were outlined to resolve the unfavorable environmental situation, it was concluded that economic development cannot be stopped, but that strategies must be changed so as to respect ecological limitations in the exploitation of the environment and resources. the planet. These conclusions resulted in the adoption of several conventions, related to climate change (reducing methane and carbon dioxide emissions), biological diversity (conserving species) and stopping massive deforestation.

Against the background of environmental problems, it relies on the possibility of the coexistence of economic development and ecological balance, elaborating a new concept as the foundation of innovative economic policies, namely eco-development.

Quality education is a priority objective within the 2030 Agenda, being a fundamental theme because, in the perspective of 2030, ensuring an inclusive, equitable education and promoting lifelong learning opportunities must be a priority for all states.

---

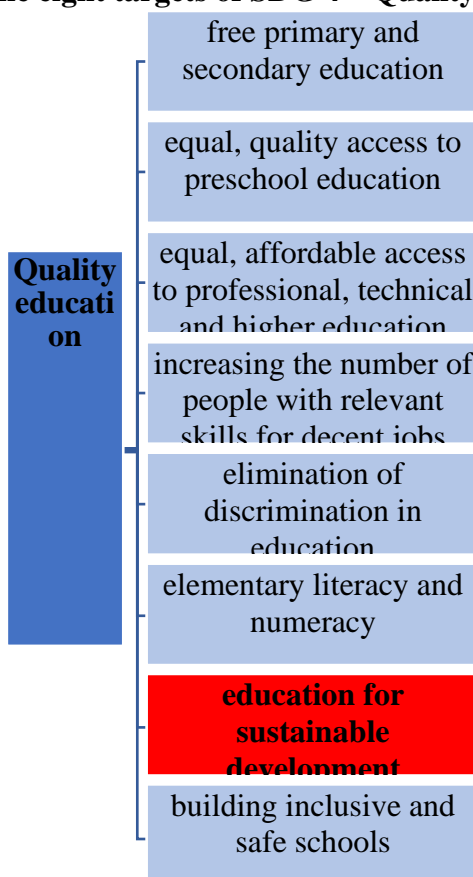
<sup>1</sup> PhD Associate Professor, "Constantin Brâncoveanu" University of Pitești, alinav06@yahoo.com

<sup>2</sup> PhD Associate Professor, "Constantin Brâncoveanu" University of Pitești, danielsorinmanole@yahoo.com



From scheme no. 1 it is noted that these targets target, in addition to free education, both primary and secondary, equal access for all girls and all boys to pre-school education, the possibility for everyone, regardless of age, to continue their studies.

### The eight targets of SDG 4 – Quality education



**Scheme no. 1**

*Source: Processing based on data provided by The global goals website, available at <https://www.globalgoals.org/goals/4-quality-education/> [accessed on November 14, 2022]*

Target 7 of the 8 aims precisely at education for sustainable development and the promotion of a global citizenship, specific to the 21st century, with an emphasis on sustainable lifestyles, the promotion of peace and nonviolence, the appreciation of cultural identity and diversity.

By knowing all these aspects, today's students and tomorrow's future adults will be much better prepared to become global citizens who understand that the environment, economy and technologies can be compatible with man and his unlimited needs.

## **2. Education for sustainable development in Romania - access to quality training**

Education is a process that prepares young generations for the challenges of the future, encouraging meritocracy, innovation, critical thinking, conduct and curiosity.

Young people around the world have the chance to acquire the knowledge, skills and attitudes needed to promote sustainable development and achieve the 17 Sustainable Development Goals. Therefore, education for sustainable development must be a lifelong learning process and an integral part of quality education.

Romania, as a member state of the UN and the European Union, has assumed the establishment of a national framework for the implementation of the 2030 Agenda for Sustainable Development, which includes the 17 Sustainable Development Goals, so it is necessary to take steps to introduce it into the curriculum national of a discipline aimed at sustainability.

At the level of Romania, some important achievements in the sustainable development chapter must be highlighted. Thus, starting in 2017, the Department for Sustainable Development was established, which operates within the working apparatus of the Government, subordinate to the Prime Minister, financed from the state budget through the budget of the General Secretariat of the Government. The Department's activity is aimed precisely at following the implementation of the 17 Sustainable Development Goals, emphasizing the planning and monitoring of sustainable development indicators.

The Department for Sustainable Development submitted, at the end of 2017, to the Ministry of Labor and Social Justice, respectively the Directorate for Employment Policies, Skills and Professional Mobility, a request to update the Classification of Romanian Occupations (COR) nomenclature for the introduction of the occupation "expert in sustainable development".

On February 22, 2018, the request received a favorable opinion from the Ministry of Labour. The occupation "sustainable development expert" has the code 242232 and is entered under Basic Group 2422 - Administrative policy specialists. Administrative policy specialists develop and analyze policies related to the design, implementation, and modification of government and commercial operations and programs.

Also, Romania, under the direct coordination of the Department for Sustainable Development, developed the National Strategy for the Sustainable Development of Romania 2030, adopted by the Government of Romania in the meeting of November 9, 2018, by GD no. 877/2018, published in the Official Gazette no. 985/21 November 2018.

According to the National Strategy for the Sustainable Development of Romania 2030, it is desired, on the horizon of 2030, to acquire the necessary knowledge and skills for all students, in order to promote sustainable development. At the same time, at the level of Romania, the introduction of sustainable development into formal university education is considered, as well as emphasizing the role of interdisciplinary research in the development of a sustainable society.

As for students, they discover certain information about sustainability in some subjects, such as Economics, Geography, Social Education, Entrepreneurship Education, etc.

The need to introduce the discipline of Education for Sustainable Development in the formal curriculum in Romania, the curriculum area Man and society, we consider that it is a priority if we want to convey to the young generations the idea of responsibility in the use of resources, to make them aware of the effects of their present actions, of the long-term implications of their actions, to know that sustainable development can have the effect of improving the standard of living, but without damaging the ecosystem of our planet.

Thus, the acquisition of knowledge for understanding the globalized world, the development of interdisciplinary understanding, critical thinking, but also the ability to act to respond to these challenges through global sustainable solutions is supported.

### **3. Metodology**

The basic premise from which we started in this research was that in order to propose a series of recommendations and solutions for the integration of education for sustainable development in the school curriculum it is essential to highlight the importance of these concepts for the younger generations, so that they can make conceptual delimitations, make various connections with real life, etc.

In the research we've conducted, we've started from the question: *Do 10th grade students have knowledge about sustainability?*

The purpose of the study is to highlight the fact that Education for Sustainable Development should be found in the national curriculum, as a compulsory subject, because the high school students, mainly those of the 10th grade, where we conducted the research, do not have knowledge about development sustainable, although in the lower classes, in the school programs of subjects such as Geography, Entrepreneurial Education, Social Education, etc. certain aspects related to the issue of sustainability are addressed. The introduction of the discipline of Education for Sustainable Development, even in the School Decision Curriculum, would represent an important step for Romanian education.

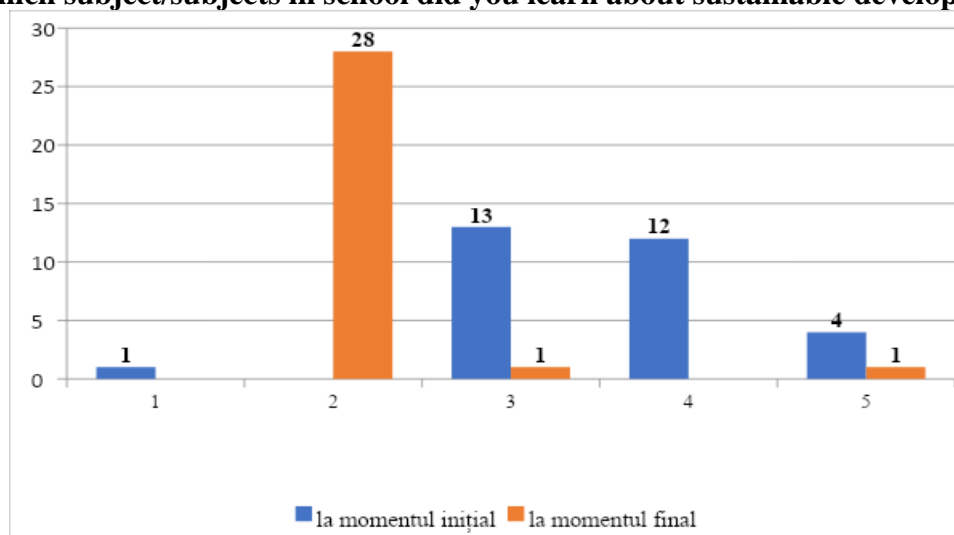
The research was carried out with the participation of 30 students from the 10th grade E (Social Sciences – English bilingual) - Mircea cel Bătrân National College from Rm. Vâlcea.

In order to measure the level of knowledge of the 10th grade students about sustainability, we applied a questionnaire that contains several questions, from which we can deduce which concepts the research participants have substantiated, how familiar they are with the notion of sustainable development starting from the idea that during the previous school years, in certain subjects, the issue of sustainability was addressed. This tool aims to determine the global progress of knowledge about sustainability, so it was applied before and after the intervention.

The intervention was represented by an interactive lecture, a workshop - debate, based on a PowerPoint presentation. We chose this way of conveying the main ideas about sustainability because we wanted to stimulate the students to analyze the information and generate connections with the global reality.

Students were asked to specify the school subjects in which they learned about sustainable development, and the responses are illustrated in Figure no. 1.

**In which subject/subjects in school did you learn about sustainable development?**



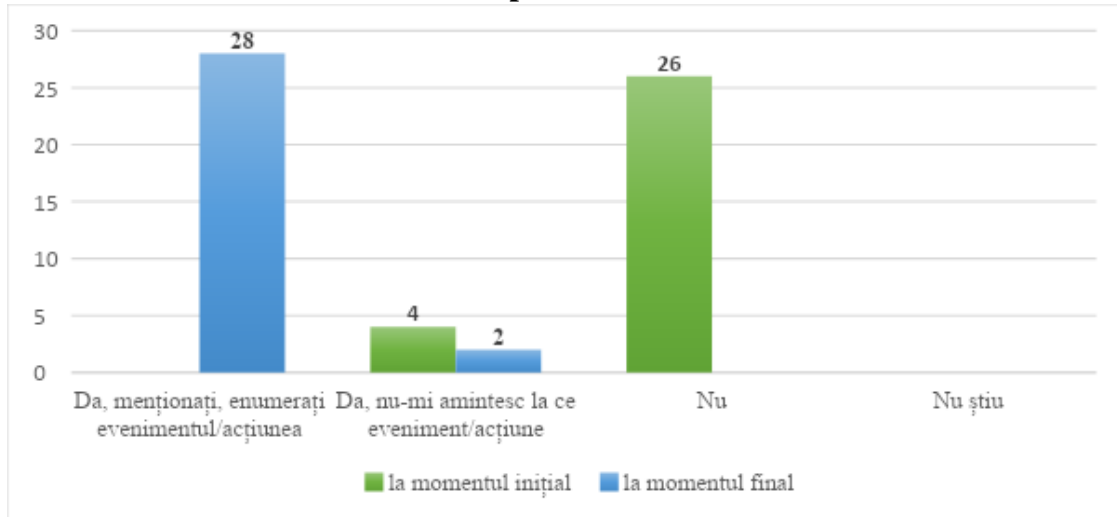
**Figure no. 1**

*Source: made by the authors based on the processing of the answers obtained following the application of the questionnaire*

If before the intervention, the students' knowledge about sustainable development was rather vague, as can be seen in figure 1, because only one student stated that he learned about sustainable development in Entrepreneurial Education, 13 of them do not remember which discipline this happened, and 12 of them answered that at none, after the intervention, i.e. the workshop-debate, things were completely different: 28 students mentioned that they learned

about sustainable development in the lecture and only 2 gave other answers, probably those who were less careful. This result highlights the fact that for the foundation of some notions of sustainability, it is necessary to introduce additional hours in which the students are as involved as possible in order to be aware of the complexity of the concept of sustainable development.

**Have you participated/organized any event/action related to sustainable development issues ?**



**Figure no. 2**

Source: made by the authors based on the processing of the answers obtained following the application of the questionnaire

One of the items (table no. 1) asked the respondents to express their opinion regarding the inclusion of some actions in the scope of sustainability. The opinion is characterized by the attributes: "total agreement", "agree", "indifferent", "disagree", "total disagreement". We quantified the answer variants as follows: "total agreement" = 5, "agree" = 4, "indifferent" = 3, "disagree" = 2, "total disagreement" = 1.

**If you had to define the term sustainability, which of the following actions would you include?**

Statement	Number of subjects									
	Initial application of the questionnaire					Final application of the questionnaire				
	5	4	3	2	1	5	4	3	2	1
1. contributes to the elimination of poverty and the reduction of economic inequality	13	12	1	4	0	13	16	0	1	0
2. allows the eradication of hunger, ensures food security	11	13	3	3	0	14	12	1	3	0
3. ensure healthy living and promote well-being for all	11	13	4	2	0	16	12	2	0	0
4. guarantee quality education and promote lifelong learning opportunities for all	13	14	2	1	0	23	5	1	1	0
5. promotes the achievement of gender equality	6	14	4	3	3	20	6	1	2	1
6. contributes to the supply of the population with clean, potable water	7	15	4	4	0	16	7	1	5	1
7. encourages renewable energy and innovation in the field	11	14	1	3	1	15	11	3	1	0
8. fosters sustained economic growth open to all	12	14	3	1	0	17	10	1	2	0
9. supports the building of resilient infrastructure and promotes sustainable industry	12	13	1	2	2	19	8	2	1	0

Statement	Number of subjects									
	Initial application of the questionnaire					Final application of the questionnaire				
	5	4	3	2	1	5	4	3	2	1
10.reduce inequalities within and between countries	11	12	7	0	0	22	5	1	1	1
11.guarantee an urbanization open to all, safe and sustainable	9	16	1	3	1	14	12	2	1	1
12.ensures conscious behavior and activities in accordance with the principles of environmental protection, both for the consumer and the producer	13	14	1	2	0	22	7	1	0	0
13.contributes to taking urgent measures to combat climate change	8	13	5	3	1	16	11	1	2	0
14.supports the conservation and sustainable use of the aquatic environment	7	17	2	3	1	12	13	4	1	0
15.supports the protection, restoration and promotion of sustainable use of terrestrial ecosystems	10	16	1	0	3	18	7	4	1	0
16.promote a peaceful and inclusive society	8	17	3	1	1	13	10	4	3	0
17.aims at the implementation of a global project whose common goal is to change the direction of development in a positive sense	10	13	4	3	0	18	11	1	0	0

**Tabel no. 1**

Source: made by the authors based on the processing of the answers obtained following the application of the questionnaire

**Characterization of answers to the question If you had to define the term sustainability, which of the actions below would you include?**

Statement	Statistical indicator					
	Initial application of the questionnaire			Final application of the questionnaire		
	Arithmetic mean	Standard deviation	Coefficient of variation (%)	Arithmetic mean	Standard deviation	Coefficient of variation (%)
1.	4,13	0,99	23,98	4,37	0,66	15,06
2.	4,07	0,93	22,83	4,23	0,92	21,72
3.	4,10	0,87	21,22	4,47	0,62	13,84
4.	4,30	0,74	17,14	4,67	0,70	14,98
5.	3,57	1,20	33,71	4,40	1,05	23,91
6.	3,57	1,20	33,71	4,07	1,24	30,41
7.	4,03	1,05	25,99	4,33	0,79	18,20
8.	4,23	0,76	17,97	4,40	0,84	19,11
9.	4,03	1,14	28,26	4,50	0,76	16,97
10.	4,13	0,76	18,46	4,53	0,96	21,11
11.	3,97	1,02	25,61	4,23	0,96	22,56
12.	4,27	0,81	19,07	4,70	0,53	11,19
13.	3,80	1,05	27,52	4,37	0,84	19,14
14.	3,87	0,99	25,63	4,20	0,79	18,85
15.	4,00	1,13	28,14	4,40	0,84	19,11
16.	4,00	0,89	22,36	4,10	0,98	23,86
17.	4,00	0,93	23,27	4,57	0,56	12,24

**Tabel no. 2**

Source: made by the authors based on the processing of the answers obtained following the application of the questionnaire

At the first application of the questionnaire, few or even very few respondents expressed their disagreement or total disagreement with the actions, with only one exception 5. promotes the achievement of gender equality, for which 3 students opted for these answer options. Also, for most of the statements, the answers are focused on the attributes "total agreement" and "agree", and the frequencies corresponding to these variants do not differ much between them. For the other statements, the answers are polarized according to "agree",

for "total agreement" the number of options is smaller. The actions with a small number of "total agreement" options are: 5. promotes the achievement of gender equality (6), 6. contributes to the supply of the population with clean, potable water (7), 14. supports the conservation and sustainable use of the aquatic environment (7).

In the second application of the questionnaire, the number of respondents who pronounced themselves with the attributes "disagree" or "totally disagree" with the statements is even lower, with few exceptions. At the same time, the concentration of answers on the attributes "total agreement" and "agree" has increased, the frequencies corresponding to the first option being higher than in the first application of the questionnaire, with one exception 1. contributes to the elimination of poverty and the reduction of economic inequality, to which these frequencies are equal (13). For four statements, the polarization of answers on "total agreement" is more pronounced: 4. guarantees a quality education and promotes lifelong learning opportunities for all (23), 5. promotes the achievement of gender equality (20), 10. diminishes inequalities within and between countries (22), 12. ensures conscious behavior and activities in accordance with the principles of environmental protection, both for the consumer and for the producer (22). From these results, it can be seen that our intervention was effective and shows that a discipline of Education for Sustainable Development would represent a plus in the development of knowledge, skills and attitudes of the new generation.

The analysis of the responses to this item is also highlighted in Table 2. At the initial administration of the questionnaire, the average score took values around the number 4 for almost all actions, which translates into agreement regarding the inclusion of the actions in the scope of sustainability. Only for the statements 5. promotes the achievement of gender equality and 6. contributes to the supply of the population with clean, potable water, a lower average score of 3.57 is obtained. The degree of dispersion of scores from the mean score (standard deviation) is relatively small for all actions (around the number 1, more precisely between 0.74 and 1.20). Moreover, the coefficient of variation takes small values (between 17.14% and 33.71%), below the threshold of 35%, which is why the averages are representative for all actions.

At the final administration of the questionnaire, the average score shows increases compared to the initial administration for all statements. Thus, all values of this score are greater than 4 and more than half of them are around the number 4.50. For four statements, the average scores exceed the value of 4.50: 10. reduces inequalities within and between countries (4.53), 17. aims to implement a global project whose common goal is to change the direction of development in a positive sense (4.57), 4. guarantees quality education and promotes lifelong learning opportunities for all (4.67) and 12. ensures conscious behavior and activities in accordance with the principles of environmental protection, both for the consumer and for the manufacturer (4.70). The results after the intervention are remarkable and show that the students understood that sustainable development is a global process with implications at the level of each country.

The divergence of opinions is relatively low, decreasing compared to the previous application of the questionnaire, with a few exceptions. Thus, only for two actions does the standard deviation exceed the value of 1. At the same time, the coefficient of variation has low values, for many statements lower than at the initial administration. These values are below the 35% threshold, which is why all stock averages are representative.

#### **4. Conclusions**

The purpose and objectives of this paper aim to highlight the fact that Education for Sustainable Development should be found in the national curriculum, as a compulsory subject, because students in the first high school classes do not have knowledge about sustainability, although both in the primary classes, but especially in secondary school, in certain subjects such as Geography, Social Education and Entrepreneurial Education, issues related to sustainable development are addressed.

We consider that our meetings with the students of the Xth grade E - Mircea cel Bătrân National College from Rm. Vâlcea were a win, we liked to discover a young, well-informed generation, and the introduction of a discipline such as Education for Sustainable Development would be a plus, both for them and for the local community, because it is clear that young people understand and are open to all the challenges of today's global society.

According to the European Commission, students of all ages need opportunities to develop their knowledge, skills and attitudes to live sustainably, adopt a healthy lifestyle and contribute to the ecological transition. Acquiring sustainability skills can help new generations understand global environmental challenges and climate change, reflect on their behavior and engage in activities for a sustainable future.

At the beginning of this year, the EU Council received the proposal from the European Commission to recommend the 27 EU member states to take steps to implement education for sustainability. Because education for sustainable development is important at any age, a reference framework for the development of sustainability skills has been created at the EU level. GreenComp is designed to support education and training programs for lifelong learning. It targets all learners, regardless of their age and level of education and in any learning setting - formal, non-formal and informal.

And then, starting from the EU recommendations, shouldn't Romania act to implement these competences aimed at sustainability?

After this workshop-debate and the extremely pleasant meeting with the students of the 10th grade E of the Mircea cel Bătrân National College from the Rm. Vâlcea, I realized that the goal of our research has been achieved. Even if only at the micro level, the results were seen and they are also highlighted by the progress noted after the application of the final questionnaire.

We are convinced that all the discussed aspects, as well as the awareness of various issues related to sustainability and their identification in real life, will be a plus for the students of this class.

In the era of globalization, digitization, any education system must, sometimes even with small steps, adapt to current changes. Just as no country in the world can self-sufficiently develop, the same is the case with the beneficiaries of the educational systems, namely the students and their families.

Education for Sustainable Development must be a priority for education in Romania.

### References:

1. Angelescu C., Dinu M., Gavrilă I., Popescu C., Socol C. (2009). *Economie* (ed. a VIII-a). București, Economică.
2. Bari I. (2003). *Probleme globale contemporane*. București, Economică.
3. European Commission. (2022). <https://education.ec.europa.eu/focus-topics/green-education/learning-for-environmental-sustainability>. Accesat pe 14 Noiembrie, 2022
4. European Commission. (2022). [https://joint-research-centre.ec.europa.eu/greencomp-european-sustainability-competence-framework\\_en](https://joint-research-centre.ec.europa.eu/greencomp-european-sustainability-competence-framework_en). Accesat pe 14 Noiembrie, 2022
5. HOTĂRÂRE nr. 313 din 11 mai 2017. (2017). <https://legislatie.just.ro/Public/DetaliiDocument/189244>. Accesat pe 15 Noiembrie, 2022
6. Lewin, K. (1958). *Group decision and social change in Swanson, G E, Newcomb T.M.*, (ed. Reading in Social Psychology, Holt). New York: Hartley E.L.
7. McKernan, J. (1991). *Curriculum Action Research. A Handbook of Methods and Resources for the Reflective Practitioner* London: Kogan Page. London:: Kogan Page.
8. Rubinian. (fără an). [https://www.rubinian.com/cor\\_6\\_ocupatia\\_detalii.php?id=242232](https://www.rubinian.com/cor_6_ocupatia_detalii.php?id=242232). Accesat pe 15 Noiembrie, 2022
9. *The global goals*, disponibil la <https://www.globalgoals.org/goals/4-quality-education/> [Accesat pe 14 Noiembrie 2022]