

The Small Business Sector (SMB) and the National Recovery and Resilience Plan in Romania and the European Union

Daniela ANTONESCU¹ and Ioana Cristina FLORESCU²

To cite this article:

Antonescu, D., & Florescu, I. C. (2024). The Small Business Sector (SMB) and the National Recovery and Resilience Plan in Romania and the European Union. *Romanian Journal of Economics*, 59(2), pp. 111- 136

Abstract. Every significant crisis presents an opportunity to reconsider the national structures, build resilience, and put various recovery strategies into practice. To take advantage of these chances, the European Union developed a collaborative tool known as the Recovery and Resilience Facility (RRF), which intends to assist the economies of the member states impacted by the health crisis and to offer backing for the proposed investments and reforms. Achieving the best possible balance between national priorities, investments, and reforms is the goal of Romania's National Recovery and Resilience Plan (NRRP). The local government agencies played a proactive role in this, participating in the development of project calls in addition to overseeing and evaluating the plan. This article's goal is to determine and evaluate how NRRP investments affect the SMEs industry. Additionally, it will look for ways to identify the levers and mechanisms that NRRP can use in order to implement the suggested reforms throughout reality, which are backed by information, statistics, and recent developments resulting from the health crisis and the neighbouring political-military conflict.

Keywords: Resilience, SMEs, recovery, National Recovery and Resilience Plan, public investments

JEL Classification: R10, R50, R51, R58, R59

1. Introduction

Small businesses are considered the backbone of a market economy. In the European Union, small businesses are defined by that category of small business, which has less than fifty employees and a turnover of less than 10 million euro. This category also includes the one of medium-sized enterprises, which is made up of those businesses with fewer than 250 employees and a turnover of less than 50 million euro (or a balance sheet of less than 43 million euro³).

The contribution of the small business sector to the economy of the EU and the member states is relevant. The most important areas in which they operate (they have over 50% of the value added) are: tourism, trade, cultural and creative industries, social economy and civil security, textile industry, construction, health, renewable energy and aerospace and defence industries (European Commission, 2023).

During the period of the health crisis, 2020-2021, the small business sector recorded a downward trend in terms of added value and workforce. The reactions of this sector were diverse, with

¹ Institute of National Economy, Romanian Academy, Bucharest, Romania; Corresponding author: daniela.antonescu25@gmail.com.

² Institute of National Economy, Romanian Academy, Bucharest, Romania.

³ <https://www.eusmecentre.org.cn/wp-content/uploads/2022/12/SME-Definition.pdf>

a variety of strategic responses correlated with an intense process of creativity and flexibility in dealing with uncertainties. Also, a number of measures/programmes were launched to help them cope with the pressure imposed by the movement restrictions (including measures to limit the definitive dismissals).

The evaluations showed that the value added generated by SMEs in the EU-27 decreased by 5.5% (2020 compared to 2019) and the employment decreased by 2.0%. The most affected areas were „housing and food services” (-9.2%), „transport and warehousing” (-2.3%), „wholesale and retail” (-1.3%) and „administrative services and support” (-0.3%). The „knowledge intensive sector” has seen an increase in added value and employment. At the same time, the sector characterized as having a „low knowledge intensity” has seen a decrease in all those indicators (Di Bella et al., 2023).

As a result of the sustained actions undertaken by governments and the European Commission in 2021, SMEs have experienced a modest recovery, their added value increasing by 8.0% over time, while their employment rate registered an increase of 0.5% (Di Bella et al., 2023).

The supporting tools were numerous and very diverse. However, among these the Recovery and Resilience Facility (RRF) stood out, which was a central element of the community initiative entitled *NextGenerationEU* (European Union, 2023a). Through this mechanism, the Commission has provided Member States with funds to implement reforms and investments to counteract the negative impact of the crisis. Around 44 billion euro have been allocated at EU level for measures to directly support SMEs through the National Recovery and Resilience Plans (NRRP). To these there were added 109 billion euro in loans or equity support. *The InvestEU programme* has supported SMEs to access European loans and funds in a total of around 370 billion euro in investments, solvency guarantees, risk reduction, etc. (European Union, 2023b).

The member states developed their own recovery plans, which included measures aimed at direct or indirect support to the business sector, with a focus on the development of micro-enterprises. The stated purpose of these plans was to facilitate the digitalization and adoption of new technologies by small and medium-sized firms to overcome the restrictions brought about by the pandemic. NRRP aimed to increase competitiveness and business flexibility, as well as to offer support for research, development and innovation. The proposed investments will favour access to financing for innovative start-ups and SMEs and support the digital transformation of the state administration. Overall, the investments and reforms in the NRRP are expected to boost business innovation by contributing directly to digital transformation and supporting retraining and skills upgrading within SMEs.

Now, more than three years after the health crisis and two years after the emergence of other geo-political challenges, small businesses continue to survive in a relatively unstable and unpredictable environment. The inflation, funding and lending bottlenecks, the lack of a proper workforce, the migratory flow, etc., have shattered the trust of small businesses and brought a number of questions, which often remain unanswered. Under these conditions, this article aims to analyze how the business sector reacted to the health crisis and how the measures and initiatives launched at national and European level influenced its trajectory. It also seeks to identify the common problems and questions that arise in front of small businesses and that should receive answers/reactions from competent authorities.

2. Literature review on the resilience of small businesses

The interest in the concept of resilience has seen a rapid growth in recent years, in response to the increased risks to the global and regional crises, which test the limits of the adaptive capacity of individuals, companies and society as a whole. These crises have contributed to an even greater involvement of stakeholders in the management of climate, demographic, food and digital transitions. To manage these challenges, it is important to understand the impact and reaction of the actors involved/affected.

Resilience is the ability to deal with persistent structural shocks and changes so that the system becomes durable and resilient. It also includes the ability to stay or return to a previous level, or even a higher progress from a previous level. It was found that there is no generally accepted methodology for operationalization and measurement of resilience (Bristow and Healy, 2014; Boschma, 2015; Martin and Sunley, 2015), although in the scientific literature, there are a multitude of studies and articles that focus their analysis on the concept of resilience.

The attention for business resilience research in the academic world has increased considerably, despite fragmented literature on definitions, measurements, and of variables influencing the concept. Therefore, there is a need to summarize the current knowledge on the areas and structure them to lay the foundation in this field (Hussen et al., 2021).

Regarding resilience, in the study entitled *Resilience to crisis and GDP recovery at county level in Romania* (Zaman and Georgescu, 2015), it is considered that a process of strengthening economic resilience is a complex, long-term process, and the vision and strategic connotations should be a quasi-permanent concern, integrated into the objectives of the reform. Moreover, according to the authors, the problem of economic resilience is not only at the level of a country, but also within their territorial units (regions, provinces, counties, rural and urban areas, etc.). Also, the economic resilience is a complex concept that involves not only the resistance to external/internal shocks, but also to the recovery of social and economic damage, prejudices and losses caused by these shocks, in a certain period, which implicitly leads to the process being characterized by the speed of the recovery decline indicator (DST), calculated using the average annual GDP growth (Zaman and Georgescu, 2015).

Some authors from the academic field extended the framework for economic resilience analysis, proposing an approach that focuses on the following elements (Zaman and Vasile, 2014):

- the economic resilience (R) and vulnerability (V) are complex and interdependent concepts, defining that ability to recover from external shocks and exposure to adverse effects;
- R and V require complex, quantitative and qualitative approaches aimed at building composite indices at national, regional and micro levels;
- R and V require complex adaptive systems, in response to stress and deformation, a new examination of economic balance and dynamics, a new stability of areas and factors;
- the multidimensional nature of R and V must be more effectively linked with global competitiveness, the public-private and international partnership, and the need for better coordination and cooperation within sustainability and the complex sciences. (Zaman and Vasile, 2014).

In a micro-level analysis, there can be found small private companies and entrepreneurial initiatives. The entrepreneurial activity is rooted in a process of exploitation and discovery of profitable opportunities, being a dynamic one that implies a vision, change and creation, the capacity to innovate, an ability to act, and to identify opportunities and take risks.

In the context of the recent crises, the resilience of entrepreneurship and how it managed to overcome the risks and threats arising in an extremely short time are being discussed more and more. From the perspective of entrepreneurial traits and characteristics, a process model focused on actions and results has emerged (Aldrich and Martinez, 2001). From this perspective, entrepreneurial resilience is correlated with certain strengths: flexibility, motivation, perseverance and optimism.

Aldrich and Martinez (2001) suggest that entrepreneurial thinking is ahead of the individual characteristics and of the intentions of entrepreneurs to focus more on their actions and results. Morris et al. (2002) argues that entrepreneurship is related to a number of psychological and sociological characteristics, but its sustainability is made up of a mix of different patterns of behaviour. Davidsson, Low & Wright (2001) state that there is currently a focus on behavioural and cognitive problems rather than personality characteristics.

The entrepreneurial resilience is defined using a „set of behaviours” as follows:

1. *A resilient entrepreneur is flexible*: London (1993) states that the resilience factor is related to the notion of flexibility. According to Hagevik (1998), a resilient person is a flexible one who sees change as a manageable process – they feel strong in conditions of crisis (Cooper et al., 2004), welcomes change and awaits prepared for new and unforeseen situations. According to Green and Campbell (2004), a resilient person will resort to a series of strategies to face challenges. They will seek solutions until the problems are overcome and the obstacles are considered creative challenges.

2. *A resilient entrepreneur is highly motivated*: resilience can be achieved through the motivation of the entrepreneur (McClelland, 1965). Once a goal is achieved, his attention immediately turns to the next goal, etc., in a process of continuous improvement. One dimension of an entrepreneur's motivation is given by its need for autonomy (Benard, 1995, cited in Cooper et al., 2004), of its desire to have control over its own environment and the ability to directly influence results.

3. *The resilient entrepreneur is persistent*: resilience denotes the determination to seek success, especially when faced with a major challenge (Green and Campbell, 2004). When the stakes are high, the entrepreneur does not give up, having „the ability to return” and respond with even more energy and focus (Cooper et al., 2004).

4. *The resilient entrepreneur is optimistic*: a component of resilience is the prospect of staying positive when a major challenge arises (Green and Campbell, 2004). In this regard, a resilient entrepreneur is willing to take risks (London, 1993) and take measures when the result is unknown.

In some studies, entrepreneurial resilience represents „a portfolio of capabilities” (Manfield and Newey, 2017), and in others it targets various managerial models, including the increase in business performance against the background of external disruptions (Markman and Venzin, 2014). These elements prove that resilience is multidimensional (Biggs et al., 2012). Resilience can be transposed through capabilities (Manfield and Newey, 2018). According to Biggs et al. (2012), the elements defined by vulnerability and adaptation are included in the resilience capacity at the organization level. The vulnerability management and receptivity thus become elements of adaptation to changing situations. Sustainability and competitiveness maintain the positive performance of an entrepreneur.

Entrepreneurship is always related to the business idea, a process that turns this idea into a profitable business. Some businesses are more affected by external influences, crises and global shocks than large companies, although their greater adaptability is discussed. The resilience of a business is rendered in the scientific literature as a process of survival by minimizing vulnerabilities, a speedy recovery, achieving sustainability and developing new capabilities in a challenging environment (Klein & Todesco, 2021).

There are a number of factors that can influence entrepreneurial resilience. Thus, from the examples of good practice studied, we mention here a textile-clothing case study that identified several key factors of entrepreneurial resilience, grouped into three large categories (Pal et al., 2014):

- [1] *inventiveness* (material resources, financial, social resources, collaborations and other intangible resources);
- [2] *competitiveness* (flexibility, resource redundancy, robustness, networking);
- [3] *learning/culture* (leadership and rapid decision-making of top-management, collectively and meaning, employee well-being). Holding these assets is a necessary but not sufficient condition for strengthening business resilience.

In conclusion, in the scientific literature, a number of factors have been identified that can influence entrepreneurial resilience: inventiveness, competitiveness, learning, etc. In general, entrepreneurship is correlated with the business idea, being a process that turns this idea into a profitable action. The businesses are particularly affected by external influences, global crises and shocks, and to a greater extent than the large companies. The resilience of a business is presented in the literature as a survival process by minimizing vulnerabilities, speedy recovery, achieving sustainability and developing new capabilities in a challenging environment. During the health crisis, businesses faced a number of emerging constraints, being determined to find new ways to adapt, recombine the existing resources and at the same time, look for solutions in order to redefine the business model. The entrepreneurs had to adopt a positive, optimistic, persevering and effective mind-set to deal with adversity. Growth-oriented SMEs are flexible and innovative, but they must nevertheless be supported by financial programmes, strategies and instruments (grants, microgrants, etc.), a business stimulation through the development of sales markets being required.

3. Methodology and data

The methodology proposed in this article can be structured as follows:

- in a first stage, the specialized literature on resilience was reviewed, in order to identify the main trends and approaches of this concept frequently used after the emergence of the health crisis; in this sense, among the authors who analyzed the concept of resilience are also researchers and professors recognized at the level of the Romanian Academy, resilience being analyzed in many economic and social studies and researches, which laid the theoretical foundations of the approaches in this field;

- in the second part of the article, the authors proposed to evaluate the degree of resilience at the level of different economic sectors and EU member states, including in Romania; also, here the main instruments were identified that contributed, during the health crisis and after the end of the restrictions imposed by the competent authorities, to achieving a resilience of the small and medium business sector.
- in the third part, an econometric model is proposed to present and demonstrate the dependence of the Exports indicator on the Turnover indicator, using simple regression on monthly statistical data (21 months, in the January 2022-September 2023 analysis period). Thus, the following indicators were identified and selected: (1) Exports (thousands of euros), (2) turnover in market services provided mainly to businesses (%). The statistical data were taken from the National Institute of Statistics, at the national level. The indicators used in the econometric model were based on the consideration that the established engine of the common commercial policy is represented by concerns related to the protection and development of small and medium-sized enterprises (SMEs) (goods producers and service providers), as well as the impulse for their innovation and competitiveness. During the pandemic, EU-wide trade has been heavily affected by state-by-state and global restrictions. The existing analyzes that covered the first semester of 2020 and June 2020, showed a negative effect of the coronavirus pandemic on changes in trade, which led to a reduction in the volume of exports and imports¹. They also suggested that, in the immediate next period, the economic-financial crisis that has already started to manifest itself, combined with the health crisis, will have much more serious effects on the results that Romania will achieve (Iacob, Radu and Dumitru, 2020).
 Synthetic, the methodology is presented in the following table.

Table 1. Methodology of the study

Question of research	How has NRRP influenced the resilience of the SME sector?
Objective	Identifying situations that show that this sector has benefited from the milestones and measures promoted through the NRRP.
Combinations of tracked keywords in the literature	“SMEs”; “resiliency”; “opportunities”; “challenges”; “digital transformation”; “strengths”; “weaknesses”; “threats”; “comebacks”, “resistance”, “recovering”, “restore”, etc.
Search engines	Google Scholar, RePec, Google Academic, Publons, Elsevier etc.
Virtual database	Springer, Scielo, Scopus, Web of Science, ProQuest, Science Direct (Elsevier), Scientific reports, reports, conferences, papers with open access
Publications year	2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2022
Selection criteria	Search for keywords in the title and in the summary Most cited articles; most cited studies, Evaluations
Methods of data extraction	Analysis of text, context, data Focus on goals and results
Methods of analysis and processing	Graphical methods of presenting statistical data Method of interpretation of structures and structural changes over time or at territorial level Presentation and interpretation of development trends of selected indicators
Econometric modelling	Modelling the dependence of the Exports indicator with the turnover indicator, using simple regression on monthly data (21 months in January 2022-september 2023), according to the equation: $\ln Y_t = c + a \ln X_t + \varepsilon_t$, where: Y= independent variable X= dependent variable t= time series ε= residual variable Creating an Autoregressive type model with Distributed Lag (ARDL)
Refining research	Analysis of research results Proposals Conclusions Forming the bibliography Data verification

Source: processing of authors.

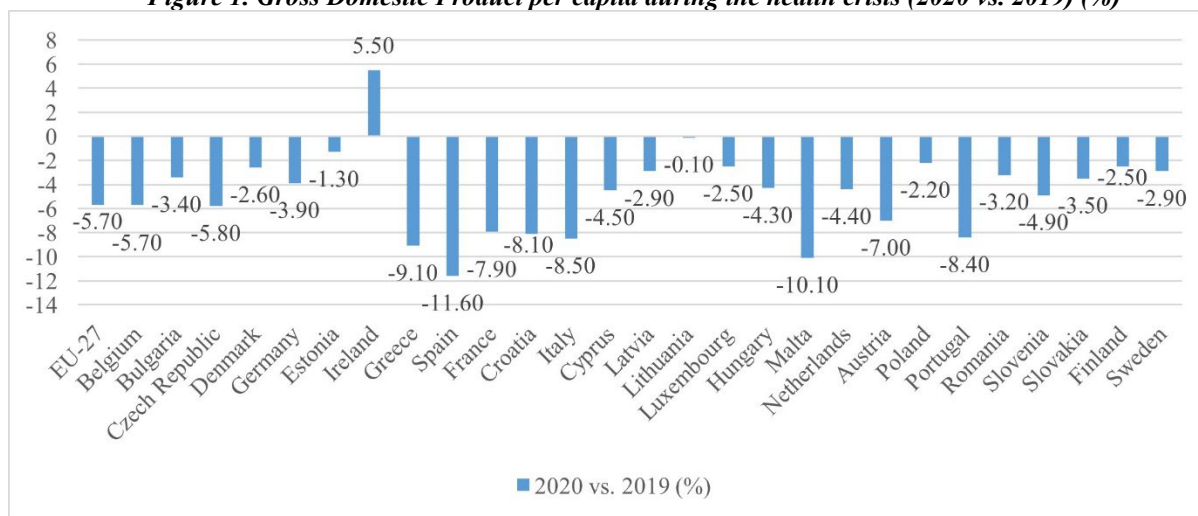
4. Research results and comments

4.1. Resilience of small businesses in the European Union – tools and resources

In the first part of the health crisis, the asymmetric economic and social impact of the COVID-19 pandemic raised concerns about the divergent growth of the GDP per capita in the member states, jeopardizing the smooth functioning and stability of the EU and ultimately reducing long-term growth prospects.

Thus, the analysis of the GDP evolution in 2020 compared to 2019 (Figure 1) shows that the largest decreases were recorded by Spain (-11.6%), Malta (-10.1%), Greece (-9.1%), Italy (-8.5%), Romania (-8.4%), Portugal (-8.4%) and Austria (-7%). In most of these countries, there is a large contribution of the tourism sector to GDP, which has been strongly affected by the measures used to stop the movement of people for recreational purposes (and not only).

Figure 1. Gross Domestic Product per capita during the health crisis (2020 vs. 2019) (%)



Source: Own computations based on Eurostat data.

In order to facilitate an action framework to combat the effects of the health crisis in March 2020, the European Commission proposed to redirect the European Structural and Investment Funds (ESI) under the cohesion policy to the Investment Initiative, in response to the emergence and rapid infection with the coronavirus (CRII), with the intention of meeting the most urgent needs related to healthcare spending, SME support and partial unemployment. Around eight billion euro of pre-financing will not be returned and will provide liquidity injections in member states for crisis-related projects.

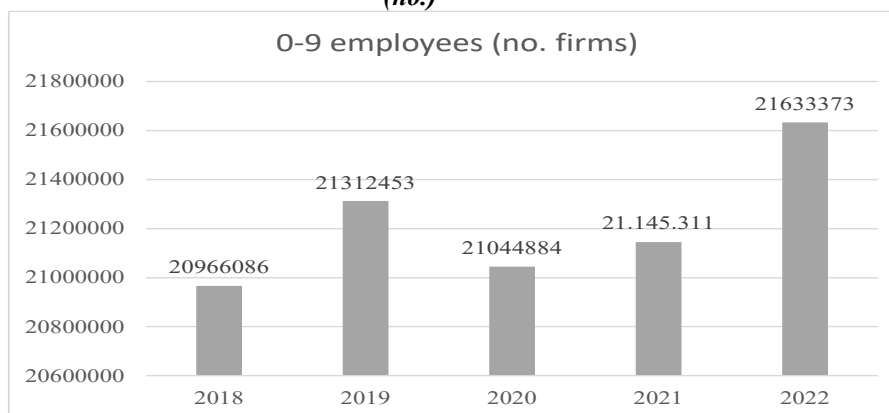
The Member States were able to access the resources by adapting their existing Operational Programs through a simplified and accelerated procedure and benefiting from some flexibility for the direct reallocation of funding. Also, during this period, one billion euro from the European Fund for Strategic Investments (EFSI) was released in order to serve as a guarantee for the European Investment Fund (EIF) to support small businesses affected by the economic impact of the COVID-19 pandemic. This guarantee incentivized EU banks to grant working capital loans of up to eight billion euro to around 100,000 SMEs.

Regarding the SMEs in the EU-27, most of them fall under the 0-49 employees category (98.9% of the total SMEs), which is 48.4% of the number of persons employed and 35.3% of the value added. At the beginning of 2020, SMEs faced a period of uncertainty, which led to their massive closure or insolvency due to a lack of working capital. Moreover, after the easing of restrictive conditions, in the first part of 2021, the SMEs faced significant difficulties in hiring new employees, at the same time with the challenges that arise of moving rapidly through a transition to the digital and sustainable economy.

The most affected were micro-enterprises (up to 9 employees), which recorded during the health crisis (2019-2020) a loss of 267,569 firms (-1.26%) (from 21.31 million firms to 21.04 million).

In 2021, the micro-enterprises are experiencing a recovery process, with the number reaching 21.145 million companies (with an increase of 0.47% compared to 2020), but below 2019 (-0.78%) (Figure 2).

Figure 2. The evolution of companies with up to 9 employees in the EU-27, between 2018 and 2022 (no.)

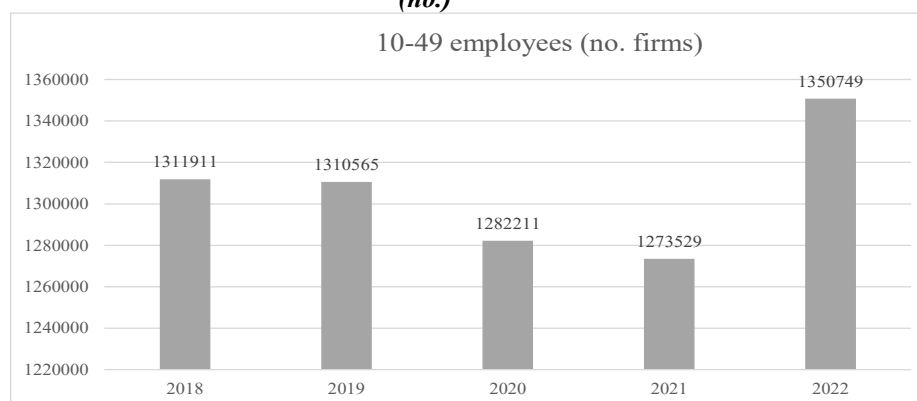


Source: Own computations based on Eurostat data.

In 2022, the *Firms with more than 9 employees* indicator reaches the existing value before the introduction of restrictions to reduce the effects of the health crisis (with 320,920 more firms than in 2019; +1.51%) (Figure 2). It can be said that the involvement of the European Commission through the allocated funds to support the process of resilience of this sector has had a positive effect. This recovery is also the effect of involving national governments in reducing the impact of the health crisis.

Regarding the companies with up to 50 employees, they registered a quantitative decrease process, from 1.31 million in 2019 to 1.27 million in 2021 (-2.83%). In 2022, the level of the existing indicator before the health crisis is reached, with an increase of 5.35% compared to 2020 (a greater growth compared to the one of the companies with up to 10 employees). This category of companies has recovered harder, but the values of the indicators were higher compared to those of companies with up to ten employees (Figure 3).

Figure 3. The evolution of the number of the companies (10-49 employees) in the EU-27, 2018-2022 (no.)



Source: Own computations based on Eurostat data.

The contribution of the SME sector to the EU economy is important. Thus, in 2021, SMEs contributed more than 50% to the added value generated by six of the 14 industrial ecosystems that the European Commission regularly monitors⁴ (Di Bella, 2023).

⁴ Cultural and creative industries (57% of the total value added of the ecosystem), social economy and civil security (61%), retail (61%); tourism (63%); textiles (65%); construction (72%), health (29%); electronics (33%); renewable energy (34%); aerospace and defence (35%).

In 2020, 23.3 million SMEs were active in the EU non-financial economy, contributing with more than half of the total value added (52%, 3.4 trillion euro). 82 million people (2020) were employed in this sector, accounting for 64% of all of the employees. More than half of them were engaged in three economic activities: the distributive trade sector (19.9 million people, 26% in micro and 20% in small enterprises), production (15.3 million people, 14% in micro and 32% in small enterprises) and construction (11.2 million, 15% in micro and 8% in small enterprises) (Di Bella et al., 2023).

The pandemic affected the value added generated by SMEs in the EU-27, resulting in a decrease of 5.5% (year 2020 compared to 2019). The employment also registered a decrease of 3.0% (Eurostat, 2022).

In 2021, it was seen that the SMEs in the EU-27 recorded a slight recovery, the value achieved by the sector increased by 8.0%, while employment increased by 0.5%. This relatively large difference between values added growth and employment in 2021 was mainly determined by two factors:

- firstly, the added value of SMEs is measured in current prices and as a result, its growth in 2021 has also partly reflected the rise in inflation;
- the programmes aimed at mitigating the effects of the COVID-19 crisis implemented by governments and the European Commission in 2020 had their effects in 2021 (in particular, those that have supported the maintenance of the jobs).

The return of the value-added indicator was associated with the limited increase in the number of jobs in 2021. Meanwhile, unlike 2020, large EU-27 companies did better in 2021 than small and medium-sized ones.

Although the total value added generated by SMEs increased in 2021, which is 2.1% higher than in 2019, not all SMEs recovered this year. SMEs that registered a decrease were in the following areas: „housing and alimentation services” (-9.2%), „transport and warehousing” (-2.3%), „wholesale and retail trade” (-1.3%) and „administrative services and support” (-0.3%).

The „knowledge intensive sector” reported an increase in the added value of SMEs, employment and number of companies during the period of pandemic restrictions (2019 – 2021). At the same time, the sector characterized by „the low intensity of knowledge” has seen a decrease in all of the analyzed indicators.

Among the main instruments supporting the SME sector at the beginning of the health crisis, in the EU-27, we mention:

- dedicated liquidity lines for banks: support for SMEs and mid-cap companies in the form of working capital, up to 10 billion euro;
- programmes dedicated to the purchase of asset-backed securities: to enable banks to transfer risk portfolios of loans to SMEs, mobilizing up to 10 billion euro;
- financing of health sector projects worth up to 5 billion euro;
- an emergency safety toolkit package. It was also aimed at supporting public institutions, businesses and employment, thus mitigating the immediate consequences of the crisis. The total package of 540 billion euro consisted of: a temporary instrument of 240 billion euro for direct and indirect medical costs linked to the COVID-19 pandemic (since February 2020). The financial support of firms through the European Investment Bank – with a financing of 200 billion euro, supported by a pan-European guarantee fund (with a temporary character), and, to support businesses, in particular SMEs facing liquidity shortfalls;
- SURE – a temporary financial support to mitigate the unemployment risks in an emergency situation: 100 billion euro to finance, on request, the increase of the national public expenditure on technical unemployment schemes and other similar schemes and, as an auxiliary measure, for certain health-related measures, in particular at the workplace. The instrument would be managed by the European Commission and would be subject to EU financial rules. SURE takes the form of a credit scheme based on a system of 25 billion euro, granted by the Member States to the Union budget.

4.2. Workforce - resilience analysis by economic sectors

Through the restrictions imposed, the health crisis has affected employment in SMEs. The main effects were the reduction of the workload (expressed in the number of hours) and the loss of jobs.

Estimates showed that at the beginning of the global pandemic, the share of employees affected by the health crisis was 72.3%; by gender, the report said, the number of employed (women) occupied and affected by the pandemic has increased from 32% to 49% (European Institute for Gender Equality, 2022).

We are continuing to present a sector-specific analysis of the concrete effects of the health crisis in the EU-27, with a particular focus on their resilience. The analyzed indicator is the number of hours worked by the employees of a company.

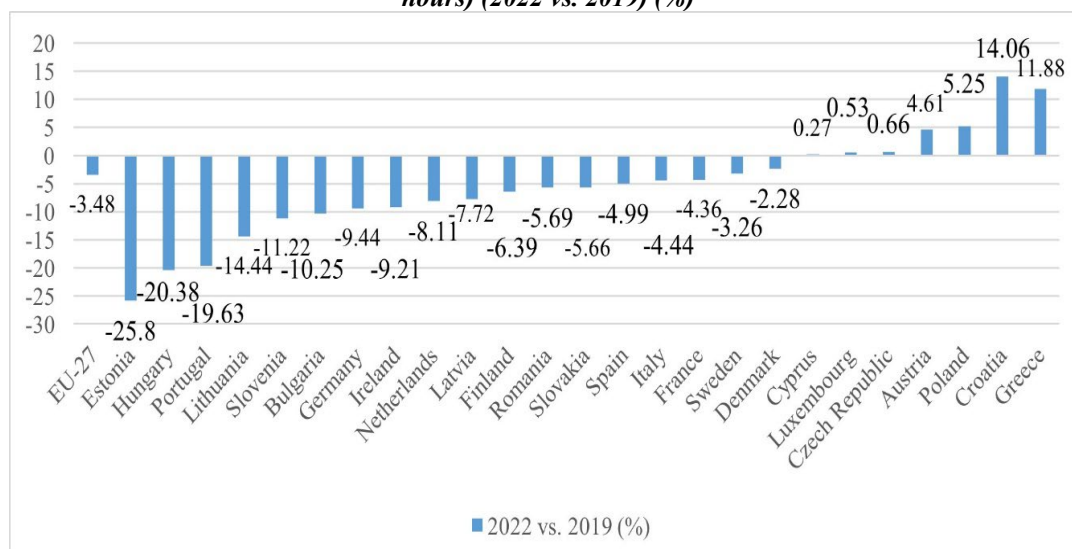
4.2.1. Agriculture, forestry and fishing

For the subsequent analyses, the data was gathered from Eurostat and the computations were done by the authors.

In the agriculture, forestry and fisheries sector, it was discovered that in 2020 compared to 2019, out of the 27 Member States, nine countries have seen increases in the number of hours worked by the employees in the agricultural sector. Overall, in the European Union, there has been a decrease of - 2.07% in the number of hours worked in 2020 compared to 2019. Countries with the largest declines are: Estonia (-12.13%), Lithuania (-11.84%), Slovakia (-5.87%), Romania (-5.67%) and Germany (-5.67%). At the same time, there were reported increases in the number of hours worked in the agricultural sector in Austria (+5.84%), Poland (+3.91%), Denmark (+2.77%) and Croatia (+2.31% were reported) (Figure 4).

Resilience: In 2022, only a few countries managed to reach the level recorded before the pandemic (2022 vs. 2019): Croatia (+14.06%), Greece (+11.88%), Poland (+5.25%), Austria (+4.61%), Czech Republic (0.66%) and Luxembourg (0.53%). The majority of the countries have failed to return to the level from 2022. The least resilient states were Estonia (-25.8%), Hungary (-20.38%), Portugal (-19.63%) and Romania (-5.69%). At EU-27 level, the employment resilience in Agriculture-forestry-fishing sector (number of hours worked) was not achieved in 2022 compared to 2019 (-3.48%).

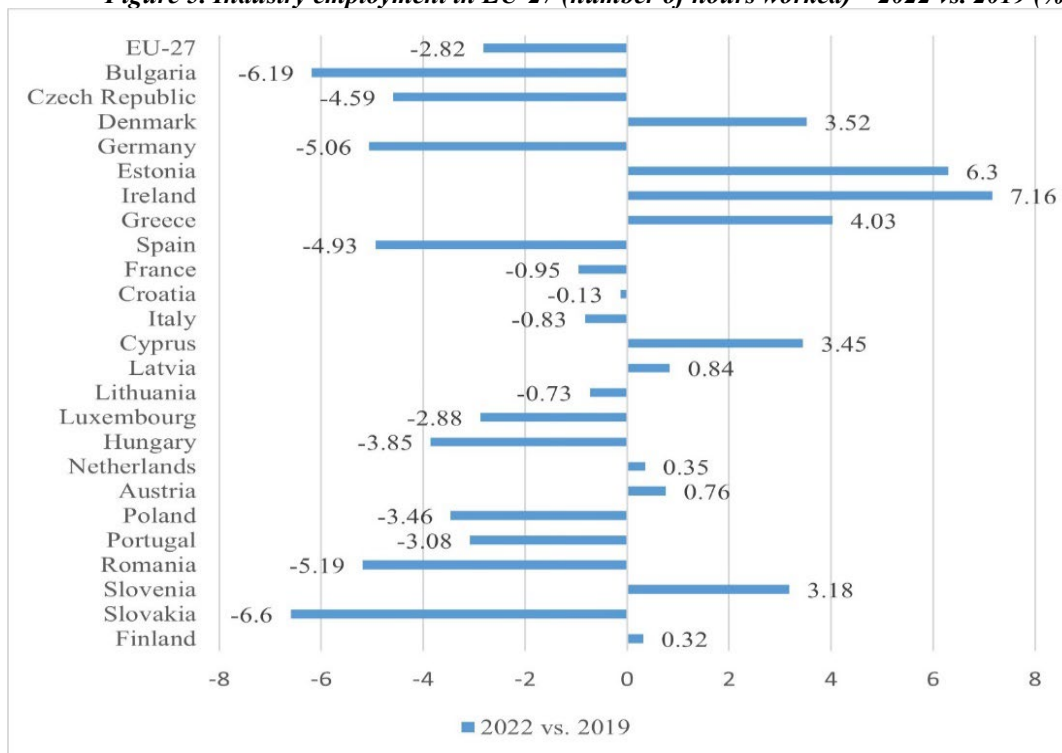
Figure 4. The evolution of persons employed in Agriculture, forestry and fisheries sector (working hours) (2022 vs. 2019) (%)



Source: Own computations based on Eurostat data.

4.2.2. Industry

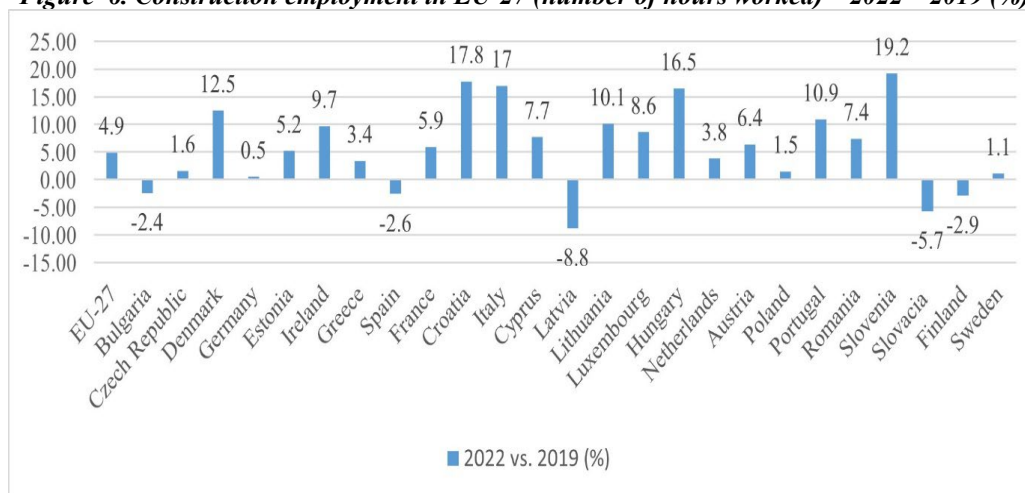
Regarding the industry sector, in 2022, the resilience in the EU-27 was not achieved, the number of hours worked registering a drop of -2.82%, with most countries recording losses (2022 vs. 2019). The number of hours worked decreased from 57,039,165 thousand hours in 2019 to 55,428,004 thousand hours worked in 2022 (Figure 5). The largest decrease in employment was recorded in Slovakia (-6.6%), Bulgaria (-6.19%) and Romania (-5.19%). At the same time, Ireland recorded a recovery of +7.16%, Estonia of +6.30% and Greece of +4.03%. Out of the 27 states, 15 of them have not achieved a resilience level.

Figure 5. Industry employment in EU-27 (number of hours worked) – 2022 vs. 2019 (%)

Source: Own computations based on Eurostat data.

4.2.3. The construction

The Construction sector recorded an increase in the total number of hours worked in 2022 compared to 2019 by 4.9%. Most Member States achieved resilience in 2022 compared to 2019 (Figure 6). The countries that have failed to be resilient are: Slovakia (-5.7%), France (-2.9%) and Latvia (-8.8%). The highest increases have been reported in Croatia, Slovenia and Lithuania.

Figure 6. Construction employment in EU-27 (number of hours worked) – 2022 – 2019 (%)

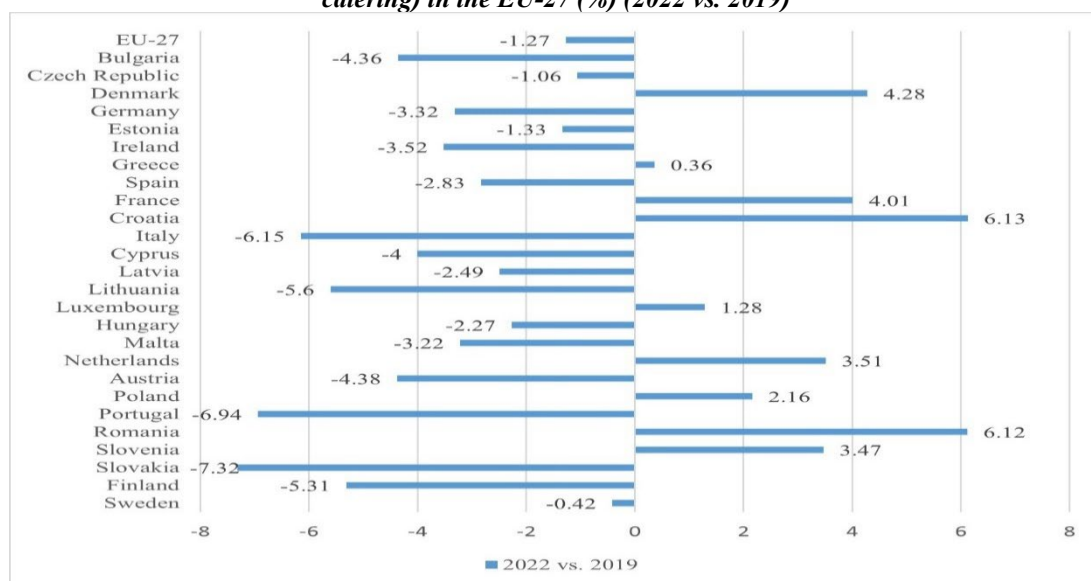
Source: Own computations based on Eurostat data.

4.2.4. Trade, transport, tourism and catering

This category of services was one of the most affected economic sectors during the pandemic. Thus, in 2020, at EU-27 level, the sector decreased by - 11%. In 2022, most of the Member States did not reach resilience. At EU-27 level there was an average decrease of - 1.27%. However, there are states that have recovered the losses regarding the dynamics of the number of employees, recorded in the

pandemic, their increase being 6.12%, respectively 6.13% in Romania and Croatia, France by 4%, Denmark by 4.18% (Figure 7).

Figure 7. The dynamics in the number of employees in the industry of services (trade, transport, tourism and catering) in the EU-27 (%) (2022 vs. 2019)



Source: Own computations based on Eurostat data.

4.3. Instruments to support SMEs resilience at the EU-27 level

According to the Annual Summary Report on the implementation of financial instruments in 2020, the financial instruments that supported small and medium-sized firms (SMEs) and other beneficiaries amounted to a total of 29 billion euro in 2020. Around 21.6 billion euro (out of which seven billion euro for working capital) came from the European Structural and Investment Funds (ESIF) and supported 478,000 euro, out of which 375,000 micro-enterprises (European Commission, 2021).

The financial instruments provided investments in the cohesion policy in a flexible and cost-efficient manner and attracted additional investment. During the coronavirus crisis, they quickly supported small businesses in order for them to survive and retain their employees. For the period 2021-2027, member states and regions have even more financial instruments and benefits. They have significantly helped firms to cope with the economic effects of the crisis.

The financial instruments have been effective ways of using the cohesion policy resources. The resources allocated from the European regional development fund provided aid in the form of financial products such as loans, guarantees and equity. Compared to 2019, 365,000 SMEs received support through the European regional development fund in order to maintain themselves on the market during the pandemic years.

The financial resources have proven to be an asset, in particular due to the additional flexibility offered by the Coronavirus Response Investment Initiative (CRII and CRII+), which makes member states better adapted to the changing needs of the beneficiaries. Another key feature of the financial instruments was their leverage effect, which led to the attraction of additional investments from private or public investors.

In 2022, a new „aid package” was launched for the resilience of the manufacturing sector. This package was a response tool to the fact that this sector did not register its scheduled resilience.

This SME support package consisted of:

1. *Combating late payments* - the cash flow intended for late payments had been secured.

The increase in energy and raw materials costs has led to a large number of late-paid bills. The EU Directive on late payments (in force for more than 10 years) was no longer appropriate for the new challenges. The delayed payments affected the liquidity of SMEs (many bankruptcies were caused by this delay). The amendment to the Directive on *late payments* has established limits for the public sector

payments, stricter enforcement of sanctions and monitoring obligations, being an effective tool for disputing resolution and for mediation in the prevention of abuse and unfair practices. In order to monitor payments at EU level, the late payments Observatory was set up (European Parliament, 2010).

2. *Facilitating business activities on the Single Market.* The administrative burden has been a major problem for the SMEs (on average, a company spends 1 euro per employee to comply with a regulatory obligation, a medium-sized enterprise spends around 4 euro and a smaller business up to 10 euro/employee). Entrepreneurs needed clear and easy legislation to implement. Bureaucracy and additional costs have affected the sustainability of the companies' activity. In this respect, a single package of tax rules for EU businesses has been established, providing a common regulatory framework to reduce red tape and compliance costs and stimulate job/investment growth. A high potential for recovery has been identified in the so-called digital economy. Thus, it was discovered that online access to information, procedures and support services could contribute to business development, time savings and even cost savings.

3. *Recovery and Resilience Facility*

Through the Recovery and Resilience Facility there have been made available to SMEs important funds for greening, digitalizing and improving skills. Around 44 billion euro have been allocated at EU level for measures to directly support SMEs through the National Recovery and Resilience Plans. To these there were added 109 billion euro in loans or equity support. The InvestEU programme helps SMEs to access European loans and funds. Around 370 billion euro are mobilized in investments, solvency guarantees, risk reduction, etc. Following the launch of this facility, the obstacles to financing SMEs (for example, in public procurement) have been identified. In these circumstances, SMEs have frequently faced a lack of skilled employees and competition from large companies.

4.4. National Recovery and Resilience plans and the business environment in the member states

Below are some examples of supporting the business environment through the National Recovery and Resilience Plan (NRRP) (each member state, by its own plan, had set out measures and resources to support SMEs – in addition to actions taken at EU level)

In *Austria*, the National Recovery and Resilience Plan presents a budget of 4.5 billion euro, of which 42 million euro are intended to support SMEs. The areas of SMEs funded are: sustainable construction (1.5 billion euro), digital construction (1.8 billion euro), knowledge-based structures (900 million euro) and equitable construction (295.7 million euro). The total non-reimbursable financial support from the EU was 3.5 billion euro; about 59% of the NRRP supports climate targets, while 53% promotes the digital transition. The plan includes reforms and investments in digital skills development, with a total budget of around 373 million euro. Measures targeting education challenges (IT equipment for at least 80,000 students/year) have a budget of 172 million euro. Regarding retraining and upskilling, the aim is to improve skills and targeted training in ICT, in particular for the unemployed (it has an allocated budget of 202 million euro). NRRP supports measures aimed at digitalizing businesses, developing advanced technologies and digital investment in research and development (393.2 million euros budget).

In *Belgium*, the NRRP is structured on six strategic axes, of which 49.6% of expenditure is devoted to climate objectives. SMEs have allocations of 176 million euro. About 13% of the 5.9 billion euro in the NRRP are allocated to research and development projects in technologies, aiming at strengthening and capitalizing on excellence (e.g., nuclear, space and aeronautical medicine, aeronautics, artificial intelligence etc.). NRRP allocates about 900 million euro for digital consolidation, linguistics and technical skills of vulnerable groups, jobs and young people; and aims at social inclusion and facilitating access to the labor market). The business climate has deteriorated in the business services sector (February, 2022), after an improvement was recorded in January 2022 (however, the situation has become better in trade and the construction industry. Industrial robotics and ecosystem research are resilient fields. They have adapted to innovative transformations and led to national economic development.

The *Bulgarian* NRRP had an allocation of 6.6 billion euro in grants. It is structured around four pillars: Innovation, Green Economy, Connection and Market. The NRRP also includes measures in areas such as decarbonization of the economy, education and skills, research and innovation, smart

industry, energy efficiency, sustainable agriculture, digital connectivity, social inclusion and healthcare (source: NRRP of Bulgaria). The projects in the Plan cover the entire period. The fund for „Green Transition” provides support for optimization and implementation of environmental solutions and the technology of SMEs in the intensive sector, implementing environmental solutions and technologies for SMEs in carbon intensive sectors. Another fund provides support for the implementation of solutions for digitalization („Computerization” and „Connectivity”) and for the implementation of measures to ensure the proper cybersecurity of enterprises. The fund supports the creation of digital innovation centres, complementing the development of the European network of innovation centres through the establishment of the regional and local network. The challenges of SMEs increased during the COVID-19 pandemic. SMEs do not have high-performance technologies or digitalization. Forecasts of various national and international financial institutions and organizations aim for economic growth in the range of 3.8% to 4.6% (after 2022). The aim is to update the strategic framework of the industrial sector and build a mechanism for attracting industrial investment; also, to introduce a public support programme for the development of industrial parks and improve their connectivity. The reforms provide for changes in the national regulatory framework that the Government supports to attract investment and industrial development.

In **Cyprus**, the allocation by NRRP for companies amounted to 328 million euro. Around 10% of the total allocation by NRRP is intended to support the resilience, innovation and competitiveness of SMEs. Resilience is supported by measures aimed at improving the business environment (e.g., the Companies Law, a mechanism for creating an integrated information system for the Companies Register, etc.). Innovation is supported by funding programmes and financing schemes for the uptake of digital technology in SMEs. The competitiveness of companies is supported by investments to diversify the economy and strengthen the added value of the tourism sector, as well as, creating a „Regulatory Sandbox” to enable FinTech to experiment with new products in a favourable regulatory environment; providing tailored advisory services to SMEs; and; creation of a National Agency for the Promotion and financial support of industrial production and food processing activities. Overall, the NRRP contributes to business diversification and competitiveness.

The **Czech** NRRP allocation for companies was 1,083 million euro. The NRRP includes a package of measures aimed at direct support to the business sector, with a focus on the development of the micro-enterprise sector. The aim is to facilitate the digitalization and uptake of new technologies by small and medium-sized firms. In addition, the plan aims to increase competitiveness and business flexibility, as well as support for research, development and innovation. The proposed investments will foster access to finance for innovative start-ups and SMEs. Support the digital transformation of SMEs, state administration, providing SMEs and start-ups with training and advice, consulting services in management skills. Overall, investment and reforms are expected to drive innovation in firms by directly contributing to digital transformation and supporting retraining and skills upgrading in SMEs.

In **Denmark**, NRRP allocates about 450 million euro to SMEs. The plan contains measures for the resilience of SMEs. For example, the digitalization component contains a measure to promote the digitalization of SMEs by extending the programme „SMEs: Digital”, providing grants for the digitalization of businesses. This scheme also aims to help small businesses by overcoming barriers to investment and expanding the use of new advanced technologies as well as e-commerce solutions. These measures can help businesses, in particular SMEs, to increase the export of goods and services to the internal market. Modern and interoperable digital infrastructure is supported to provide SMEs with better access to digital infrastructure. Moreover, the expansion of very high-speed internet and broadband coverage in areas where such connections do not exist; also, increasing the potential for SMEs to connect to the digital economy. The Plan also offers new opportunities for SMEs to participate in climate research and development, thus expanding the innovation base. Research and development activities are expected to have a positive influence on productivity. In addition, construction projects under the NRRP (such as building renovation) can support SMEs and job creation.

The **German** NRRP has an allocation for SMEs of 9.453 million euro. Several NRRP measures for SMEs are supported to facilitate investment in research and innovation, including in areas leading to the production of renewable hydrogen, etc. The programme supporting the research and development of vehicle manufacturers and suppliers is also particularly relevant for SMEs. The plan also includes measures on labor, education and training. Other measures: the implementation of the Law on online

access and modernization of registers (targeting reduction of administrative burden for firms); these measures ensure efficient application of the „once” principle with the help of digitalization, the, all administrative levels, effectively contributing to the reduction of compliance costs.

Romania. In 2021 comparatively with 2020, SMEs in Romania had an increase in the added value of 13.3% and 2.6% in employment, and large enterprises recorded an increase of 9.8%. SMEs in tourism generated an increase in value added in 2021 of 24.5%, after a decrease of 3.8% in 2020. In terms of employment, SMEs grew both in 2020 and 2021 (by 0.8% and 2.1% respectively). The construction sector was one of the few areas where SMEs saw an increase in added value and employment in both 2020 and 2021. In 2021, the added value for SMEs increased by 12.4% and employment by 0.8%, with growth rates of 6.1% and 2.1% respectively in 2020. In 2021, SMEs accounted for 65.8% of employment and 58.0% of value added (compared to corresponding EU averages of 64.4% and 51.8%, respectively). The share of enterprises that have adopted innovations in the area of environmental protection is 3% (compared to 34% in Germany). According to the „Barometer of the social economy in 2021”, about 1,642 social enterprises have been certified. The main activities and services they offer are the provision of financial services, loans and credit, financial aid, education and financial inclusion, microfinance, and training, education and skills development.

In 2021, the Ministry of Investment published the list of organizations that will carry out large social projects (11 projects, 30 million euro) of which grants (between 40,000 euro and 200,000 euro per project). The funds will support individuals (social entrepreneurs) and the establishment of small social enterprises in rural areas. Romania has the 5th highest rate of young people who are not in education, employment, or training (NEET) in the European Union (it has a 20.2% rate compared to the EU average of 17.6%). To improve the situation, 166 million euro (on a competition basis) were allocated in 2021, directed towards two specific measures called: „Stimulation of mobility and subsistence jobs” and „Young people's future - NEET”, beneficiaries being 34,000 young people.

4.5. Supporting SMEs through NRRP

In Romania, NRRP has allocated about 2.225 million euro for the SME sector. The plan includes a comprehensive package of measures aimed at supporting SMEs in the green and digital transition process, as well as improving the business environment. It includes a substantial investment package (financial instruments and portfolio guarantees and venture capital financing) and state aid. Important investments can also be found in other components of the NRRP, in order to support SMEs in specific areas, such as digitalization, energy, etc.

The investments financed by NRRP for the business environment can be categorized by destination, as follows:

1. technology, industrial and technological parks, smart specialization parks and other conglomerates of business structures (hub/cluster) - value of 750 million euro;
2. refurbishment, digitalization, industrial automation, robotization of production processes (1 billion euro);
3. support for the digitalization of SMEs (200 million euro);
4. to strengthen the production capacities needed for medical equipment and to obtain medicines for pandemic crisis situations (200 million euro);
5. natural treatment facilities, recreational infrastructures for the valorization of natural heritage: theme parks, aqua parks, leisure parks (350 million euro);
6. equipment/infrastructure for collection, storage, sorting, processing, packaging, labeling, distribution in the agri-food sector, worth 700 million euro;
7. equipment to increase the capacity of companies producing construction equipment and materials (200 million euro);
8. refurbishment, industrial automation, robotization of production processes of large enterprises (400 million euro)⁵.

⁵ NRRP estimates, 2020.

According to NRRP, the business environment in Romania is supported both by pillars and reforms. However, Component 4 – Private sector support, research, innovation, worth 2,345 million euro, specifically allocated funds for recovery and resilience for entrepreneurship.

The business component refers to Investment 3.1 Private sector aid schemes – Aid scheme for the digitalization of SMEs, Target 263, and Measure 1 – de-minimis schemes and State aid scheme in the context of the digitalization of SMEs⁶. These investments aim to create a grant instrument up to 100,000 euro /enterprise to support SMEs in digitizing their activities by:

- ICT hardware purchases;
- development and/or adaptation of software applications/licenses, including software automation solutions of RPA and Robotic Process Automation type;
- purchasing presentation website;
- acquisition of cloud services;
- training of staff who will use ICT equipment.

The amount of non-reimbursable financial assistance of a project is comprised between:

- a) 20,000 and 30,000 euro for micro-enterprises;
- b) 20,000 and 50,000 euro for small business;
- c) 20,000 and 100,000 euro for medium-sized enterprises.

The Ministry of Investment and European Projects (MIEP) published the list of the first 1,020 projects admitted to financing under the call for projects „Digitalization of SMEs - Grant up to 100,000 euro per enterprise to support SMEs in adopting digital technologies”. Projects that scored 100 points in the technical and financial evaluation phase (ETF) were ranked according to the partitioning criterion: profitability of operational activity for the financial year 2022 (according to specific guide). As of December 5, 2023, the decisions on acceptance of funding have been communicated to applicants through the platform proiecte.pnr.gov.ro. Applicants were informed that the technical and financial evaluation (ETF) was completed for all 7,188 applications submitted, with the remaining projects currently being, at the stage of administrative compliance and eligibility verification (EAF). During the registration period, 27,736 companies applied.

In order to ensure the efficient management of the large number of applications submitted, Ministry of European Investments and Projects has resorted to a public procurement procedure to identify, identify, acquisition and implementation of an NRRP (Robotic Process Automation) solution, procedure won by ETA2U company (company that proposed and implemented the Tailent Automation Platform technology - <https://tailent.com/>). With the help of Tailent Software Robots, the ETF score and the classification of the projects submitted within the N was awarded in descending order of the scores. Thus, the Ministry of European Investments and Projects became one of the first central public institutions to adopt innovative RPA technologies.

The first 1,020 projects admitted to funding under the call for projects „Digitalization of SME Grant up to 100,000 euro per enterprise to support SMEs in adopting digital technologies” show different areas of activity. The budget, without the own contribution component, allocated to the eight development regions is as follows (regional allocation):

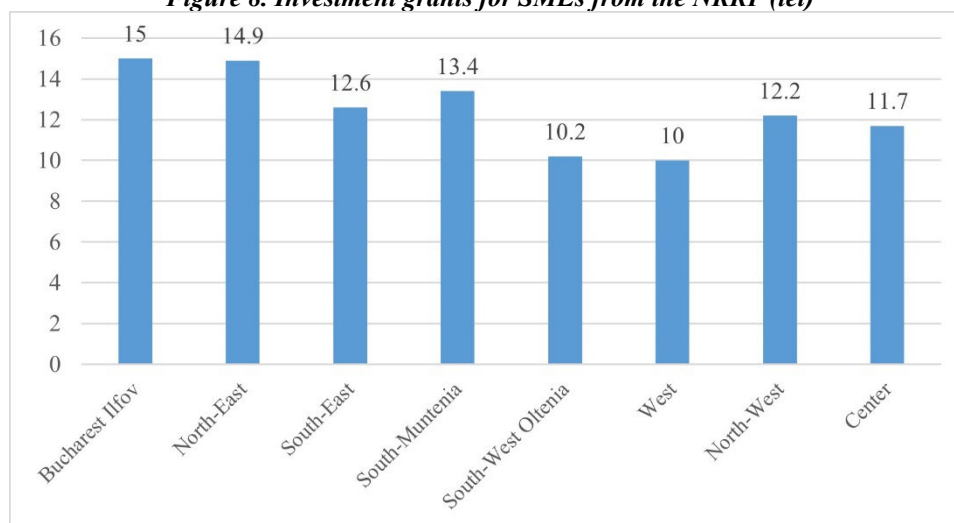
- a) Bucharest – Ilfov – 347,173,994 lei;
- b) Center – 271,883,528 lei;
- c) North-West – 281,916,856 lei;
- d) South-East – 292,343,648 lei;
- e) South-West Oltenia – 235,488,120 lei;
- f) North-East – 344,477,610 lei;
- g) South-Muntenia – 309,656,058 lei;
- h) West – 231,55,481 lei.

Total 2,314,493,295 lei (472,345,570.4 euro).

⁶ Digitalization of SMEs – grant of up to 100,000 euros per company, which supports SMEs in adopting digital technologies under Pillar III, component 9 (Private sector support, research, development and innovation), investment 3 (Private sector aid schemes), measure 1 (De minimis scheme and State aid scheme in the context of the digitalization of SMEs).

Most of the funds were allocated to the Bucharest-Ilfov region (15%), followed by the North (14.9%) (Figure 8).

Figure 8. Investment grants for SMEs from the NRRP (lei)



Source: Ministry of European Investments and Projects, 2023.

The main areas of the companies that received grants are (Ministry of European Investments and Projects, 2023):

- a. Hotels and similar accommodation facilities;
- b. Restaurants and food activities (catering) for events;
- c. Repair computers and peripheral equipment;
- d. Long or short-term hospital activities, medical, diagnostic and treatment activities;
- e. Business and management consulting activities;
- f. Production of medical devices, appliances and instruments;
- g. Specialized design activities;
- h. Manufacture of kitchen furniture;
- i. Intermediation in trade in various products;
- j. Rental and leasing activities with other machines, equipment and tangible goods;
- k. Works of wood and carpentry;
- l. Processing and shaping of flat glass;
- m. Specialized healthcare activities;
- n. Electrical installation work;
- o. Manufacture of bread, manufacture of fresh pastries and cakes;
- p. Wholesale and retail trade; repair of motor vehicles and motorcycles;
- q. Protection and guard activities;
- r. Library and archive activities;
- s. Other special construction works.

In short, the impact of NRRP on the business environment in Romania is shown in the following table (Table 2).

Table 2. The estimated impact of NRRP on the business environment (targeted indicators)

<i>Tracked indicators</i>	<i>Indicators</i>
Development of entrepreneurial ecosystems	Number of ecosystems created in partnership with Local Public Authorities (LPA): over 35 Average value of projects: 20 million euro Number of new jobs created: 11,000 Number of SMEs supported: 3,700
Production, digitalization, medical equipment and SME services	Number of SMEs supported: 2,400 Average value of projects: 0.5 million euro

<i>Tracked indicators</i>	<i>Indicators</i>
	Number of new jobs created: 7,200
Recreational bases and natural heritage valorization by SMEs;	Number of SMEs supported: 140 Average value of projects: 2.5 million euro Number of new jobs created: 2,100
SME from the agri-food sector	Number of SMEs supported: 1,400 Average value of projects: 0.5 million euro Number of new jobs created: 4,200
Construction companies	Number of companies supported: 300 Average value of projects: 1 million euro Number of new jobs created: 1,800
Supporting large enterprises	Number of large enterprises supported: 50 Average value of projects: 10 million euro Number of new jobs created: 3,000
In short	Number of new jobs created: 29,400 Number of SMEs supported: 7,940 Number of large enterprises supported: 50 Number of ecosystems created in partnership with Public Authorities, over 35

Source: NRRP, 2020.

4.6. Analysis of the dependence between the turnover of small firms and exports in Romania

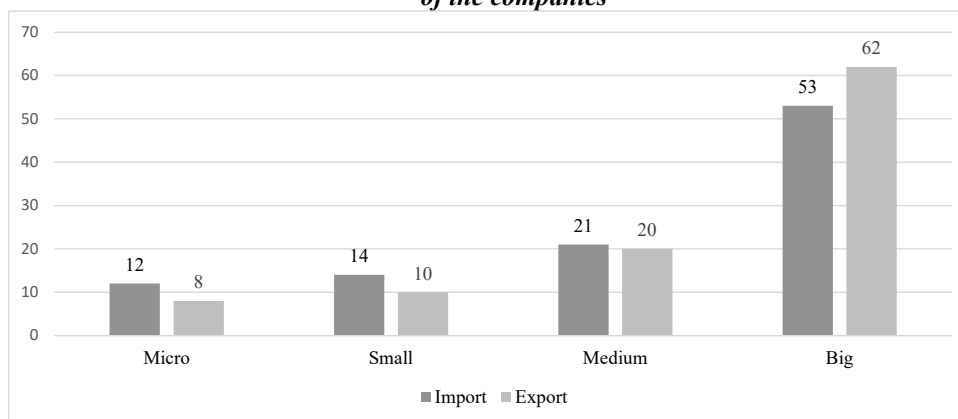
In general, the activity of foreign trade (international commercial exchanges) is an activity of particular importance in the economy of a country. In this sense, we can affirm that a special domestic production activity supports, through exports, the obtaining of additional values, which increase the level of the Gross Domestic Product. Imports, on the contrary, have a negative effect. In statistics, for the calculation of the Gross Domestic Product, the net export is taken into account, respectively the algebraic difference between export and import. In general terms, net export has always been negative. In the conditions imposed by the health crisis, it was difficult to manage the export activity, a modest evolution of exports and a sharper increase in imports being anticipated. Thus, the National Commission has forecast a sharper decrease in exports and a smaller decrease in imports. Under these conditions, SME support through NRRP could create the conditions for a higher competitiveness of export products, thus contributing to the revival of international exchanges.

Small and medium-sized enterprises (SMEs) in Romania and especially micro-enterprises have an important share in Romania's intra-EU exports and imports, according to the European Statistical Office, Eurostat. Thus, the exports made by the SME (with up to 50 employees) represented in 2019 about 38% of the total exports, while the imports held 47%.

The SMEs with over 250 employees in Romania have secured 45.4% of the value of exports of Romanian goods to other EU countries, above the EU average of 44.6%. Out of these companies, the micro-enterprises (with 0-9 employees) covered 19% of the total value of goods exported intra-EU by Romania, our country occupying the fifth place in the community area, along with Sweden, regarding the share of intra-EU exports provided by micro firms (Figure 9).

The exporters bring a very important contribution to the services sector in Romania. They generate most of the employment and value added in the sector, although their number is small compared to the domestic-oriented firms. The exporters are larger units compared to the domestic-oriented ones; they bring higher average added value, are more productive and pay higher wages

The government has channelled significant resources into promoting export-oriented production activities, including incentives to attract foreign direct investment. Given the importance of exporters to the sector, it is necessary to critically assess their contribution, because it would help the government in the process of developing future policies and attracting new companies to Romania. The need for this type of analysis also starts from the fact that the National Recovery and Resilience Plan contains a component that also targets the entrepreneurial environment represented by the companies that produce, but it also exports goods and services from Romania to other countries.

Figure 9. Export and import into the EU-27 (% of intra and extra-Community export/import) in 2019, by size of the companies

Source: Own processing based on Eurostat data.

From the table 3 it was found that following the implementation of specific investments from NRRP, the largest increase in the contribution to the GDP growth would be the construction sector with an impact of +2.5% on average per year and the investment sector with an impact of + 2.3% on average per year. The NRRP contribution to national export growth is estimated at 0.6% (being the average value over the whole period) (Table 3).

Table 3. Estimated impact of NRRP on key economic sectors and indicators (%)

	2021	2022	2023	2024	2025	2026	Average
Construction sector	3.1	3.7	3.1	1.9	1.6	1.4	2.5
Services sector	0.7	0.9	0.8	0.5	0.5	0.5	0.6
Private consumption	0.5	1.2	0.9	1.2	0.7	0.5	0.8
Investments sector	2.8	3.4	2.7	1.8	1.6	1.4	2.3
Export	0.3	0.7	0.8	0.6	0.5	0.4	0.6
Import	0.4	1.5	1.7	1.1	0.7	0.5	1
GDP structure	1	1.2	0.8	1	0.7	0.6	0.9
Total funds absorbed	4.95	6.6	6.6	4.95	4.95	4.95	

Source: The Prognosis Commission, NRRP, 2020.

As mentioned in the NRRP, Romania should have a competitive and digitalized entrepreneurial and business system, supported by an administrative framework and regulations comparable to most of the EU member states. From a governmental perspective, the priorities of SMEs are: business resilience, digital transformation, innovation, business internationalization. The number of SMEs and their employees is a sign of the efficiency of public policies.

4.6.1. Methodology

1. Identification and selection of indicators: (1) Exports (thousand euro), (2) turnover in market services rendered mainly to enterprises (%).
2. Statistical data taken from the National Institute of Statistics, at national level.
3. Modelling the dependence of the Exports indicator on the turnover indicator, using simple regression on monthly data (21 months between January 2022-september 2023), according to the equation:

$$\ln Y_t = c + a_1 \ln X_{1t} + \varepsilon_t, \text{ where:}$$

Y = dependent variable

X = independent variable

t = time series

ε = residual variable

4. Creating an Autoregressive type model with Distributed Lag (ARDL)
5. Analysis of short-term and long-term effects.
6. Discussions, conclusions.

4.6.2. Results obtained

The model presented below uses monthly series, from January 2022 to September 2023, period especially chosen because it relates to the start of the absorption by Romania of a small part of the funding provided by NRRP. Turnover in market services rendered mainly to enterprises (%) and export (thousand euro) are taken from the database of the National Institute of Statistics Tempo-Online. Both indicators refer to Romania. The applied methodology is quantitative and consists of processing and analyzing these variables. The aim of the study is to examine the effect of turnover on Romania's export both in the long and short term.

Specifying the model Exports, Turnover

To achieve the purpose of the study, the model was specified as follows:

$$\ln Export_{FOB_t} = c_0 + c_1 \ln Turnover_t + e_t \quad (1)$$

where:

ln = the natural logarithm of each indicator included in the equation

Export_FOB = Free on board exports (dependent variable measured in thousands of euro)

Turnover = turnover in market services rendered mainly to enterprises (independent variable expressed as index by base year 2015)

e = error variable

The analysis uses ARDL econometric modelling (autoregressive with distributed lag) as a method to compare short-term and long-term effects. The purpose of this model is to estimate the co-integration relationship between turnover and exports. If this co-integration is confirmed, the model may be specified as a conditional model-error type (MEC). *Equation 1 is reformulated and the ARDL model, starting from the premise of the existence of a long-term co-integration relationship, is specified below.*

$$\Delta \ln Turnover_t = c_0 + c_1 MEC_{t-1} + \sum_{i=0}^p \Delta c_2 \ln Export_{FOB_{t-i}} + \sum_{i=0}^r c_3 \Delta \ln Turnover_{t-i} + e_t \quad (2)$$

Δ = the first difference operator; the order of the lag for each variable is denoted by p, q and r
 MEC_t, the term for the error correction that displays the long-term relationship is defined in the equation 3.

$$MEC_t = \ln Export_{FOB_t} - a_1 \ln Turnover_t \quad (3)$$

Unit root test

The first step in using the ARDL method is to test the stationarity of the variables included in the equation. ARDL models support the need to integrate variables at zero I(0) or in the first difference I(1). Stationary testing will be done by means of the unit root test using the Augmented Dickey-Fuller (ADF) and Philips-Perron (PP) tests. The results of this test are in Table 4.

Table 4. Unit root test results

Variable	ADF test		PP test	
	Level	First difference	Level	First difference
lnTurnover	-1.865	-6.172**	-1.598	-11.014**
lnExport FOB	-5.287**	–	-5.380**	–

** represents the significance level of 1%, ** of 5%

Source: EViews, 2024.

The test shows that at a materiality threshold of 1% and 5%, respectively, that lnTurnover is integrated by order 1 or I(1), and lnExport_FOB is integrated by order 0 or I(0). Since the Turnover indicator acquired stationary values in the first difference both by using the unit root test through the

Augmented Dickey-Fuller (ADF) and Philips-Perron (PP) methods, an essential condition for the use of this model we will continue with the assignment of the order of lags.

The order of lags

The order of lags is set to a maximum of 2 due to the limited number of observations. An Autoregressive Vector model was estimated, and the optimally selected lag was 1 by means of the Akaike criteria (AIC), Hannan-Quinn (HQ) and others as shown in Table 5.

Table 5. Criteria for the selection of the order of lags and their specificity

Model	LogL	AIC*	BIC	HQ	Adj. R-sq	Specification
2	-276.746165	29.446965	29.596087	29.472202	0.112258	ARDL(1, 0)
1	-276.479717	29.524181	29.723010	29.557831	0.079265	ARDL(2, 0)

Source: Eviews, 2024.

The order of lags distribution of the dependent variable is selected by means of the criteria Akaike (AIC), Schwarz Bayesian (BIC) and Hannan-Quinn (HQ). From Table 6 it can be concluded that the optimal choice of lags in equation 2 is $(p,q)=(1,0)$

Bound test

The next stage in the performance of the ARDL model is the estimation of the coefficients of the long-term relationships and the associated error correction model (ECM). To examine and confirm the co-integration of long-term relationships between variables, the calculated F-statistical test is used. The result is shown in Table 6.

Table 6. Results of the cointegration test

F-statistic bound test	Significance level	Bound critical levels	
		I(0)	I(1)
F-statistic: 13.364 k: 1	10%	4.04	4.78
	5%	4.94	5.73
	1%	6.84	7.84

Note: the test is based on the assumption that there is no trend and the constant is unrestricted.

Source: Eviews, 2024.

The F-statistical value 13,364 is obviously higher than the critical value limit I(1), which is why we reject the null hypothesis that is standard for ARDL models, namely that there is no cointegration relationship between data series. Moreover, since we rejected the null hypothesis and did not include a constant or a trend in the cointegration relationship, this indicates that we can use the critical values of the ARDL Bound test to determine which alternative occurs. We will therefore carry out an additional test to estimate the cointegration relationship between variables, namely the Canonical Cointegration Regression (CCR) method, due to the small number of entries (Table 7).

Table 7. The long-term cointegration relationship between exports and turnover

Dependent Variable: EXPORTURI_FOB

Method: Canonical Cointegrating Regression (CCR)

Sample (adjusted): 2022M02 2023M09

Included observations: 20 after adjustments

Cointegrating equation deterministics: C @TREND

Long-run covariance estimate (Bartlett kernel, Newey-West fixed bandwidth = 3.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Turnover	24153.89	9329.011	2.589116	0.0191
C	2387735.	2019917.	1.182096	0.0253

@TREND	-49456.73	28964.48	-1.707496	0.1059
R-squared	0.131406	Mean dependent var	7773887.	
Adjusted R-squared	0.029219	S.D. dependent var	601932.0	
S.E. of regression	593072.9	Sum squared resid	5.98E+12	
Long-run variance	1.50E+11			

Source: Processing of the authors of the NIS data with the Eviews software, 2024.

The estimators are significant at the 5% threshold if we are to report according to the Kuznets curve (Turnover: $0.0191/2 < 0.05$; $c: 0.0253 < 0.05$ and $0.1059/2 = 0.05$). The CCR model explains 13.14% of the change out of the average of exports. In the following we applied the Hansen and Park parameter instability tests (Table 8).

Table 8. Test of parameter instability

Hansen test	Park test
p=0.3175	p=0.0759

Source: Processing of the authors of the NIS data with the Eviews software, 2024.

The two tests revealed that the model identifies a significant and long-term relationship between exports and turnover ($p > 0.05$), but the influence of the independent variable on the dependent is relatively small (13.14%).

Since all the tests carried out so far have demonstrated a direct and positive relationship between turnover in market services rendered mainly to enterprises and the value of exports there will be analyzed in the following the long-term and short-term relationship between these variables.

Long-term relationship

The results of the long-term relationship or the term of error correction (EMM) are given in equation 4 and in Table 9.

$$MCE_t = \ln \text{Export_FOB}_t - (10801.55 \ln \text{Turnover}_t) \quad (4)$$

Table 9. Long-term relationship

Variable	Coefficient	t-statistic	P (probability)
$\ln \text{Turnover}_t$	30161.285	4.092	0.0008
C	6816096.196	0.000	0.0000
MCE_t	-1.341	-6.696	0.0000

Source: Processing of the authors of the NIS data with the Eviews software, 2024.

The value of the MCE coefficient is -1.341, being statistically significant at the threshold of 5%. This result indicates a direct, long-term relationship between turnover and export value and a positive influence of indicators on dependence. For example, an increase in turnover will lead to an increase in Exports of 0.0008%.

Short-term relationship

The short-term relationship between the variables is shown in Table 10.

Table 10. The short-term relationship

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
EXPORT_FOB(-1)	-0.312434	0.204869	-1.525044	0.1468
TURNOVER	26856.22	8412.369	3.192468	0.0057
TURNOVER(-1)	-18035.59	7766.507	-2.322227	0.0337
C	7969139.	1717657.	4.639540	0.0003

Source: Processing of the authors of the NIS data with the Eviews software, 2024.

The short-term analysis is conclusive because both the probability attached to short-term turnover does not exceed the statistical threshold of 5%. It is thus demonstrated that turnover has a positive and direct influence on the value of exports at national level.

Diagnostic tests

In order to verify that the results of the analysis are valid, certain tests have been carried out which are presented in Table 11. The results of the diagnostic tests accepted the null hypothesis of the existence of heteroscedasticity ($p=0.62>0.05$), have not confirmed the acceptance of the null hypothesis of lack of self-correlation ($p=0.35>0.05$) and confirmed the hypothesis of existence of normally distributed errors ($p=0.60>0.05$).

Table 11. Diagnostic test results

Type of test	Result
Adjusted R-squared	0.21
LM Breusch-Godfrey test	R-squared obs. 0.86 (prob=0.35)
The Residual Value Normality Test	Jarque-Bera test: 0.99 (prob=0.60)
Heteroscedasticity test of residual values	R-squared obs. 1.07 (prob=0.62)

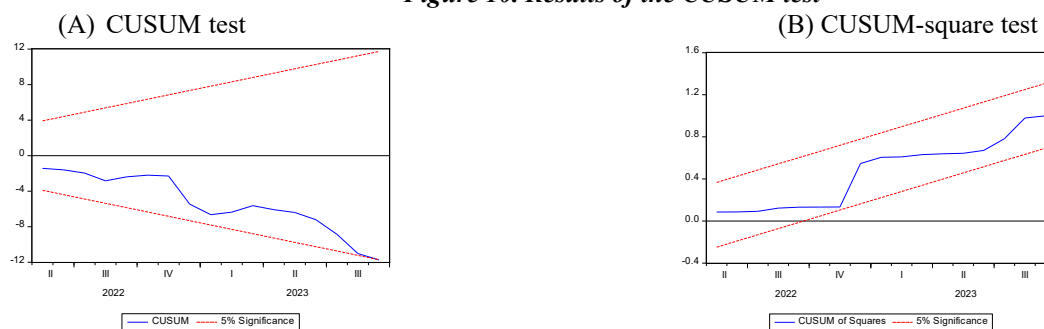
Source: Processing of the authors of the NIS data with the Eviews software, 2024.

Stability tests

The stability of the estimate can be achieved by performing cumulative sum (CUSUM) and square-CUSUM tests of recursive residual values. The stability of the model is tested by the Cumulative Sum of Recursive Residuals (CUSUM), the Cumulative Amount of Recursive Residual Square (CUSUMSQ) and the AR Reverse Root Test of the Polynomial Characteristics.

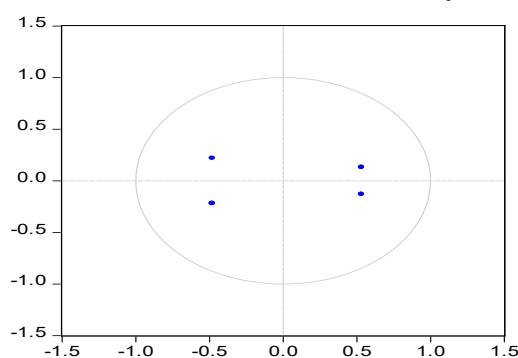
In Figure 10, the blue line lies between the upper and lower limits (the two red lines), which means that the pattern is stable at the estimate on lag 1. Similarly, no root is outside the unitary circle, meaning all complex root module values are less than 1 in the Inverse Root chart in Figure 11, therefore, it can be concluded that the model meets the condition of stability.

Figure 10. Results of the CUSUM test



Source: Processing of the authors of the NIS data with the Eviews software, 2024.

Figure 11. The result of the test of Inverse Root of the Polynomial Characteristics AR
Inverse Roots of AR Characteristic Polynomial



Source: Processing of the authors of the NIS data with the Eviews software, 2024.

The effect of turnover on the value of exports from Romania, in the short and long term was analyzed. The ARDL model proved that at the level of Romania, both in the short term and long term, the influence of the variable turnover on exports is significant. The results of the econometric analysis confirmed the hypothesis that there is a positive relationship between exports and turnover at least over the period considered. According to the results of the analysis, at a 1 percentage point increase in the turnover of market services provided to enterprises, the export value will increase by 21,046.67 thousand euro.

Although the absorption of funds from NRRP was only 2.4%, we believe that the effects of the plan on the competitiveness of the business environment will be positive and will influence the exports of Romanian firms to the community market.

5. Conclusions

Any major crisis, as was the coronavirus pandemic (COVID-19), comes with a number of problems, but at the same time brings important opportunities to rethink the national systems. In order to capitalize on these opportunities, but to mitigate the effects of the health crisis, at the level of the European Union, the instrument entitled Recovery and Resilience Facility, was launched, which aims to support the economies of the member states affected by the health crisis and to provide support to the reforms and investments they are proposing. Funds worth 723.8 billion euro (current prices) were allocated in loans (385.8 billion euro) and grants (338 billion euro), with the aim of mitigating the economic and social impact of the coronavirus pandemic, making them more sustainable and resilient to the challenges and opportunities arising from the green and digital transition. This recovery mechanism aims to ensure a sustainable recovery of the member states after the COVID-19 pandemic crisis.

The national recovery and resilience plans are different from one member state to another, both in terms of allocations and especially regarding the structures. The number and definition of categories and the availability of summary information about subcategories vary from country to country. However, two elements remain common for all countries: the green energy component and the digitalization component, with at least 37% and 20% in each subcategory.

Romania's recovery plan is structured on six pillars of development: green transition, digital transformation, smart growth, social and territorial cohesion, health and resilience and policies for the next generation. The plan includes measures on sustainable transport, education, healthcare, building renovation and the digitalization of public administration. The projects in the plan cover the entire duration of the implementation of the NRRP by 2026. The plan proposes projects in all of the seven main areas established at the European level.

Regarding the amount of funds from the NRRP, it is assumed that Romania will request the maximum amount allocated. Specifically, the NRRP is expected to generate a total of 29.2 billion euro between 2021 and 2026, out of which 14.24 billion will come from subsidies and 14.94 billion from loans.

In Romania, NRRP is structured on six pillars: green transition, digital transformation, smart growth, social and territorial cohesion, health and resilience and policies for the next generation with a total allocation of 29.2 billion euro. Around 215 Reforms are proposed (of which 32 are carried out) and 292 investments.

The investments financed by NRRP will contribute to the increase of the progress made by Romania in the field of digital competitiveness, in areas such as human capital, broadband connectivity, and integration of digital enterprise technologies and digital public services. These investments can also contribute to sustainable urban development. Digitalization has an important impact on the level of territorial development and on reducing economic and social inequalities.

Compared to the other member states, Romania has the second most complex recovery plan, with over 500 projects of reforms and investments in development.

Regarding the degree of absorption through NRRP, a pre-financing of 3.79 billion euro was received, the first payment request of 2.6 billion euro being paid in December 2022 and the second payment application of 2.7 billion euro was made in September 2023. The absorption rate was of –

2.4%. Only two milestones out of the nine were reached (the adoption of the action plan for the national circular economy strategy and the milestone Entry into force of the legislative package for the implementation of the „Educated Romania” project).

For the Business Sector (small and medium-sized firms), the private sector aid schemes and de minimis schemes and state aid schemes are allocated in the context of the digitalization of SMEs worth 2,345 million euro. Regarding the private sector aid schemes – for the digitalization of SMEs – in 2023, 5,492 contracts were signed.

In January 2024, 1,020 projects were admitted to funding under the call „Digitalization of SMEs Grant up to 100,000 euro per enterprise to support SMEs in adopting digital technologies”. Main areas: Tourism and accommodation facilities, Computers, Catering and restaurants, diagnostic and treatment activities, furniture manufacturing. The NRRP is a strategic planning document that forces the political class to undertake established reforms (which is why it is very useful).

Regarding the way money is used, it is assumed that 67% of NRRP allocations go towards financing public investments. The government uses the remaining 33% of the funding to pay from its own budget. The entire amount of loans is used to finance individual investments. The additionality principle is still considered to be in place, which means that all grants and loans granted under the RRF finance new investments and changes that would otherwise not take place.

Several types of reforms envisaged in the NRRP are significant but relatively difficult to quantify. They influence the institutional set-up and framework of the Romanian economy, as well as the success of other reforms. Examples of reforms aimed at improving institutional quality include modernizing public administration, increasing the effectiveness of the judiciary, and improving tax collection structures. Institutional quality is demonstrated through government efficiency, regulatory quality, rule of law and corruption control. Although not specifically addressed in the current empirical study, the impact of such complementary, horizontal and extensive reforms is considered to pose a considerable risk.

Although it is more difficult to assess and separate the effects of the implementation of NRRP measures on the national economy, it can be said that two important pillars - Digitalization and Green Transition – play a significant role in the recovery and resilience after the health crisis, and also on the reduction of territorial, economic and social, infrastructure (environmental, road, health, education, etc.) inequalities.

Acknowledgement

This topic has been addressed in the research theme for 2023, entitled ANALYSIS OF NRRP EFFECTS ON THE BUSINESS ENVIRONMENT, which is part of the 92 Program of the Romanian Academy: Increasing the performance of research in economic sciences, legal sciences and sociology, INE Strategic Programme: PSG 1.2 Public investment and urban development from the perspective of NRRP, INCE Programme: PSG 1. Paradigm changes in economic science. Uncertainties and constraints in the review of sustainable development policies, authors: PhD. Daniela Antonescu (coord.), PhD. Ioana Cristina Florescu.

References

- Aldrich, H. E. & Martinez, M. A., 2001. Many are Called, but Few are Chosen: An Evolutionary Perspective for the Study of Entrepreneurship. *Entrepreneurship Theory and Practice*, 25(4). 41-56, <https://doi.org/10.1177/104225870102500404>
- Benard. B. (1995). Fostering Resilience in Children. Urbana IL: Clearinghouse on Elementary and Early Childhood Education, <http://files.eric.ed.gov/fulltext/ED386327.pdf>
- Biggs, R., Schlüter, M., Biggs, D., Bohensky, E. L., BurnSilver, S., Cundill, G. Dakos, V., Daw, T. M., Evans, L. S., Kotschy, K., Leitch, A. M., Meek, K., Quinlan, A., Raudsepp-Hearne, C., Robards, M. D., Schoon, M. L., Schultz, L., West, P. C. (2012). Toward Principles for Enhancing the Resilience of Ecosystem Services. *Annual Review of Environment and Resources*. 37, 421-448. <https://doi.org/10.1146/annurev-environ-051211-123836>
- Boschma, R. (2015). Towards an evolutionary perspective on regional resilience. *Regional Studies*, 49(5), 733-751. <https://doi.org/10.1080/00343404.2014.959481>

- Bristow, G. & Healy, A. (2014). Building Resilient Regions: Complex Adaptive Systems and the Role of Policy Intervention. *Raumforsch und Raumordn*, 72, 93-102. <https://doi.org/10.1007/s13147-014-0280-0>
- Cooper, N., Estes, C. & Allen, L. (2004). Bouncing back. *Parks & Recreation*, 39(4), 28-35. <https://www.cabidigitallibrary.org/doi/full/10.5555/20043091195>
- Davidsson, P., Low, M. B. & Wright, M. (2001). Editor's Introduction: Low and MacMillan ten years on: Achievements and future directions for entrepreneurship research. *Entrepreneurship Theory and Practice*, 25(4), 5-16. <https://doi.org/10.1177/104225870102500401>
- Di Bella, L., Katsinis, A., Lagüera-González, J., Odenthal, L., Hell, M., Lozar, B. (2023). A Strategy and Economic Analysis Unit A.2 SMEs, Annual Report 2022/2023, ISSN 1831-9424, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs Directorate. https://single-market-economy.ec.europa.eu/document/download/b7d8f71f-4784-4537-8ecf-7f4b53d5fe24_en?filename=Annual%20Report%20on%20European%20SMEs%202023_FINAL.pdf
- European Commission (2021). EU financial instruments supported European SMEs during the coronavirus crises with €29 billion in 2020. European Commission. https://ec.europa.eu/commission/presscorner/detail/en/ip_21_6348
- European Commission (2023). Annual Single Market Report. <https://single-market-economy.ec.europa.eu/system/files/2023-01/ASMR%202023.pdf>
- European Parliament (2010). Întârzierea efectuării plăților: Parlamentul aprobă un termen general de 30 de zile. European Parliament. <https://www.europarl.europa.eu/news/ro/press-room/20101020IPR88428/intarzierea-efectuării-plăților-pe-aproba-un-termen-general-de-30-de-zile>
- European Union (2023a). NextGenerationEU. https://next-generation-eu.europa.eu/index_ro
- European Union (2023b). InvestEU. https://investeu.europa.eu/index_en
- European Union (2023). <https://single-market-economy.ec.europa.eu/system/files/2023-01/ASMR%202023.pdf>
- Annual Report on European SMEs 2022/2023, ISBN 978-92-68-06174-9 ISSN 1831-9424 doi:10.2760/028705 KJ-NA-31-618-EN-N Luxembourg: Publications Office of the European Union, 2023.
- Eurostat (2022). *SMEs showed resilience to effects of pandemic*. European Commission. <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20221028-3>
- Green, L. & Campbell, J. (2004). The Kiwi Effect. Wellington: Avocado Press.
- Hagevik, S. (1998). Career consultant: Resilience required. *Journal of Environmental Health*, 60(10), 37-38. <https://link.gale.com/apps/doc/A20794179/HRCA?u=anon~d15fb694&sid=googleScholar&xid=9a9043ba>
- Iacob, V., Radu I., Dumitru D. (2020). Analiza efectului crizei sanitare asupra evoluției comerțului internațional cu bunuri în semestrul I 2020, https://www.revistadestatistica.ro/supliment/wp-content/uploads/2020/08/rrss_08_2020_A7ro.pdf
- Institute for Gender Equality, (2022). Gender Equality Index 2022 The COVID-19 pandemic and care. https://eige.europa.eu/sites/default/files/documents/gender_equality_index_2022_corr.pdf
- Klein, V. B. & Todesco, J. L. (2021). COVID-19 crisis and SMEs responses: The role of digital transformation, *Journal of Corporate Transformation*, 28(2), 117-133. <https://doi.org/10.1002/kpm.1660>
- London, M. (1993). Relationship between career motivation, empowerment and support for career development. *Journal of Occupational & Organisational Psychology*, 66(1), 55-69. <https://doi.org/10.1111/j.2044-8325.1993.tb00516.x>
- Manfield, R. C. & Newey, L. R. (2018). Resilience as an entrepreneurial capability: integrating insights from a cross-disciplinary comparison. *International Journal of Entrepreneurial Behaviour & Research*, 24(7), 1155-1180. <https://doi.org/10.1108/IJEBR-11-2016-0368>
- Martin, R. & Sunley, P. (2015). On the notion of regional economic resilience: conceptualization and explanation. *Journal of Economic Geography*, 15(1), 1-42. <https://doi.org/10.1093/jeg/lbu015>

- McClelland, D.C. (1965). Achievement Motivation Can Be Developed. *Harvard Business Review*, 43, 6-25. <https://api.semanticscholar.org/CorpusID:168379687>
- Ministry of European Investments and Projects (2023). Digitalizarea IMM-urilor Grant de până la 100.000 euro pe întreprindere care să sprijine IMM-urile în adoptarea tehnologiilor digitale: Primele 1.020 proiecte admise la finanțare. Ministerul Investițiilor și Proiectelor Europene. <https://mfe.gov.ro/digitalizarea-imm-urilor-grant-de-pana-la-100-000-euro-pe-intreprindere-care-sa-sprrijine-imm-urile-in-adoptarea-tehnologiilor-digitale-primele-1-020-proiecte-admise-la-finantare/>
- Morris, M. H., Schindehuette, M. & LaForge, R. W. (2002). Entrepreneurial Marketing: A Construct for Integrating Emerging Entrepreneurship and Marketing Perspective, *The Journal of Marketing Theory and Practice*, 10 (4), 1-19. <https://doi.org/10.1080/10696679.2002.11501922>
- Pal, R., Torstensson, H. & Mattila, H. (2014). Antecedents of organizational resilience in economic crises — an empirical study of Swedish textile and clothing SMEs, *International Journal of Production Economics*. 147(B), 410-428, <https://doi.org/10.1016/j.ijpe.2013.02.031>
- Zaman, G. & Georgescu, G. (2015). Resilience to crisis and GDP recovery at county level in Romania. *MPRA Working Papers*, 63246, <https://ideas.repec.org/p/prapa/mprapa/63246.html>
- Zaman, G. & Vasile, V. (2014). Conceptual framework of economic resilience and vulnerability at national and regional levels. *Romanian Journal of Economics*, 39(2), 5-18. <https://www.eusmecentre.org.cn/wp-content/uploads/2022/12/SME-Definition.pdf>
<https://tailent.com/>