8th LUMEN International Scientific Conference Rethinking Social Action.
Core Values in Practice | RSACVP 2017 | 6-9 April 2017 |
Suceava – Romania

Rethinking Social Action.
Core Values in Practice

Competitiveness Analysis of the Romanian Economy

Adriana DIMA (GIRNEATA)*, Monica NEDELCU

https://doi.org/10.18662/lumproc.rsacvp2017.19

How to cite: Dima (Girneata), A., & Nedelcu, M. (2017). Competitiveness Analysis of the Romanian Economy. In C. Ignatescu, A. Sandu, & T. Ciulei (eds.), *Rethinking Social Action. Core Values in Practice* (pp. 198-209). Suceava, Romania: LUMEN Proceedings
https://doi.org/10.18662/lumproc.rsacvp2017.19

© The Authors, LUMEN Conference Center & LUMEN Proceedings.
Selection and peer-review under responsibility of the Organizing Committee of the conference

This is an Open Access article distributed under the terms of the Creative Commons Attribution-Noncommercial 4.0 Unported License, permitting all non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited

©LUMEN Proceedings

8th LUMEN International Scientific Conference
Rethinking Social Action. Core Values in Practice |
RSACVP 2017 | 6-9 April 2017 | Suceava – Romania

Competitiveness Analysis of the Romanian Economy

Adriana DIMA (GIRNEATA)[1]*, Monica NEDELCU[2]

Abstract

Given the extension of globalization, a major strategic objective of advanced countries is to maintain a high level of competitiveness of the economy. This is achieved through policies of revitalizing national industry based inter alia on a permanent contribution of knowledge, at the technological frontier, provided by their own system of innovation or attracted from abroad. Competitiveness is inextricably linked to the performance in the area of creation, development and dissemination of technological innovations. The quality management of the national innovation system is crucial on medium and long term, as no achievement is obtained immediately, any progress is possible only by ensuring synergies between actors, strategies and policies, competitive advantages or friendly environment. Economy and industry performance analysis cannot be dissociated from internal and external influences that have contributed over time to guiding development strategies and their implementation. The current research presents an analysis of the Romanian economy based on data included in the global competitiveness reports, recent studies and personal contributions. Serious deficiencies are found in the basic requirements group, particularly with regard to institutions and infrastructure, which have a negative effect on "efficiency enhancers' sub-index, especially on the education system, labour and goods. The mentioned influences affect the performance of sophistication and innovation factors, but also the whole system, namely the national economy.

Keywords: competitiveness; SWOT analysis; global competitiveness index; pillars of competitiveness.

[1] Assistant Professor, Bucharest University of Economic Studies, Romania, adriana.dima@man.ase.ro, adriana_girneata@yahoo.com. Corresponding author.
[2] Professor, Bucharest University of Economic Studies, Romania, mona.nedelcu@yahoo.com.

https://doi.org/10.18662/lumproc.rsacvp2017.19
Corresponding Author: Adriana DIMA (GIRNEATA)
Selection and peer-review under responsibility of the Organizing Committee of the conference

This is an Open Access article distributed under the terms of the Creative Commons Attribution-Noncommercial 4.0 Unported License, permitting all non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited

1. Introduction

Every state must use its strategic resources in a responsible manner, whether it there are natural, financial, human or technological resources, in order to achieve rational goals linked to satisfaction of multiple needs of their citizens. Isolationist policies, sometimes excessively protectionist, have lost ground in favour of openness to free exchanges, collaboration and partnerships. States should be involved in elaboration of development strategies and ensuring a stimulating environment to strengthen the cooperation industry - academia to converting ideas with added value.

The responsibility for sustainability factors of national competitiveness rests largely on the political component of society [5]. Thus, state institutions must develop strategies, policies, programs and identify resources to ensure, in terms of quantity and quality, the development of economy, including innovation, to support the overall current consumption and future development [9]. Failures in terms of the suitable conditions for achieving a relevant level of competitiveness imposed by the rigors of globalization entails negative externalities for states, primarily in the productive sector and then aggregated and transferred across the society, having major risks of becoming a mere outlet and a market of substantial profits for foreign capital. Despite the inherent mistakes of economic transition, each state with a history of control regime has the power to stop sooner or later such dangerous developments and launch their own programs of industrial revitalization as a support for a sustainable development strategy.

The international and social relevance of the addressed subject resides in the recent undergone world economic crisis, whose impact was reflected both on the development of states and on the welfare of citizens, indicating that the most susceptible to external shocks are countries characterised by low levels of national competitiveness. Therefore, the topic of competitiveness is actual and important for the forthcoming development of any state and Romania represents a relevant example in this case, being one of the largest EU member states in terms of number of inhabitants (ranked seventh), but occupying a modest 62nd place in the Global Competitiveness Index 2016-2017 rankings.

2. Problem Statement

Given the extension of globalization, "knowledge has become a key resource for continuous innovation and competitiveness" [1] and the lack of

human capital is a real handicap despite massive import of technology, especially foreign direct investment, taking into account that "no money, buildings or equipment, but people constitute the critical element of differentiating an enterprise" [3]. On the other hand, the premise that "the more a country is on the technological frontier, the greater the ability to absorb innovations" [8] determines opportunities that may be punctually valued, at local or regional level, where synergy is created.

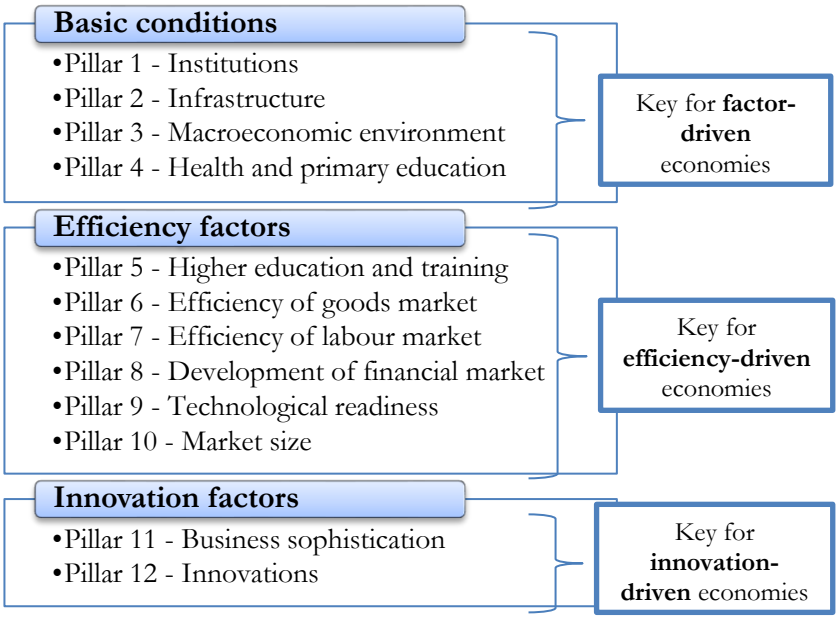
Companies need to secure and maintain market competitiveness through careful management of their technology portfolio, regardless of whether it is supplied by its own research and development activities, obtained through acquisitions, imitation or other methods [2]. Technological changes generated by appropriate strategies will bring benefits to promoting companies, but will also create prerequisites for structural changes in the industry if the diffusion of innovations is significant [13]. In this context, investment in research and development is of critical importance. Three qualitative aspects are essential: sources of financing, performance sectors and the proportion of research directions. Quantitative side does not count in debate, as this represents an indispensable element. In advanced countries, the industry is a leader in generating innovations, namely financing 65-75% and carrying out 65% of the activities [7]. According to Michael Porter, a nation's competitiveness depends on the ability to innovate and renew its industry [12]. He identifies four determinants to this respect that constitute the Diamond of National Advantage, namely the factors of production, market demand, the existence of industrial supply and competition [4, 6].

Competitiveness is defined as "the set of institutions, policies and factors that determine the productivity of a country", according to The Global Competitiveness Report [10]. It is claimed that there is an intrinsic connection between the 12 drivers that determine the overall index of competitiveness, namely: the consistency of ***basic requirements*** (4 pillars) provide the necessary support for the manifestation of ***promoters of efficiency*** (6 pillars) that will generate energy that stimulates ***factors of sophistication and innovation*** (2 pillars), as presented in Figure 1. Macroeconomic performance of the states is reflected by the global competitiveness index, calculated based on the percentages of the three partial stages of development indices associated with GDP per capita. Each partial competitiveness index has assigned different relative values and groups analysis pillars that are essential for a particular stage of development [22]. Considering the above-mentioned aspects, we can generalize that as economies become more competitive, to support the extra welfare, namely higher salaries, and to resist competition without increasing costs, policy

makers need to prioritize the efficiency and innovation aspects. We consider that the current research will light the assessment that the connection between innovation and competitiveness becomes part of the development process and an important element in elaborating strategies.

In Romania's case, without the existence of restructuring strategies that exploit the comparative advantages and opportunities, we can refer to competitiveness especially due to foreign investments that were accepted without adequate selection and to a national atypical innovation system, disorganized and forced to operate at fault levels and that brings small contributions to the growth and development of society.

Figure 1. The Global Competitiveness Index framework



Source: Adapted from The Global Competitiveness Report [15, 16].

3. Aims of the research

This research focuses on analysing the competitiveness of the Romanian economy in the context of globalization. The main research objectives of the current article are the following:

- To describe the dynamics of the Global Competitiveness Index in the case of Romania for the last 10 years.

- To analyse the competitiveness of the Romanian economy, identifying the strengths, weaknesses, opportunities and threats for each of the relevant factor selected to investigate each pillar of competitiveness;
- To examine the changes undergone by the Romanian economy in the context of globalization;
- Based on the research findings, to propose solutions for the identified deficiencies.

4. Research Methods

The research design predominantly uses secondary data analysis. Romania's economic analysis was conducted based on data included in the latest reports on global competitiveness published by the World Economic Forum and recent specialized studies [17]. Serious deficiencies were identified in the basic requirements group, particularly with regard to the institutions and infrastructure that have an adverse effect on the efficiency promoters' pillars, especially the education system, labour markets and goods. All these influences affect the performance of sophistication and innovation factors, but also the national economy, placed on a modest 62nd place.

At the level of the relevant competitiveness factors, SWOT analysis is a useful tool that detects system mismatches and proposes solutions for revitalization in accordance with available resources as well as with the characteristics and the influences of the environment.

5. Findings

According to The Global Competitiveness Report, there are three different stages of development for countries: namely factor-driven, efficiency-driven or innovation-driven countries, as well as two stages of transition between these [18]. Based on the presented methodology, Romania is an efficiency-driven country, having a GDP per capita of 8906.3 US$. Efficiency-based economies are developing more efficient production processes and improving product quality as employees' salaries are increasing compared to those in the factor-driven countries [11]. Competitiveness is thus the result of improving the six efficiency pillars: higher education and training, goods markets, labour markets, financial markets, technological readiness, and market size [14].

5.1. Dynamics of the Global Competitiveness Index for Romania

For a proper analysis of the Romanian economy's competitiveness, we have considered necessary a preliminary identification and discussion of the evolution of Global Competitiveness Index. In this regard, the evolution of the indicators was analysed both at the country level and also at the level of each subindex, on the basis of the last reports of the Global Competitiveness Report, covering a relevant time period, namely 2007-2017, the last published report being released in 2016. **Table 1** summarizes the results: each category was evaluated according to the rank and index obtained for the period considered. Also, the Global Competitiveness Index was investigated taking into account the total number of countries included in the ranking each year.

A relatively constant evolution, with no major fluctuations, can be noticed for Romania's ranking in the analysed period, and in the majority of cases, it occupies a position in the first half of the ranking. The best rankings were registered between 2015 and 2016, respectively, 53 out of a total of 140 investigated states, a position that was unfortunately not maintained the following year, when a decline occurred, until the 62nd position of 138 states. The corresponding index experienced a slight evolution, from 3.9 in 2007-2008 to 4.3 in the 2016-2017.

Table 1. Evolution of Global Competitiveness Index for Romania

Year	Global Competitiveness Index (out of total countries)		Basic requirements		Efficiency Enhancers		Innovation and sophistication factors	
	Rank	Index	Rank	Index	Rank	Index	Rank	Index
2016-2017	62 (138)	4.3	72	4.6	55	4.3	100	3.3
2015-2016	53 (140)	4.3	70	4.6	44	4.4	84	3.5
2014-2015	59 (144)	4.3	77	4.5	50	4.3	78	3.5
2013-2014	76 (148)	4.1	87	4.3	63	4.1	103	3.3
2012-2013	78 (144)	4.1	90	4.2	64	4.1	106	3.2
2011-2012	77 (142)	4.1	89	4.3	62	4.1	99	3.2
2010-2011	67 (139)	4.1	77	4.4	54	4.2	91	3.2
2009-2010	64 (133)	4.1	86	4.1	49	4.3	75	3.4
2008-2009	68 (134)	4.1	87	4.1	54	4.2	75	3.5
2007-2008	74 (131)	3.9	88	4.1	62	4	73	3.4

Source: Information synthesized by authors based on data included in The Global Competitiveness Report [17, 18, 19, 20, 21].

Of the three sub-indexes, the best results obtained by Romania are for the efficiency enhancers' category, normal aspect due to the fact that the

country is classified as an efficiency-based economy [21]. The Basic requirements group is experiencing serious problems, especially in terms of Ethics and Corruption, Public-sector performance or Quality of roads (items ranked lower than 100 in the latest report published in 2016). However, the biggest gaps from the first positions are reported in the case of Innovation and sophistication factors. The category towards Romania should aim is that of innovation-driven states, characterized by the sustainability of large wages, a competitive business environment in which companies use the most sophisticated production processes and are able to innovate. Unfortunately, the occupied position in 2016 was 100 in this category, and the weakest aspects were: Nature of competitive advantage, Control of international distribution, Company spending on research and development and Government procurement of advanced technological products.

5.2. Competitiveness Analysis of the Romanian Economy

Examining possible correlations between the level of competitiveness of the economy, the quality of the innovation process and the strength of the industry, based on the experience gained in R & D and innovation, required a SWOT analysis of the national innovation system completed with the proposal of efficiency solutions the identified deficiencies. The SWOT analysis is based on a synthesis of the indicators specific to the Romanian economy taken from The Global Competitiveness Report published in 2016. The classification of each element of the three pillars of competitiveness as a strong or weak point was performed by the authors, depending on the position held in the ranking. Thus, the indicators ranked over the 60th position are considered weak points, and those under the 60th place are strong points. Opportunities and threats were high lined based on the previous findings. Table 2 shows the performed analysis and includes, for each indicator classified as a strong or weak point, the position occupied in The Global Competitiveness Report, after which the distribution was performed.

Table 2. SWOT Analysis of the Romanian Economy

Strengths	**Weaknesses**
Basic requirements	*Basic requirements*
• Strength of investor protection (54) • Fixed-telephone lines (53) • Government budget balance (32)	• Public trust in politicians (120) • Favouritism in decisions of government officials (119) • Burden of government regulation (122)

• Gross national savings (44) *Efficiency Enhancers* • Quality of math and science education (32) • Internet access in schools (44) • Trade tariffs (5) • Prevalence of non-tariff barriers (32) • Number. of procedures to start a business (41) • Redundancy costs (6) • Flexibility of wage determination (31) • Legal rights index (8) • Internet bandwidth (22) • Domestic market size index (42) • Foreign market size index (39) *Innovation and sophistication factors* • PCT patents (52)	• Ethical behaviour of firms (113) • Quality of roads (128) • Quality of air transport infrastructure (101) • Primary education enrolment rate (114) *Efficiency Enhancers* • Quality of the education system (121) • Quality of management schools (121) • Effect of taxation on incentives to invest (127) • Buyer sophistication (122) • Effect of taxation on incentives to work (119) • Country capacity to retain talent (133) • Country capacity to attract talent (127) • Financial services meeting business needs (125) • Ease of access to loans (110) • Firm-level technology absorption (88) *Innovation and sophistication factors* • Local supplier quantity (112) • Nature of competitive advantage (118) • Control of international distribution (115) • Company spending on R&D (118) • Government procurement of advanced tech. products (134)
Opportunities	**Risks**

Basic requirements • Access to European funds for institutional strengthening, development and rehabilitation of infrastructure, agriculture and industry • Active civil society (mass media, NGOs) • Monitoring from EU, IMF, WB • EU funds for school rehabilitation and personal development • Human capital *Efficiency Enhancers* • Access to European funds for personal development, school curricula, equipment • Big companies invest in future and current employees for continuous training • Expanding financial services in rural areas • Access to co-financing credits • Rural areas and non-EU markets are potential export markets *Innovation and sophistication factors* • EU-funded projects have great potential for renewing and capitalizing on competitive advantages • The academic sector, institutes and universities, provides technical support to companies	*Basic requirements* • Major political influences • bureaucracy • Lack of coherent, harmonized strategies with the European ones • Lack of efficiency in spending money • the exodus of the labour force • aging population and deficit specialists in rural areas *Efficiency Enhancers* • Distancing educational programs to the real needs of society • Lack of quality in private education • Massive exodus of graduates • The perpetuation of unfair practices on the labour market (tax evasion) • The local technological offer is limited and does not meet the needs of the firms • Foreign investment is diminishing • The current production capacity will be a factor limiting the market *Innovation and sophistication factors* • The demands of the market economy lead to rapid failures • The process of innovation is risky and requires time, capital and effort • Budget R & D allocations act as boomerang for innovative firms.

Source: Developed by authors based on the information from The Global Competitiveness Report [21].

5.3. Proposed solutions for the identified deficiencies

Depending on the weaknesses identified in the previous SWOT analysis, as well as the risks that can turn into deficiencies for the Romanian economy if the necessary measures are not taken on time, we propose a series of assessments and recommendations classified according to the three categories of factors that determine the country's competitiveness index:

Basic requirements

- Developing public-private partnerships, including foreign investment;
- Eliminating structural imbalances (support for new industries to reduce imports);
- Eliminating export of raw materials and processing in the country (to add value), cheap loans for agriculture and entrepreneurs (innovators);

Efficiency Enhancers

- Structural changes in the key education (subjects) and transmission of knowledge, connecting Bachelor, Master and PhD studies to industry needs,
- Rapidly expanding the concept of "entrepreneurial university";
- Expanding lifelong learning methods;
- New and revitalizing strategies for restoring the equilibrium in the industry (vertical, horizontal) to reduce imports;
- Stimulating investors and domestic production (without prejudice to competition);
- Limiting illegal work;
- Eliminating "politicization" (especially in the creative sector);
- Attracting differentiated foreign investment;

Innovation and sophistication factors

- Intensive training or retraining entrepreneurs that can be started in the faculty and continued with structural funding;
- Orientation towards business generating high added value;
- The academic sector, universities and institutes, should resolve mainly the needs of industry, and further to provide assistance for upgrading technology and portfolio of products and services;
- Educational offer adapted to labour market demand.

6. Conclusions

The analysis of competitive factors for Romania indicates few ***strengths***, for instance: cost of dismissal, trade tariffs, but many ***weaknesses***: discouraging investors and labour, reduced competition,

political favouritism, waste of public funds, lack of professional management, incapacity of talent retention, the condition of road, rail, ship infrastructure etc.

Despite some real opportunities, such as access to structural funds, foreign direct investment, external loans and monitoring IMF/EU/WB, the avalanche of threats, namely corruption, lack of innovation strategies, reindustrialization or sustainable development, massive exodus of labour, lack of specialists etc., has decisively tipped the competitive balance to minimum quotations, demonstrating the existing rupture, extended gradually in the last quarter of a century, between the triple spheres spiral: industry-academic-government.

Innovative technological resources, especially the intangible ones generated in the country, cannot provide a jump of competitiveness for several reasons: insufficient and poor quality, lack of development component of research and development component, the absence of public-private partnerships or lack of investment funds aimed at launching new businesses with technological support. Under the present circumstances, foreign investors should be attracted to high-tech sectors of national interest, with high added value, valuable local human capital. On the other hand, Romanian investors may turn to invest in the national industry by means of structural funds.

References

[1] Blomqvist, K., Hurmelinn,P., Seppanen,R. Playing the collaboration game right—balancing trust and contracting. Technovation. 2005; 25: 497–504.
[2] Dobrin C, Gîrneaţă A, Uda M. M, Croitoru O. Quality: A Determinant Factor of Competitiveness–The Evolution of ISO Certifications for Management Systems. Proceedings of the International Management Conference 2015; Bucharest. 9(1): 1062-1073.
[3] Fitz-enz, J. The ROI of Human Capital: Measuring the Economic Value of Employee Performance. New York: American Management Association; 2000.
[4] Gîrneaţă A. D. The importance of clusters in the development of the textile and clothing industry. Network Intelligence Studies. 2013; 2: 83-89.
[5] Gîrneaţă A, Dobrin C. Globalization and the Competitiveness of the European Textile and Clothing Industry. The Annals of the University of Oradea. 2015; 1102-1108.
[6] Gîrneaţă A, Mascu M. Development discrepancies between Western and Eastern EU countries: a statistical analysis of textile and apparel clusters. Proceedings of the 8th International Management Conference

"Management challenges for the sustainable development", Bucharest, Romania. 2014, p. 434-442.
[7] Link, A. N., Siegel, D.S. Innovation, Entrepreneurship and Technological Change. New York: Oxford University Press; 2007.
[8] Olteanu, D. Factorul tehnologic şi creşterea economică. Studiu comparativ pentru ţările est şi vest-europene. Oeconomica, 2006; 1: 1-29.
[9] Popescu, C.R., Popescu, G.N, Popescu, V. A. Assessment of the State of Implementation of Excellence Model Common Assessment Framework (CAF) 2013 by the National Institutes of Research – Development – Innovation in Romania. Amfiteatru Economic. 2017; 19(44): 41-60.
[10] Porter, M. E., Delgado, M., Ketels, C. & Stern, S. Moving to a new global competitiveness index. The global competitiveness report. 2009, p.43-63.
[11] Porter, M. E., Sachs, J., Cornelius, P. K., McArthur, J. W. & Schwab, K. The global competitiveness report 2001-2002. New York: Oxford University Press; 2002, p. 16-25.
[12] Porter, M .E. The Competitive Advantage of the Nations. Harvard Business Review. 1990 March-April. p.72-91.
[13] Porter, M. E. Competitive advantage : creating and sustaining superior performance. New York: The Free Press; 1998.
[14] Sala-i-Martin, X., Bilbao-Osorio, B., Di Battista, A., Drzeniek Hanouz, M., Geiger, T, & Galvan, C. The Global Competitiveness Index 2014–2015: accelerating a robust recovery to create productive jobs and support inclusive growth. The global competitiveness report, 2015, p.3-51.
[15] Schwab, K, Porter, M. E., López-Claros, A., World Economic Forum. The global competitiveness report 2007-2008. Basingstoke: Palgrave Macmillan; 2007.
[16] Schwab, K, Porter, M. The global competitiveness report 2008–2009. World Economic Forum; 2008.
[17] Schwab, K. (Ed.). The global competitiveness report 2009-2010. World Economic Forum; 2009.
[18] Shwab, K, Sala-i-Martin, X. The Global Competitiveness Report 2011–2012. Geneva, Switzerland: World Economic Forum; 2010.
[19] Shwab, K, Sala-i-Martin, X. The Global Competitiveness Report: 2012-2013. Geneva, Switzerland: World Economic Forum; 2012.
[20] Schwab, K, Sala-i-Martín, X. The Global Competitiveness Report 2015-2016. Geneva: World Economic Forum; 2015.
[21] Shwab, K., & Sala-i-Martin, X., The Global Competitiveness Report 2016–2017. In World Economic Forum, Geneva, Switzerland. 2016.
[22] Trifu, A. E., & Trifu, M. R., Global Competitiveness Index Representation of Enterprise Performances. In Proceedings of the International Management Conference, Vol. 10, No. 1, 2016. p. 224-233.