

## **THE COMPETITIVENESS PILLAR OF THE SUSTAINABLE DEVELOPMENT OF THE BUSINESS ENVIRONMENT**

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**Abstract:** *Following the phenomenon of globalization, the business environment is subject to current challenges, challenges in which competitiveness is the determining element of the sustainability and profitability of any business. The purpose of this paper is to acquire the concept of competitiveness at national business level, as well as the approach to competitiveness at European Union and international level. The existence of a stable macroeconomic and financial framework is a precondition for creating a favorable ground for affirming the competitive potential of the business environment.*

*Therefore, in this paper we aim not only to mention the concepts, the tendencies of competitiveness at national and international level, but especially a detail of the competitiveness indicators, as well as the principles that govern the competitiveness, the pillar of development and sustainability of the business environment.*

**Keywords:** *competitiveness, business environment, sustainability*

**JEL Classification:** *F63, M21, O16*

### **Introduction**

We are currently part of the process of defining strategic priorities and scenarios for increasing competitiveness at the level of Romanian and European companies, which can actively contribute to the economic convergence at national and European level through the support programs of the European Union for the programming period 2021-2027.

The supporting strategic document that currently supports competitiveness at the level of Romanian companies is the National Strategy for Competitiveness. The National Strategy for Competitiveness (SNC) is a strategic document of the Ministry of Economy, Trade and Tourism, which was elaborated through consultations with both the private environment and the line ministries (in particular with the Ministry of Agriculture and Rural Development, the Ministry of Education and Research Scientific, Ministry of Regional Development and Public Administration, Ministry of Labor, Family, Social Protection and Older People), to correlate the interventions dedicated to competitiveness, taking into account the national areas of excellence, including from the perspective of the territorial dimension and of the rural development, of the labor market development and human factor (National Strategy for Competitiveness 2015-2020 and European Strategy for Research and Innovation 2021-2027).

*The National Strategy for Competitiveness* stems from the desire to build on a strategic basis a better future for the Romanian economy and for citizens in general. With the vision, priorities and objectives proposed, this strategic document offers a solution for the economic development in Romania in the short and medium term, a solution that allows to overcome the obstacle to exploit a recognized competitive potential on the market, but incompletely put to value added and prosperity or what is called “middle-income countries trap”. The achievements through the Action Plan related to the Strategy will be validated if Romania is in a position to position itself very close to or even in the group of advanced countries by 2020.

*The strategy represents a public policy document in the field of competitiveness* that has been structured in the following main sections:

- The competitive context of the Romanian economy, in which the challenges to which this Strategy will try to respond, mainly in the period 2015-2020 are analyzed;
- Defining the vision and priorities of the Strategy, together with the objectives for achieving them;
- Operationalizing the Strategy by defining the directions of action and the expected results together with the measurement indicators, the budgetary and legal implications, the monitoring and evaluation procedures, the tasks of the institutions involved in the implementation process.

In the period 2015-2020 through Romania's economic development plans, in which the country's strategic priorities, set out in this document, are meant to create the conditions that allow Romania to compete effectively with the rest of Europe, we are witnessing a redefinition of priorities. economic from a competitive point of view in all branches of the national economy (production, services, etc.). The key challenges this Strategy seeks to address include:

- Regulation of the business environment;
- Trust (lack of collaboration) between market players (companies, institutions, authorities);
- Entrepreneurship (demography, structure, resilience of the business environment);
- Human resources and education (critical mass and quality of workforce);
- Innovation (demand and supply of research products, critical mass of researchers and innovative companies);
- Creativity (entrepreneurial culture, innovation community);
- Efficiency (use of resources);
- Excellence (priority sectors and international competitiveness).

The general objective of the NSC is to integrate these challenges into a coherent, medium-term vision, support for the package of initiatives and actions that led to its implementation in the period 2015-2020, in accordance with the strategic priority areas of Romania, especially in Romania, the directions of research and innovation, employment and regional development, through competitive agricultural and industrial activities. The microeconomic approach to competitiveness (Porter, 1990, p.6) "we must abandon the notion of national competitiveness as a term that has more meaning than economic prosperity. The main purpose of a nation is to ensure and raise the standard of living of citizens. The ability to do this depends not on the amorphous notion of competitiveness, but on the productivity with which the nation exploits its resources (labor and capital). Productivity is the value of the product obtained per unit of labor or capital. It depends both on the quality and shape of the product (which determines the price that can be obtained) and on the efficiency with which it is produced". Porter evaluates the microeconomic fundamentals of productivity in two areas: sophisticated strategies and actions of companies and the quality of the business environment at the microeconomic level. These areas are the two components of the *Microeconomic Competitiveness*

*Index (MICI)* as it appears in the *Global Competitiveness Report (GCR)* of the World Economic Forum, the first having a weight of 0.37 and the second of 0.63 respectively. Until the 2003 Report, MICI was known as the Current Competitiveness Index, being introduced for the first time in the Global Competitiveness Report of the World Economic Forum in 1998.

The competitiveness between macro and micro defined by Schumpeter “*the true nature of capitalist competition is not price competition but technological competition, which leads to*” new products, new technologies, new sources of supply, new forms of organization, (...) competition that determines decisive advantages of cost or quality and which break not only the limits of the profit and the output of the existing companies but also their foundations and their life” (Schumpeter, 1943, p, 84).

## Literature Review

Approach from the perspective of the competitive advantage, which takes into account other factors more difficult to commensurate: the technological level, the innovation, the quality of the products - including the after-sales services; Addressing competitiveness from a sustainable development perspective, given the imperative of ensuring long-term global development by intensifying efforts to protect the environment, rational use of non-renewable resources, etc.

Among the concepts used at national and international level regarding the competitiveness of the business environment, we can mention the following: “*technological competitiveness*” refers to the ability to successfully launch new goods and services on the market (Fagerberg, Knell and Srholec, 2004); “*competitive capacity*” refers to the ability to exploit new technologies, innovations by applying them widely in as many fields as possible (Fagerberg, Knell and Srholec, 2004); “*competitive cost/price*” concept on which economists have concentrated the most, defined as an indicator either by the unit cost of working in industry in a common currency (as a measure on the horizontal axis, at the level of companies) or by gross domestic product per inhabitant (vertical axis, at the level of regions or nations), either by productivity whose difference is reflected in the exchange rate between countries (Fagerberg, Knell and Srholec, 2004); “*competitive demand*” that expresses a relationship between the production (the structure of trade) of a country and the structure of world demand, essential in the analysis of competitiveness (Fagerberg, Knell and Srholec, 2004); Market orientation, which confers superiority on

competitiveness results, is addressed by Day and Wensley (1988) by positioning resources (skilled labor force, (assets-capital-possession of the source) and market (positional advantage).

Definition of the *World Economic Forum*, the OECD and the European Commission: “Competitiveness is the ability of a country to obtain a high, sustainable rate of gross domestic product per inhabitant” - The World Ecumenical Forum; “Competitiveness is the degree in which, under the conditions of a market free, a nation can produce goods and services that can pass the test of international competition and, at the same time, can maintain and increase the real internal income” - OECD, 1992, p.237; “Competitiveness is the ability to produce goods and services that pass the international market test, and which at the same time maintain high and sustainable levels of income, or, more generally, the ability of regions to generate, when exposed to external competition, relatively high levels of income and employment (Global Competition: *The New Report on the President’s Commission on Industrial Competitiveness*, 1985) and the *European Commission* (1999).

## Research methodology

In order to base the research methodology on the project, we used classical observation and examination instruments, research methods based on the basic principles of scientific research, respectively: “competence, objectivity, truth, methodical, demonstration, correlation, evaluation of results, utility and psychomorphism” (Ristea and Franc, 2013). We used procedures based on factual analysis, intensive documentation at the level of internal and international literature, using the databases and the scientific material existing in the endowment of libraries of specific institutes in Romania and internationally.

The methodology of the paper has as direct instruments the collection of data and information from the literature and from the existing practice in public and private institutions, but especially scientific articles published on specialized research networks (ResearchGate, Academia.edu, etc.), articles published in various journals, relevant books in the field of reference, legislation, analyses and studies, official documents of various tax bodies, tax documents and interactive database of the National Bank of Romania, other relevant sources identified in the libraries: CCFM, Academia Romanian, INCE, IEN, BNR, National Library, INS, etc. Moreover, we analysed the documents using the comparative, analytical, descriptive method, the no participative and

participatory observation, and the use of a set of informational sources, the collection of financial data in the established databases. The information support of the research was provided by the monographs, books, scientific articles, materials of the scientific conferences, the balance sheets of SMEs during 2008-2017, as well as other materials, which are presented in the scientific papers and publications displayed on the official pages of the national and international research institutes, international financial institutions (research centres), etc.

## Research results

At European level, the territorial approach is becoming increasingly important in strategic planning. Although traditionally seen as an integral part of Cohesion Policy, space development has received increasing recognition in other EU policies in recent years. Territorial cohesion has been explicitly recognized as a fundamental objective of the EU, together with economic and social cohesion, by the Treaty of Lisbon (art.3 TEU). This basic document proposes as a principle the accentuation of the role of urban areas, functional areas, geographically disadvantaged areas, as well as the construction of macro-regional approaches. Under the conditions of the new economic realities, the implementation of a coherent territorial approach in Romania must respond to the challenges that result from the need to better exploit the existing economic potential. The experience of the last years (2007-2013) shows that:

(1) *The territory* is capitalized to a very small extent in adding value to economic processes through its characteristics of economic dynamics, economic functionality and spatial arrangement of activities. Although the polycentricity indicators have values comparable to the European regions, the urban centers insignificantly influence the networks of economic activities and allow the formation of an urban and industrial vacuum.

(2) *The investments* supported by the structural and cohesion funds will not be thought punctually (in cities, companies, individuals) but will be oriented towards areas of intervention defined as integrated development areas. Despite the efforts so far, of which we exemplify the financing of the projects regarding the poles of competitiveness and the integration of SMEs in chains of suppliers or clusters, the associativity (public-public, public-private or private-private) is weak and this is the first obstacle. Other obstacles refer to the initiation and management of projects (especially large ones), given the

differences at institutional and operational level and the lack of an integrated vision of territorial development.

(3) *The intervention measures* are not justified by and do not include elements of value formation at the territorial level. The expected beneficial effects of the operational programs cannot be effectively transferred in results due to the neglect of the effects of spatial agglomeration of the economic activity that at the same time generate positive and negative effects on the added value. Interventions through different operational programs from EU are not territorially integrated, as there is no spatial impact monitoring mechanism.

The vulnerability of the current approach at the territorial level is not related so much to the definition of strategic priorities, but especially to the definition and conceptualization at the level of the areas and areas of intervention. The necessary changes are at the operational level, namely how we correctly understand the causal link from the use of territorial capital to the effects of economic growth. The current level of decentralization is insufficient, and the principle of subsidiarity is only formally addressed in the design and implementation of policies with territorial impact. There is a split between the top-down approach (initiated at the national level) and the bottom-up approach (initiated at the local level). The structures (local, regional, national administrative) pursue more bureaucratic roles than functions of competitive mobilization of some development areas. All the aforementioned aspects demonstrate the importance of the territorial dimension in the elaboration of a competitiveness strategy, mainly needing common directions of action with the regional development strategies in order to orient the policies towards maximizing the competitive impact at the territorial level by approaching the 3 C:

- *Concentration*: overcoming density differences;
- *Connecting territories*: exceeding the distance factor;
- *Cooperation*: exceeding the factor of division.

In this regard, the thematic concentration and the priorities of public investments must be correlated with the main territorial objectives / keys (which link the territorial priorities with the objectives of economic and social development): accessibility (infrastructure), economic services of general interest, the exploitation of the potential territorial, networking of cities (connectivity), support of functional areas.

Given the trends at European level of analyzing the territorial component of competitiveness, the European Commission (2011) proposed

in 2011 the calculation of a *Regional Competitiveness Index (ICR)*. The calculation methodology starts from the premise that in a spatial context economic competitiveness is determined by a complex system of factors, which concentrates, among others: the creative and innovative exploitation of the regional potential, the creation of connections at territorial level by stimulating the appearance and strengthening of the intra and inter-industry on value chains, capitalization of natural and cultural heritage, use of research-innovation potential and improving connectivity and accessibility.

ICR is composed of 11 pillars that describe the different aspects of competitiveness. Through these pillars, the index assesses the strengths and weaknesses of a region. The pillars are classified into 3 groups: elementary, efficiency and innovation. The elementary group comprises 5 pillars: institutions; macroeconomic stability; infrastructure; the health; basic education. These pillars are the essential elementary drivers of all types of economy. As a regional economy develops and progresses, in terms of its competitiveness, factors related to a skilled labor force and a more efficient labor market can come into play. These factors are part of the efficiency group. It comprises 3 pillars: higher education, vocational training and lifelong learning; labor market efficiency; the size of the market. In the most advanced stage of development of a regional economy, the drivers of improvement are part of the innovation group, which consists of 3 pillars: technological maturity; sophistication of the business environment; innovation. Based on the ICR, whose calculation formula closely follows the Global Competitiveness Index, the map of regional competitiveness at European Union level has been elaborated. Between the countries of the European Union, the development regions of Romania are in the last places, both in terms of ICR and in almost all the rankings of the indicators that compose this composite index. The region of the capital has the highest values in terms of competitiveness, but the positive effects on the neighboring regions are limited.

Under these conditions, in the case of Romania, cohesion policy must contribute not only to reducing regional disparities, but also to achieving Romania's competitiveness objectives. The results offered by the Competitive Potential Index (CPI) at NUTS 3 territorial level (county) help us to outline some economic aspects related to the diagnosis and the measurement of the economic performance of a territory. The analysis of the distribution of these values leads to at least two findings:

- an axis of the counties with high values of the Competitive Potential Index, which runs almost diagonally across the country and overlaps the most complete infrastructure in Romania (European, national roads, railways, airports).
- a mosaic aspect of the distribution of this index that overlaps the western, central and southern slopes. The east of the country is characterized by a homogeneous distribution of values, which translates into the landscape of economic performance through an inability to properly value natural and anthropic capital (low technology transfer, low capital, limitations in the area of polarization of Moldovan cities).

At the local economy level, according to the hierarchy of the CPI values, Arges county is located on the first place, with an index value of 0.78, compared to a country average of 0.31, which reflects a large volume of total exports (the second by country), the highest ratio between exports and the employed population (10,925 euros / employee) and the highest share of medium-high technology exports (20.3% of the total in the country and 24% of the total in the county). On the second place, with an index value of 0.68, is located the city of Bucharest, having the highest values of the export, but also the largest occupied population. Timis County ranks 3rd, with the largest high-tech exports. No county in the NE region ranks among the top 20 in the ranking, as a competitive potential. Bacaul, on the 4th place from the point of view of the high-tech exports, is only on the 34th place out of 42, due to the high share of the low-tech exports in the whole county (almost 70%) and the low value of the exports / employed population, of only 1,099 euros. Only two counties in the SE region - Constanta and Galați - exceed the country average in terms of the value of the competitive potential index, having as main branches the shipbuilding and steel industry respectively.

The situation is similar for most other regions, each having generally two or at most three counties with values above the national average.

The limited effects of training in the territory, both at the spatial level (from the county to the county) and at the sectoral level (from industry to industry), can be understood, on the one hand, by the insufficient development of the links between different economic activities. The trade balance of Romania is very much dependent on the development of the auto industry in Argeș, and the Bucharest-Ilfov Region contributes more by the demand for imports than by the surplus of sales abroad. The competitive advantages, measured by the

participation in exports, are concentrated in seven counties, mainly located in the west and the center of the country (Argeş 10%, Timiș 9%, Arad 5%, Constanta 5%, Bihor 4%, Braşov 4%, Sibiu 4 %), which together with Bucharest (17%) makes 60% of Romania's exports. Călăraşi, Ialomiţa, Mehedinţi, Neamţ, Olt, Tulcea and Vrancea counties do not have high technology exports, and 29 counties out of 42 do not exceed 1% of the total in the country (Cojanu 2010). On the other hand, the absence of participation in international production and trade networks has an immediate effect on the health of the local economy. Counties such as Bistriţa Năsăud, Brăila, Buzău, Caraş Severin, Călăraşi, Dâmboviţa, Hunedoara, Olt, Sălaj, Tulcea, Vâlcea, face a potential risk at social level resulting from the presence of companies with a large number of employees, but with economics relatively weak (Mereuţă, 2013).

The formation of competitive advantages in industrial agglomerations has become a public concern for some time, where the most important role is played by the projects of formation of the competitiveness poles initiated from 2009 by the Ministry of Economy (2011), Trade and Business Environment through the Industrial Policy Directorate. The agglomerations that play the most important role at national level, in terms of export performance and employment, are those in the steel sector in Galati County, ships in Tulcea, cars in Argeş and footwear in Bihor (Cojanu and Pîslaru, 2011).

This reflection of the regional economy highlights some characteristics of the specialization in the territorial plan:

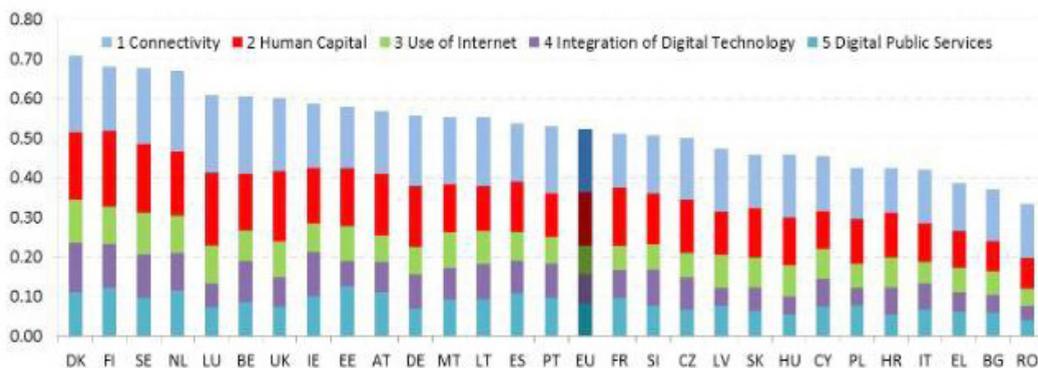
- First, the premises of competitive advancement are very different between regions because the structure of the economy is very different. Certain regional economies, e.g. South-West, South-East and West, they specialize in a very small number of sectors, other regions, e.g. South, North-West and Center are very diverse.
- Secondly, it is worth noting that the agglomerations are already a visible presence in most regions, by the participation of two or more neighboring counties in the same branch of activity and by the diversification of the economic activity; things are less favorable only in the North-East, South-West and North-West. This trend, however, needs to strengthen and begin to produce effects in terms of improving competitive advantage. Significant gaps in terms of competitiveness also exist in the cities of Romania. In recent years, the population and the economic resources have concentrated around several major cities and their suburbs,

increasing the internal differences (eg, the 10 largest cities in Romania generate over half of Romania's GDP).

In this regard, the recommendations of the World Bank report for increasing the competitiveness of Romanian cities aim to encourage urbanization in areas with high potential (suburbs of growth and development poles - Cluj Napoca, Timișoara, Iași, Oradea, Târgu Mureș; and emerging centers in the North East), improving connectivity and accessibility, or diversifying the economic base of cities, in order to support economic growth and in times when some top areas are experiencing difficulties (Banca Mondială, 2013).

Index of economy and digital society On March 3, 2017, the European Commission presented the results of the Index of digital economy and society (DESI) for 2017. This instrument presents the performances of the 28 Member States<sup>9</sup> in various fields, from connectivity and digital competences to integration of digital technology by companies and public services. The index of the digital economy and society (DESI) shows the following: connectivity has improved, but it is still insufficient to address future needs; The EU has more specialists in the digital sector than before, but there is still a gap in terms of skills; European citizens are increasingly acquiring digital skills; digital technologies are more present in businesses and e-commerce, but they are progressing slowly; European citizens make greater use of online public services.

Chart no.1. Digital economy and classification of the company index in 2018



Source: European Commission, 2018

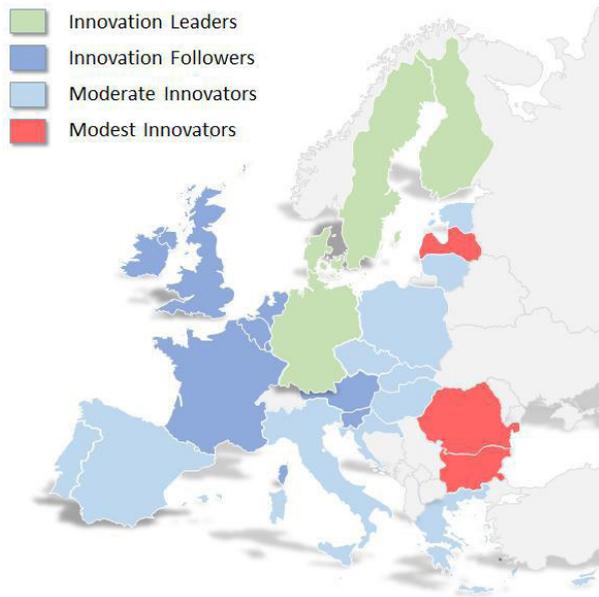
Overall, the EU has made progress and improved its digital performance by 3 percentage points compared to last year, but the situation varies from one Member State to another (the digital gap between first and last ranked is 37 percentage points, compared to 36 percentage points in 2014). Denmark, Finland, Sweden and the Netherlands present the best results this year, followed by Luxembourg, Belgium, United Kingdom, Ireland, Estonia and Austria. The top 3 best players in the digital sector in the EU are also world leaders, ahead of South Korea, Japan and the United States. Slovakia and Slovenia are the countries in the EU that have made the most progress.

Although there have been some improvements, several Member States, including Poland, Croatia, Italy, Greece, Bulgaria and Romania, are still lagging behind in terms of digital development, compared to the EU average. As a conclusion, given the scale of the digitalization of the economy at national and European level, with a direct impact on competitiveness, we consider that, together with the *Competitive Potential Index* (CPI), at national level we must also consider the *Index of digital economy and society* (DESI), the two indices ensuring a true image of national competitiveness in the current context of European competitiveness. Competitiveness at European level in the current global context Europe's capacity for change - innovation and adaptation Productivity is improved in two main ways: innovation that advances the frontier in terms of product sophistication and production efficiency; and the absorption of innovations, a process of adapting and reaching the technological frontier as it advances.

### ***The European gap in research and development***

Improving the environment for innovation is a key challenge for Europe. Indicators evaluated by the *World Economic Forum* (WEF) suggest that the EU is growing slower than the US, Japan or South Korea in a number of dimensions of the innovation environment. However, in the US, the innovation environment is much weaker in many southern and new states (Figure 1). Moreover, as the experience of countries such as Finland has shown, even for those who invest heavily in innovation, external shocks can still have a strong impact on individual countries; and especially the small ones, which operate in a compartmentalized innovation environment in the EU.

Figure no.1. The European Union scoreboard on innovation



Source: World Economic Forum (WEF), 2017-2018

There are also large variations in innovation performance across the EU. While Finland, Germany and Sweden reach scores similar to those in states such as the US and Japan, there are EU countries where innovation is very poor, as is Romania. In recent years, the European innovation performance has been undermined in addition to three factors: the slow recovery from the crisis; high competition, which has led to a slow transition to innovation from emerging ones. The poor performance of innovation in Europe is largely due to the weak relations between industry and science, the poor commercialization of research results and inefficient exploitation of knowledge. The intensity of research and development is much lower in Europe than in the US, Japan or South Korea. There are two reasons for this gap: first, the high-tech sectors in Europe are (by far) smaller in comparison; Secondly, the intensity of research and development in many sectors is lower. In Europe, the decline in R&D spending in countries with fiscal constraints has been largely offset by spending in countries such as Germany, France and the United Kingdom. However, achieving the EU target of spending 3% of GDP on research and development will require an annual spending of € 130 billion on research and development over the current level. The R&D sector in the public sector is about 1% of GDP in the EU: approximately EUR 50 billion less than in the US in absolute terms and with

EUR 60 billion less than is necessary to reach the 3% target. In line with its mission to provide research infrastructures and institutions for fundamental and applied research, public sector spending on research and development is primarily focused on the natural sciences and intensive engineering disciplines.

Of this total, approximately 70 billion euros are accounted for by a deficit in private sector spending on research and development. In almost all manufacturing industries where the EU plays an important role, there is still a significant transatlantic gap in research and development.

Research and development requirements in key strategic sectors In order to regain its competitiveness, the EU will have to retrieve US and, to a lesser extent, Japan's evolution in a number of key technological areas that will underpin future products and services<sup>1</sup>. These are:

- *life sciences*: additional investment of EUR 15 billion is needed in the public sector annually in basic research, together with an additional investment of EUR 10 billion in private sector research and development, in particular in the field of pharmaceuticals and personalized diagnostics / medicine.

- *semiconductors*: eliminating the gap will require additional annual support of EUR 5 billion for the public sector, in particular for co-financing pilot plants on an industrial scale, and EUR 15 billion for the private R&D sector, in particular for industrial applications.

- *software*: an additional cost of 20 billion euros a year is needed, especially for the development of business processes and cloud computing software, mainly in the private sector, as these areas are closer to commercialization. The EU presents competitive strengths in the fields of advanced manufacturing technology, transport equipment and green energy and water and waste technologies. However, his position is increasingly challenged. Further investment is needed to keep Europe at the forefront of these key technologies. Examples include: transport equipment: in order to maintain its leading position, Europe must meet the challenges, including the development of clean alternative fuels (electricity, hydrogen and synthetic biofuels, vehicle retrofitting and refueling), digitization (integration of transport infrastructure and equipment in systems and improving the interoperability of the transport system. As evidenced by global market shares and specialization profiles, investments will have to be financed by the private sector. However, total public sector support of around EUR 8 billion will be required by 2020,

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<sup>1</sup> EIB estimates based on industry data and publications; comparison across all three sectors with the US as a benchmark, given their leading position across a wide range of sectors. Alternatively, South Korea could have been used as a reference in semiconductors - with similar results.

in particular for co-developing and financing pilot infrastructure and pilot markets for innovation.

- *energy technology*: sustained investment in research and development in renewable energy technologies, including storage, is needed to meet the European long-term climate change objectives and to maintain the European position in this field . Public support is especially needed for low carbon technologies that are still in the early stages of development. According to the European strategic plan for energy technologies (SET plan), annual expenditure of up to EUR 70 billion by 2020 is required in the fields of bioenergy, carbon capture and storage, smart grids, fuel and hydrogen cells, nuclear power, energy, and wind. . Finally, European producers are important players worldwide in the field of energy grid equipment. In certain specific sectors, such as high-voltage power transmission (HVDC), they have developed innovative technologies that have further strengthened their competitive advantage over non-EU producers.

- *water technology*: adequate investments in RDI that enhance the competitiveness of water services through smarter technologies and lower costs are essential for maintaining the EU's leading position in the global water sector and, in particular, in the technological segment, where Europe it is in the foreground (over 40% spread worldwide). Annual R&D in the current private sector in this sector is about EUR 4 billion. Optimal levels to maintain the leadership position are estimated at over EUR 7 billion per year by 2020, which means a gap of EUR 3 billion per year.

- *solid waste technologies*: Europe's competitiveness is hindered by the dependence on imported materials, demanding the increase of RDI in material recovery / recycling. European waste management companies are very competitive worldwide (over 50% of patents worldwide). Therefore, the EU is well positioned to capture much of the growing demand for green technologies worldwide. Annual research and development investments worth around EUR 15 billion for research and development and the acquisition of new technologies must be maintained.

*The absorption of innovation* - an essential part of the whole innovation process is the absorption of innovation. While research and development are promoting the frontier in terms of product and process sophistication, all companies must continue to invest again to absorb this new technology and know-how, to maintain their competitiveness.

In regions that traditionally depend on less advanced production and services, such as Central and South-Eastern Europe, as well as emerging economies, the focus is not so much on advancing the technological

frontier, but also on crossing the border and crossing the border from lower to higher value-added activities for raising the standard of living. Foreign direct investment (FDI) often plays an important role in bringing technology and know-how to a country with positive spill-over effects in the host country. The World Economic Forum provides indicators on the availability of the latest technologies, the absorption of technologies at the firm level and the role of FDI in technology transfer. Europe is performing worse than the US in all three measures and, in particular, in the absorption of technologies at the firm level, which is significantly behind the US and Japan. This is a particular concern in Italy, Poland, Romania and Bulgaria.

Europe's poor performance in terms of technological uptake may be linked to global levels of investment, of which investments in business account for the largest proportion. Since the mid-1990s, gross fixed capital formation of the EU (GFCF), as a percentage of GDP, excluding residential investments, has been lower than in the US and Japan. Investments in Eastern Europe were higher, but still much lower than in South Korea, as an example of another emerging economy.

The crisis has had a strong negative effect on investments in all the top economies, creating a huge delay in investments and the loss of potential GDP. While absolute levels of investment in the US and Japan show a recent recovery trend, investments in the EU continue to stagnate, exacerbating the EU investment gap. Comparisons of investment performance should also take into account the relative income of different countries and regions, as successful lower-income countries are often characterized by high investment rates - taking advantage of "recovery" opportunities.

The degree of innovation uptake is particularly important in the production sector. Europe needs to excel in high value added advanced production to maintain a viable manufacturing sector capable of sustaining high standards of living. The presence of a critical mass in the manufacturing process is also important as manufacturing performs a "transport function" for many associated services and where productivity growth is concentrated. Modernizing the manufacturing industry in Europe and reversing the downward trend in global production equities will require substantial investments in corporate and intangible capital. Estimates put Europe's investment needs at around 90 billion euros per year, most of them financed by the business sector.

### ***A dynamic business environment***

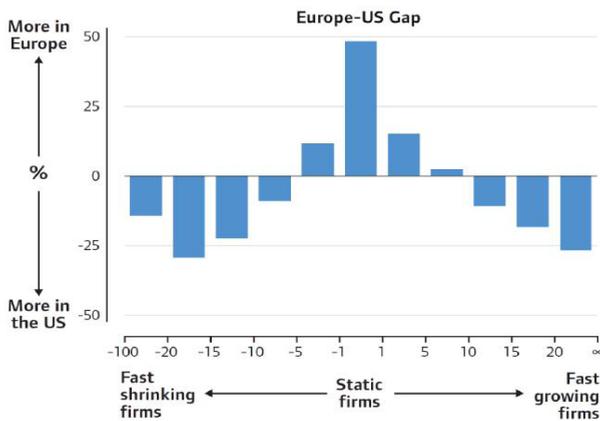
In a dynamic and innovative economy, it is important for companies to have a constant capacity to reinvent or replace each other. Recent ECB research has

shown that the ability to reallocate resources between firms significantly contributes to overall productivity. New firms bring new ideas, products, services and processes to the economy. In order for an economy to be dynamic, inefficient old firms must have room for more innovative young people and free up valuable labor and capital resources.

The EU business environment is characterized by a lack of harmful dynamism, a factor that can be expected to facilitate the commercialization and dissemination of innovation throughout the economy. This is partly due to a large proportion of stable firms (firms that grow below 5% or decrease by less than 5% per year in terms of employment) and a low share of fast-growing firms, in particular compared to the USA.

SMEs (<250 employees) are considered the backbone of the European economy, accounting for 99.8% of all businesses and representing almost 60% of added value. However, while some may argue that start-ups and SMEs tend to be more generative growth than large businesses. This, in turn, is directly related to the “creative destruction” of businesses - something that is especially lacking in Europe’s business environment (Chart 2). An increase in the turnover of firms (ie a higher degree of creative destruction) is usually associated with a faster increase in productivity, as large productive firms remain on the market, and the less productive ones are forced to exit. Thus, improving business dynamism can help to get the EU ready to generate innovative, transformative and modeled companies worldwide.

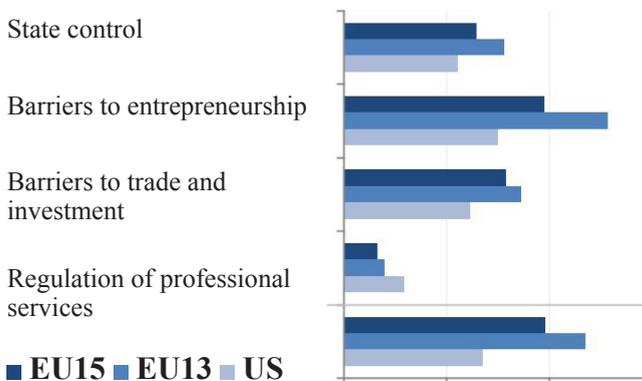
Chart no.2. Share of enterprises by growth categories, comparison between EU and US



Source: Bravo-Biosca, Criscuolo, Menon. (2014). What drives the dynamics of business growth, the working document Nesta 14/03. Note: Europe corresponds to the average AT, DK, IT, NL, ES, NO, UK.

However, the basis for a solid and efficient EU business environment is largely available (Chart no.3). European institutions are generally of a quality comparable to that of the United States. In the ranking of Agility to do business with world banks, eight EU Member States are among the top 20, while the majority place is between 20 and 40, while others are below 60. The general procedure for starting a business is more difficult in the average EU country than in the USA. Another concern in the EU is related to obtaining credit. The performance of the EU28 is generally better than the EU15.

Chart no.3. Regulation of the market for professional products and services Product Market Regulation



Source: OECD indicators, Product Market Regulation (PMR), 2014

Note: index scale 0 (at least) to 6 (more) restrictive; \* 2008 US values; EU values 2013; Weighted average GDPs for EU, EU15 and EU13.

### ***A favorable environment for competitiveness***

The efficient movement of people, goods, services and information is a prerequisite for competitiveness, as well as access to adequate quantity and quality of markets and resources, including finance. Furthermore, respecting the principles of sustainable development as defined in the World Bank's vision and directly contributing to the competitiveness of the business environment. By these we mention the following:

*The principle of the efficiency of the natural, human, financial capital that considers, for each component, the following:*

- The efficiency of the natural capital: the exploitation of the natural resources and in the interest of the future human generations or the rationalization of the consumption from the natural reserves;
- Efficiency of human capital: what it aims at: in perspective, the key to economic development (of culture, education, health); the total

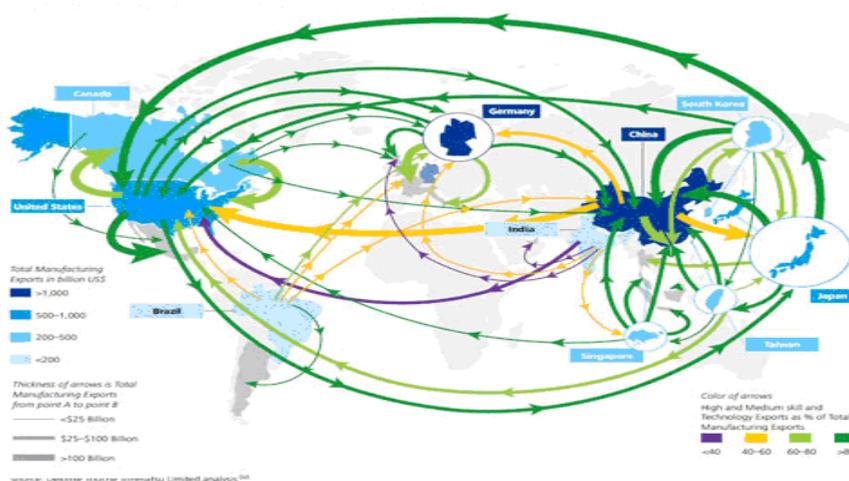
duration of the education cycle; the inclusion in the school curricula of the disciplines that concern the formation of the entrepreneurial spirit, the creativity, the learning of the modern social and ecological behaviors and the main European languages;

- Efficiency of financial capital: enhancing human and natural capital in order to obtain maximum added value.
- The efficiency of the anthropic capital: highlighting the infrastructures realized over time.

*The principle of equity between generations and within the same generation refers to:*

- Reducing the standard of living gap between the members of society, by combating poverty;
- Targeting the poor towards productive activities, including by reviving interest in professions, traditional concerns, especially in the rural area;
- Conservation of forests;
- Enhancement of the renewable natural resources, to the detriment of the mineral, exhaustible ones;
- Educating and educating the population, informing schools, public institutions, directing the urbanization process in the rural area.

Chart no.4. Movements and level of products from the processing industry and from the first 10 nations to their main five trading partners, by product types



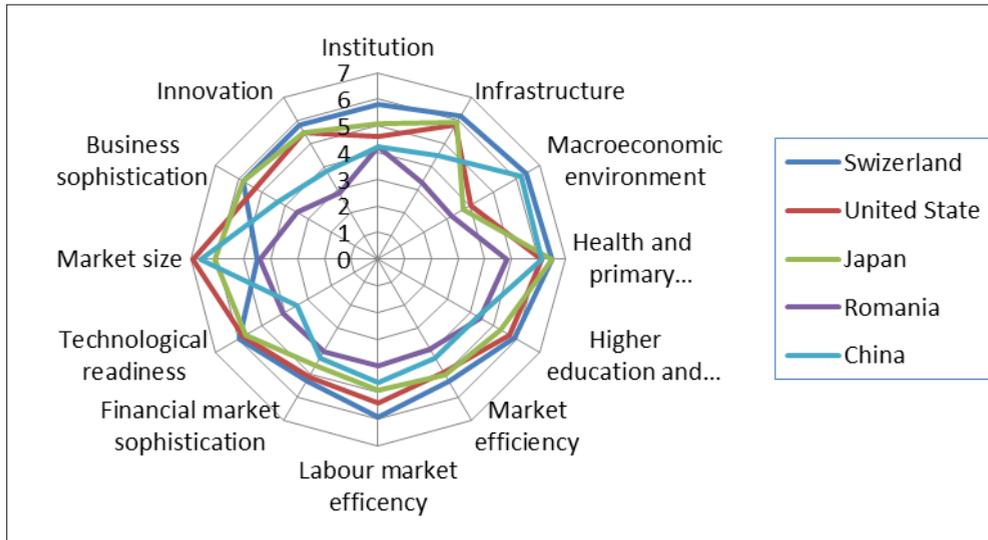
However, many competitiveness analysts focus their studies on structural factors that affect long-term performance and tend to focus on productivity, innovation and qualification (Fageberg, 1996). Globally we have over 200 indicators that measure competitiveness, of which 95 are characterized as basic indicators - key indicators - as it results from the Annual Competitiveness Report starting in 2001; 11 attributes taken into consideration: economic performance, degree of internationalization, capital (level and structure), level of education, productivity, work compensation and unit cost of labor; the cost of non-profit enterprises; taxes, science and technology, computerization of society, transport and infrastructure and environmental protection and management.

Within the *European Model*, we identified the main factors that led to the introduction of a new index: recent developments in economic scientific research, increasing the importance of the international dimension and the number of countries included in the evaluation, and not including some factors important for national competitiveness, such as those capable of surprising efficiency labor market (whose importance was re-discussed by the failures of the Lisbon Agenda due to the rigidity of the labor market in the EU countries), those regarding public health, national infrastructure, etc. The European model is based on highlighting the fulfillment of the criteria of the Lisbon Strategy and the Europe 2020 Strategy, and covers areas and over 100 indicators: the general economic base, the use of labor, innovation and research, economic reform, social cohesion and the environment Growth Competitiveness Index.

*The Growth Competitiveness Index (GCI)*, used to assess the ability of the world's economies to achieve sustainable medium- and long-term economic growth (Global Competitiveness Report 2001-2002, was developed with professors Jeffrey Sachs and John McArthur).

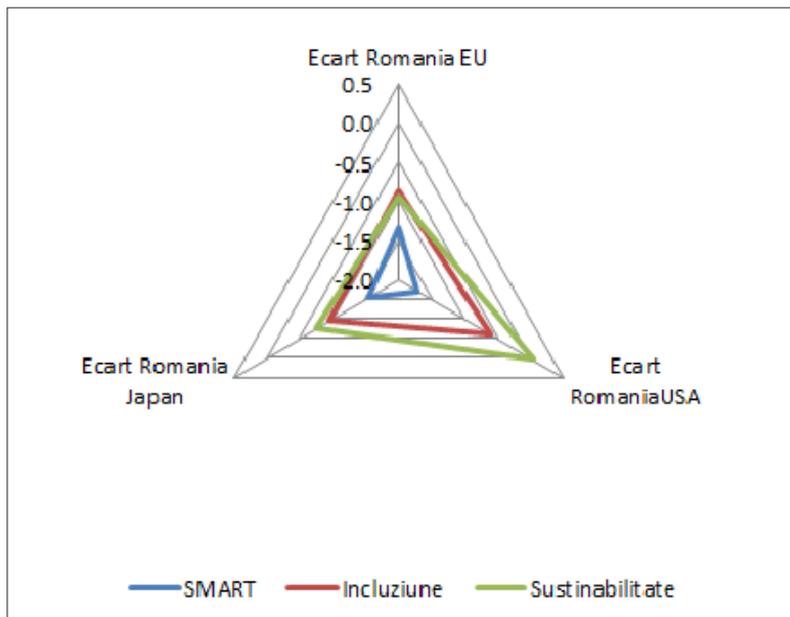
The methodology for determining the GCI is based on the idea that the determinants of economic growth are: the quality of the macroeconomic environment; the state of public institutions; technological capacity; for each of these, a specific index is constructed based on current statistical data or those obtained from questionnaires. The methodology presented by the World Economic Forum shows that the country data series are divided into two groups: the group of innovative countries - it includes the countries that have more than 15US useful patents registered per 1 million inhabitants; the group of non-innovative countries - includes the rest of the countries.

Chart no.5 Presentation of the competitiveness indicators in Romania and other countries



Source: post-2020 Europe, The Competitiveness Report, 2017

Chart no.6 The difference and the score for three sub-indices of competitiveness in Romania and other countries



Source: post-2020 Europe, The Competitiveness Report, 2017

The global partnership at the level of the competitiveness of the business environment is based on key objectives, namely: environmental protection, social equity and cohesion, economic prosperity and assuming new international responsibilities, as well as on the guiding principle, respectively: promoting and protecting fundamental rights; solidarity enters and integration; an open and democratic society; attracting citizen participation in decision making; participation of enterprises and social partners; coherence of policies and governance; integration of policies; best exploitation of available knowledge; integration of policies; principles of precaution and principle of policy.

## **Conclusion**

Following the harmonization of the interests of the new member states in order to align with the general standards imposed by the European Union, the structure of the Romanian economy has undergone transformations both as a structure, but especially in terms of its competitiveness and dynamics, with a direct impact on internal economic convergence and external. Moreover, periods of recession and economic decline, although generating imbalances, in some extremely serious cases, can be perceived in certain situations, as generating progress. This fact is argued by the adaptive capacity that involves developing new policies and strategies to be able to evolve (see the evolution of the IT sector in the economy). The combination of efforts focused on finding new solutions to restore balance and, going further, to register increased levels of performance ultimately leads to economic growth. The process of globalization affecting today's economies everywhere, considered as the most complex form of internationalization of economic activity, implies absolutely reaching a high level of convergence between economies.

Being a result of progress, economic competitiveness and human innovation and being based in particular on trade and financial flows, economic growth implies the continuous integration of economies, which can be noticed especially at EU level. In order for this integration process to take place in the optimal parameters, it is necessary to have a system of supranational supervision and regulation that coordinates the activity of each state in order to establish general policies to be followed in order to meet common objectives based on performance indicators and of competitiveness.

Over time, the impact of integration on the process of growth and convergence has been a much debated issue. In Iain Begg's (2006) sense of effects generated can be grouped into three main categories:

- changes in the macroeconomic structure at national level;
- transformations of the labor market (the phenomenon of labor migration) with a direct impact on the competitiveness of industries at national and European level;
- effects induced on the structure of the economy.

The recent accession stages are only a step towards intensifying the convergence at the level of the new EU Member States with the existing community structures. The next natural step is the adoption of the common currency, an issue so far certified by five new Member States (Slovenia, Slovakia, Malta, Cyprus and Estonia). Seven other states, among the new states that joined the European Union, including Romania, are making intense efforts to fulfill all the commitments that this important process implies.

After the analysis carried out in the paper we can consider that the competitiveness of the companies at national level, is one of the main factors that contribute to the increase of the degree of convergence between the economies and which directly contribute to economic growth. Moreover, the analysis of companies based on competitiveness allows the decision-makers at the level of each economy to develop strategies and action plans that focus their interest on the respective branches of the economy that are competitive and which implicitly lead to economic growth at national and European level. The infusion of technological progress either through the increase of the expenses with research development, the degree of economic openness or through the channel of foreign direct investments constitutes one of the main sources of convergence and economic growth from the perspective of the competitiveness of the new Member States. Focusing on the development of these sectors should be a basic objective of the national authorities at the level of these economies if the convergence and sustainable economic growth are pursued. Long-term sustainability is also extremely important because finding compromise solutions that will only produce results over short periods of time is not a successful strategy and, moreover, it can trigger a negative effects gear that could be felt by states after a certain period of time and which can cause massive economic imbalances.

Despite the fact that the results of the statistical methods confirm the hypothesis of convergence at the level of the new Member States, the extremely large gap that exists between these economies and the average of the European Union or the euro area must be taken into account, an aspect surprised in the analysis undertaken by us by estimating the number of years needed to achieve convergence. Future strategies must be geared towards reducing these differences in particular so that the convergence process is truly a perfect one.

The impact of economic and financial crises on the economies of Central and Eastern Europe has led to a reconfiguration of the models of economic growth, of the processes of convergence as well as of the economic policies engaged for this purpose. Considering these aspects as well as those mentioned above we can conclude the following:

- a) the quality and sustainability of the convergence process is an essential indicator of the economic growth of each economy;
- b) achieving a sustainable convergence requires a long period of time;
- c) the new EU Member States are showing convergence trends among themselves, but many actions need to be taken in relation to the EU average.

These considerations must be taken into account by the national authorities when developing either the strategies for adopting the common currency, or for economic growth or competitiveness at national level.

The ability of the new Member States to adapt to macroeconomic changes has been proven by the level of convergence that exists between these competitive economies. Under current conditions, this ability will prove to be vital and will be a representative indicator of the economic progress of the European Union member countries.

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