

## COMPETITIVENESS PROFILE VERSUS HUMAN DEVELOPMENT PROFILE: THE CASE OF ROMANIA

**Anca Otilia Dodescu, Ioana Crina Pop Coșuț, Afrodita Borma**

*Department of Economics, Faculty of Economic Sciences, University of Oradea,  
Oradea, Romania*

[adodescu@uoradea.ro](mailto:adodescu@uoradea.ro)

[ipop@uoradea.ro](mailto:ipop@uoradea.ro)

[bormaaafrodita@yahoo.fr](mailto:bormaaafrodita@yahoo.fr)

**Abstract:** *Starting from Porter's well-known approach to a nation's competitiveness and decomposing prosperity, this paper attempts to highlight connections between competitiveness, prosperity, human development and labor productivity and labor utilization in the case of Romania. The comparative analysis of Romania's competitiveness, prosperity and human development profiles was conducted based on The Global Competitiveness Report, Legatum Prosperity Index and Human Development Report. The paper concludes that Romania is currently facing four major categories of challenges directly related with labor utilization: population ageing, the urban-rural dualism, unemployment paradoxes and labor migration which can affect the positive trends and future progress in the areas examined.*

**Keywords:** country competitiveness, prosperity, human development, labor productivity, labor utilization

**JEL classification:** F63, O15, O4,

### **1. Competitiveness and decomposing prosperity – theoretical background**

Being one of the most misused and misunderstood terms in the theoretical field, there is no consensus on how to define, measure, explain and predict competitiveness as applied to a nation (Smit, 2010; Ketels, 2006; Daniels, 1991: 56). As Paul Krugman shows, "competitiveness is a meaningless word when applied to national economies" (Krugman, 1994:44).

The most influential approach to the competitiveness of nations belongs to Michael E Porter. According to Porter, "a new theory is needed, that must move beyond the comparative advantage to the competitive advantage of the nation [...] must be beyond cost and explain why companies from some nations are better than others at creating advantages based on quality, features, and new product innovation" (Porter, 1990:77). According to Porter's Diamond Model, factor conditions, demand conditions, related and supporting industries and the structure and culture of domestic competition are "the attributes of a nation that individually and as a system constitute the diamonds of the national advantage" (Porter, 1990:78).

Although there is no consensus in defining and quantifying competitiveness, the most used definition of competitiveness of the nation are: a measure of a country's advantage or disadvantage in selling its products in international markets (OECD,

2001); “a sum of economic, social, political factors that contributes to the growth of the welfare of a country (...), a more competitive economy is one that is likely to grow faster over time” (WEF, 2015:4). Also, the Global Competitiveness Index (GCI) produced by World Economic Forum (WEF) is largely recognized as the best competitiveness index.

The Global Competitiveness Index framework is based on 12 pillars grouped into 3 categories: Key for factor-driven economies (1. Institutions, 2. Infrastructure, 3. Macroeconomic environment, 4. Health and primary education); Key for efficiency-driven economies (5. Higher education and training, 6. Goods market efficiency, 7. Labor market efficiency, 8. Financial market development, 9. Technological readiness, 10. Market size); Key for innovation-driven economies (11. Business sophistication, 12. Innovation) (WEF, 2015:4-9). The Global Competitiveness Report 2014-2015 covers 144 economies, classified as in Table 1, by stages of development.

**Table 1:** Stages of development

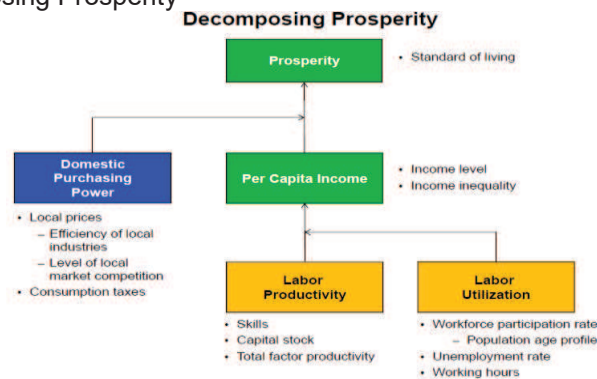
	<b>Stage 1: Factor-driven</b>	<b>Transition from stage 1 to stage 2</b>	<b>Stage 2: Efficiency-driven</b>	<b>Transition from stage 2 to stage 3</b>	<b>Stage 3: Innovation-driven</b>
<b>GDP per capita (US\$)</b>	<2,000	2,000–2,999	<b>3,000–8,999</b>	9,000–17,000	>17,000
<b>Weight for basic requirements subindex</b>	60%	40–60%	<b>40%</b>	20–40%	20%
<b>Weight for efficiency enhancers subindex</b>	35%	35–50%	<b>50%</b>	50%	50%
<b>Weight for innovation and sophistication factors</b>	5%	5–10%	<b>10%</b>	10–30%	30%

Source: World Economic Forum (2015a:10) The Global Competitiveness Report 2014-2015, [Online], Available: [http://www3.weforum.org/docs/WEF\\_GlobalCompetitivenessReport\\_2014-15.pdf](http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2014-15.pdf), [March 19, 2016].

Porter revealed the role of the microeconomic factors in shaping aggregate productivity and national prosperity seen as standard of living (Delgado, et al, 2010:4), stating from the premise that “the only meaningful concept of the competitiveness at the national level is productivity” (Porter, 1990:76). Porter’s explanation is the following: “endowments create the foundation for prosperity, but

true prosperity is created by the productivity in the use of endowments; macroeconomic competitiveness sets the potential for high productivity, but is not sufficient, productivity ultimately depends on improving the microeconomic capability of the economy and the sophistication of local competition” (Porter: 1990; Delgado et al., 2010:4). So, the level of productivity sets the level of prosperity that can be reached by an economy. Further, the productivity of employed workers and the ability to employ a large share of the available labor force influence overall prosperity (Delgado, et.all., 2010:9). In Porter’s view, as shown in Figure 1, the scheme of decomposing prosperity is the following: prosperity depends on per capita income (income level, income inequality) that is highly dependent on labor productivity and labor utilization and domestic purchasing power (local prices: efficiency of local industries, level of local market competition and consumption taxes) (Porter, 1990; Ketels, 2008).

**Figure 1: Decomposing Prosperity**



Source: Ketels, Ch. (2008). Competitiveness: The New Learning, Institute for Strategy and Competitiveness, Harvard Business School, available at: [http://ftp.sgh.waw.pl/aci/Conf12june2008/docs/Competitiveness\\_New\\_Learning.pdf?PHPSESSID=485476c49be2b8725f8f7628f45d8bc9](http://ftp.sgh.waw.pl/aci/Conf12june2008/docs/Competitiveness_New_Learning.pdf?PHPSESSID=485476c49be2b8725f8f7628f45d8bc9), [April 20, 2016].

## 2. Romania: Competitiveness profile

The need for the Romanian economy to become more competitive at the global level is an imperative nowadays. The first AmCham’s Romania Competitiveness Report, conducted in 2011 by the American Chamber of Commerce in Romania, presents Romania's position in various rankings of competitiveness concluded by various organizations as shown in Table 1 below:

**Table 1: Romania's position in various rankings of competitiveness, 2011**

Where Romania Ranks in Competitiveness	Ranking 2011
World Economic Forum’s The Global Competitiveness Report 2011-2012 (www.weforum.org)	77
IMD World Competitiveness Scoreboard (imd.ch/wcc)	50
Doing Business 2011, World Bank (www.worldbank.org)	72

Legatum Prosperity Index (2011 ) (www.prosperity.com)	58
-------------------------------------------------------	----

Source: American Chamber of Commerce in Romania, AmCham's 2011 Romania Competitiveness Report, p. 3, [Online], Available: [www.amcham.ro](http://www.amcham.ro), [April 21, 2016].

The evolution of Romania's competitiveness during 2011-2015 according to the World Economic Forum (WEF) can be seen in Table 2.

**Table 2:** The evolution of Romania's competitiveness indicators during 2011- 2015, World Economic Forum

Competitiveness Report	Romania's Rank
The Global Competitiveness Report 2011- 2012	77 of 142
The Global Competitiveness Report 2012- 2013	78 of 144
The Global Competitiveness Report 2013- 2014	76 of 148
The Global Competitiveness Report 2014- 2015	59 of 144

Source: Data collected by the authors from the World Economic Forum, The Global Competitiveness Report 2012; 2013; 2014; 2015a.

Other analysts of global competitiveness place Romania on similar ranks with a tendency to improve the rank obtained worldwide. According to IMD World Competitiveness Center, Romania's rank has improved from 50 of 59 in 2011 to 47 of 61 in 2015 (Table 2). Thus, the analysis of the IMD World Competitiveness Center analyzed four categories of factors: Economic Performance, Government Efficiency, Business Efficiency, and Infrastructure. Each of these factors is divided, in turn, into 5 sub-factors which highlight every facet of the areas analyzed. Altogether, the World Competitiveness Yearbook features 20 such sub-factors. These 20 sub-factors comprise more than 300 criteria, although each sub-factor does not necessarily have the same number of criteria (for example, it takes more criteria to assess Education than to evaluate Prices) (IMD, World Competitiveness Center, 2015a).

**Table 3:** The evolution of Romania's competitiveness during 2011 - 2015, IMD World Competitiveness Center

Competitiveness Report	Romania's Rank
IMD World Competitiveness Report 2011	50 of 59
IMD World Competitiveness Report 2012	53 of 59
IMD World Competitiveness Report 2013	55 of 60
IMD World Competitiveness Report 2014	47 of 60
IMD World Competitiveness Report 2015	47 of 61

Source: Data collected by the authors from IMD World Competitiveness Center, IMD World Competitiveness Report 2011, 2012, 2013, 2014, 2015

The Global Competitiveness Report 2014-2015 places the Romanian economy in Stage 2: Efficiency-driven (Romania is ranked 59 of 144) – GDP – 189.7 billion

US\$; GDP per capita: 8,910 US\$. (WEF, 2015a: 318). According to the WEF, overall, the situation of the Romanian economy's competitiveness has improved in the last five years; the most noticeable improvement can be seen in the positive developments in the last period 2014-2015 (position 59 of 144). Romania's profile of competitiveness for 2015 is outlined in the following Table (Table 5):

**Table 5:** Romania: The profile of competitiveness, 2015

<b>The index of competitiveness, 2015 = Rank 59 of 144</b>		
<b>Index</b>	<b>Rank (best)</b>	<b>Score (1-5)</b>
<b>Basic requirements (40%)</b>	77	
– Institutions		88
– Infrastructure		85
– Macroeconomic environment		46
– Health and primary education		88
<b>Efficiency enhancers (50%)</b>	50	
– Higher education and training		58
– Goods market efficiency		89
– Labor market efficiency		90
– Financial market development		64
– Technological readiness		47
– Market size		45
<b>Innovation and sophistication factors (10%)</b>	78	
– Business sophistication		90
– Innovation		66

Source: World Economic Forum, 2015b, The Global Competitiveness Report 2014-2015, [Online], Available: <http://reports.weforum.org/global-competitiveness-report-2014-2015/economies/#economy=ROU>, [March 21, 2016].

The analysis of Romania's competitiveness profile shows that our highest ranking has been recorded in the case of Market size (rank 45), followed by Macroeconomic environment (rank 46), Technological readiness (rank 47) and Higher education and training (rank 58). The current stage of the Romanian economy - efficiency-driven stage of development - and its ranking according to the *World Economic Forum's The Global Competitiveness Report 2014-2015*, show that it reaches the efficiency stage: productivity and wages have increased, the economy is growing, but in order to become more competitive, Romania must begin to develop the production sectors more efficiently and pay much more attention to the increase of the quality of processes and products. Otherwise, the wage growth will lead to higher prices and loss of the competitive advantage gained. Further increase of the competitiveness depends on more complex elements that should be addressed in a manner of priority: increasing the quality of higher education and research – Pillar 5, increased efficiency of the goods market – Pillar 6, development of labor market functionality – Pillar 7; development of the

financial markets – Pillar 8; ability to better value the benefits of the existing technologies - Pillar 9, development of the internal and external market - Pillar 10. For the year 2015, Legatum Prosperity Index Rankings places Romania on rank 50 of the 141 countries studied. The Prosperity Index analyzes the following indicators: Economy, Entrepreneurship and opportunity, Governance, Education, Health, Safety and security, Personal freedom and Social capital (Legatum Institute, 2015:3). The majority of indicators are in the Upper middle category (31st - 71st): Economy, Entrepreneurship and opportunity, Governance, Education, Health, Safety and security, Personal freedom (Table 6), but in the case of Social capital we note that the situation is worrying (rank 109 of 141).

**Table 6:** The Romanian Prosperity Index Rankings, 2015

Overall prosperity rank	Country	Economy	Entrepreneurship and opportunity	Governance	Education	Health	Safety and security	Personal freedom	Social capital
50	Romania	69	48	63	61	69	46	37	109

Source: Legatum Institute (2015) The Legatum Prosperity Index Rankings, 2015. [Online], Available: [http://media.prosperity.com/2015/pdf/publications/PI2015Brochure WEB.pdf](http://media.prosperity.com/2015/pdf/publications/PI2015Brochure_WEB.pdf), [April 4, 2016].

Compared with its neighbors, in terms of prosperity, Romania is ranked after Hungary (rank 45), before Bulgaria (rank 51), Ukraine (rank 71), Serbia (rank 73) and Moldova (rank 92) (Legatum Institute, 2015:3).

While Romania's situation in terms of competitiveness is average, in terms of prosperity it is above average. We can now proceed to examine where Romania ranks in terms of human development.

### 3. Romania: Human development profile

In terms of human development, according to the United Nations Development Programme (UNDP) 2015, Romania is ranked 52 of a total of 187 countries analyzed; Romania's Human Development Index was 0.793 in 2014, compared to the world average of 0.711, which places Romania in the category of High Human Development countries (UNDP, 2015).

Compared to its neighbors, Romania is only outranked by Hungary, which ranks 44, while Bulgaria is ranked 59, Serbia is ranked 66 and Ukraine is ranked 88. In the period 1990-2014 (Table 7: Human Development Index trends, 1990–2014), we can note a significant increase in the years 1990-2010, followed by a slight increase in the years 2010-2014. Overall, Romania's Human Development Index

has recorded steady growth with an average rate of 0.5% per year. (UNDP, 2015:208).

**Table 7: Human Development Index trends, 1990–2014**

HDI rank	Human Development Index (HDI)								HDI rank	Average annual HDI growth				
	Value									Change	%			
	1990	2000	2010	2011	2012	2013	2014	2013			2009–2014*	1990–2000	2000–2010	2010–2014
<b>HIGH HUMAN DEVELOPMENT</b>														
50	Belarus	..	0.683	0.766	0.793	0.796	0.796	0.798	51	4	..	1.41	0.39	..
50	Russian Federation	0.729	0.717	0.783	0.790	0.795	0.797	0.798	50	8	-0.17	0.88	0.47	0.38
52	Oman	..	..	0.795	0.793	0.793	0.792	0.793	52	-4	..	..	-0.06	..
52	Romania	0.703	0.706	0.784	0.786	0.788	0.791	0.793	53	-1	0.04	1.06	0.26	0.50
52	Uruguay	0.692	0.742	0.780	0.784	0.788	0.790	0.793	54	4	0.70	0.50	0.40	0.57
55	Bahamas	..	0.778	0.774	0.778	0.783	0.786	0.790	55	2	..	-0.06	0.51	..
56	Kazakhstan	0.690	0.679	0.766	0.772	0.778	0.785	0.788	56	6	-0.15	1.20	0.73	0.56
57	Barbados	0.716	0.753	0.780	0.786	0.793	0.785	0.785	56	-3	0.50	0.36	0.18	0.39

Source: United Nations Development Programme (2015) Human Development Report, (2015). [online], Available: [http://hdr.undp.org/sites/default/files/2015\\_human\\_development\\_report.pdf](http://hdr.undp.org/sites/default/files/2015_human_development_report.pdf), [April 5, 2016].

Romania's high Human Development Index, as compared to the world average, has several explanations. Life expectancy at birth in Romania is above the world average (74.2 compared to 70.1), the mean and expected years of schooling are above the world average (10.4 compared to 7.5, and 14.5 compared to 11.6, respectively), and social inequality is low (UNDP, 2013). Education and health care are available, provided by public bodies; adult literacy rates and the literacy rate of the population with secondary education are high compared to the world average (97.7% and 86.8% compared to 81.3% and 57.7%) (UNDP, 2013), the early school leaving rate is low (4.9 compared to the world average of 18) (UNDP, 2013) and remains well above the EU average (EC, 2015:5); the gross rates of enrollment in education are above the world average (primary education - 96%, secondary education - 95% and tertiary education - 63.8%) (UNDP, 2013).

There are, however, many deficiencies in Romania's education and health care systems. The level of satisfaction regarding the quality of education is significantly lower than the world average, and the level of satisfaction regarding the quality of medical care is lower than in any other new EU member state, while the budget allocations for education and health care are significantly lower than the European average (EC, 2015; UNDP, 2013, 2015). In the last reports, the European Commission stressed insistently that Romania – the EU Member State with the highest Roma community - provides limited availability and access of early childhood education and care services for the Roma community (EC, 2015:5). While the problems of the Roma community are old and have been reported in past reports, too, the urban-rural divide in Romania is starting to become worrying, namely poor access to the education and health care systems for the rural population.

In our view, while the deficiencies of Romania's health care system are decreasing, those of the education system are getting worse. The PISA rankings place Romania on rank 14 of 17 countries in the region, the general indicators – reading, mathematics, science and the quality of higher education - are well below the

OECD average (OECD, 2014). The European Commission calls attention to the recent increase in early school leaving rate, to the tertiary attainment rate that is the second lowest in the EU, and to the participation in lifelong learning that is far below the EU average (EC, 2015:5), and especially to the problems of higher education: inadequate quality, inadequate labor market relevance and the accessibility for disadvantaged groups (EC, 2015:5). There are no Romanian universities in the Academic Ranking of World Universities or the QS World University Rankings, and there is only 1 university – Politehnica University of Bucharest - in the top 500 Webometrics Ranking (Webometrics Ranking, 2013). In the year 2015, in the World University Rankings, the University of Bucharest was ranked 860, while Politehnica University of Bucharest was ranked 1492 (Webometrix Ranking, 2015).

### Conclusions

The situation of the Romanian economy's competitiveness, and also that of human development was, overall, noticeably improved in 1990-2015. By comparing Romania's competitiveness and human development profiles, we could conclude that the average ranking in the terms of competitiveness and the high ranking in terms of human development are encouraging. In our opinion, Romania is currently facing 4 major categories of challenges that can affect the positive trends analyzed in this paper and the future progress:

- 1. Population ageing.** Romania's population is *shrinking from year to year* (21.3558 mil. inhabitants on January 1, 2012 compared to 21.4138 mil. inhabitants on January 1, 2011) due to negative natural growth (-3.6 people per 1,000 inhabitants in 2012, which is by far the worst situation registered since 1960) and due to *migration* (-2.8 in 2011). Romania's population is also in an accelerated ageing process. In 2012, the average age in Romania was 39.0 years compared to 33.4 years in 1992, while the dependency ratio of the elderly population (the population aged 65 and over in relation to the population aged 15-64) was 21.5 % (the EU average is 26.8 %) compared to 16.6% in 1992 (Eurostat, 2013).
- 2. Urban-rural dualism.** According to the AMIGO Survey conducted quarterly by the National Institute of Statistics (INSSE) in individual households, in 2010, at a national level, the agricultural sector comprised 31.9% of the total employment, while 52% of the active rural population was working in agriculture (INSSE, 2010). By occupations, the largest share in total employment is held by farmers and skilled workers in agriculture (25.7%) and craftsmen (14.7%) (INSSE, 2010). Also, 87.4% of people engaged in secondary and multiple activities and 90.1% of those who said they were own-account workers and unpaid family workers (farm work is their secondary activity) live in rural areas. (INSSE, 2010).
- 3. Unemployment paradoxes** refer, in particular, to the low rate of unemployment and in contrast to the chronic problem of youth unemployment. The surprisingly low unemployment rate in Romania – 6.8 % compared to the EU average of 11.4% in December 2014 (Eurostat, 2015) – hides, in fact, that labor migration and employment in subsistence



agriculture coexist with a rate of exclusion of young people compared to the total population almost double the EU average (44.4 % in Romania compared to the EU average of 29.8 %, in 2011) (Eurostat, 2013). Moreover, the problem of youth unemployment has become chronic in Romania, and the labor market integration of graduates is seriously threatened by requests for work experience made by employers. Romania has taken steps to address youth unemployment, in particular through the Youth Guarantee, but there have been delays in implementation (EC, 2015:4).

4. **Labor force migration.** According to the National Institute of Statistics, in 1990-2010, a negative migration balance of 298,569 people has been recorded as a result of the emigration of 404,396 people and the immigration of 105,831 people (INSSE, 2011). According to the World Bank, in 2009, the number of Romanian emigrants was 2.769 million and this has represented 13.1% of the total population. The amount of money sent by them to Romania accounted for 4.4% of GDP (World Bank, 2012). Romania is ranked 10 in a global ranking on immigrant remittances; the value of remittances was estimated at 8.38 billion dollars in 2010, 4% of Romania's GDP (World Bank, 2012).

In our view, population ageing, the economic vulnerability of the rural areas as compared to the urban areas, the rural labor market dominated by the active people engaged in subsistence economy, the problem of chronic youth unemployment aggravated by the problems of adapting the education system to the labor market and labor migration are the factors that may hinder Romania's future progress in terms of competitiveness and human development. The lack of urgent and coherent strategies to meet the above-mentioned challenges will lead to: lower quality of the remaining workforce in the country, diminishing quality and competitiveness of Romanian products and services, depopulation in rural areas, increased crime rates and insecurity in urban areas, weakening social security systems etc.

#### References

1. American Chamber of Commerce Romania (2011) AmCham's 2011 Romania Competitiveness Report, [Online], Available: [www.amcham.ro](http://www.amcham.ro), [April 21, 2016].
2. Daniels, J. D. (1991) "The elusive concept of national competitiveness", *Business Horizons*, vol 34, issue 6, pp 3-6.
3. Delgado, M., Ketels, C., Porter, M.E., Stern, S. (2010) "The determinants of national competitiveness", *Working Paper* 18249, National Bureau of Economic Research, Cambridge, MA 02138, [Online], Available: <http://www.nber.org/papers/w18249>, [March 29, 2016].
4. European Commission (2015) Council Recommendation, Recommendation for on the 2015 National Reform Programme of Romania and delivering a Council opinion on the 2015 Convergence Programme of Romania, [Online], Available: [http://ec.europa.eu/europe2020/pdf/csr2015/csr2015\\_romania\\_en.pdf](http://ec.europa.eu/europe2020/pdf/csr2015/csr2015_romania_en.pdf),

- [April 7, 2016].
5. European Commission (2014) Country Specific Recommendation – Romania, [Online], Available: [http://ec.europa.eu/europe2020/europe-2020-in-your-country/romania/country-specific-recommendations/index\\_en.htm](http://ec.europa.eu/europe2020/europe-2020-in-your-country/romania/country-specific-recommendations/index_en.htm), [April 7, 2016].
  6. Eurostat (2015) Unemployment rate - annual data, [Online], Available: <http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&pcode=tipsun20&language=en>, [April 7, 2016].
  7. Eurostat (2013) Unemployment rate - annual data, [Online], Available: <http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&pcode=tipsun20&language=en>, [April 7, 2016].
  8. INSSE (2010) AMIGO Survey, [Online], Available: <http://statistici.insse.ro/shop/index.jsp?page=tempo3&lang=ro&ind=AMG10>, [April 7, 2016].
  9. INSSE (2011) Romania in figures 2011, [Online], Available: [http://www.insse.ro/cms/files/publicatii/Romania\\_in%20cifre%202011.pdf](http://www.insse.ro/cms/files/publicatii/Romania_in%20cifre%202011.pdf), [April 16, 2016].
  10. Ketels, C., H., M. (2006) “Michael Porter’s competitiveness framework: recent learnings and new research priorities”, *Journal of Industrial Trade and Competition*, 6: 63–66.
  11. Ketels, C. (2008) Competitiveness: The New Learning, Institute for Strategy and Competitiveness, Harvard Business School, [Online], Available: [http://ftp.sgh.waw.pl/aci/Conf12june2008/docs/Competitiveness\\_New\\_Learning.pdf?PHPSESSID=485476c49be2b8725f8f7628f45d8bc9](http://ftp.sgh.waw.pl/aci/Conf12june2008/docs/Competitiveness_New_Learning.pdf?PHPSESSID=485476c49be2b8725f8f7628f45d8bc9), [April 20, 2016].
  12. Krugman, P. (1994) “Competitiveness: a dangerous obsession”, *Foreign Affairs* -New York - 73 (1994): 28-28. [Online], Available: [http://88.167.97.19/temp/Paul\\_Krugman\\_-\\_Competitiveness\\_A\\_dangerous\\_obsession.pdf](http://88.167.97.19/temp/Paul_Krugman_-_Competitiveness_A_dangerous_obsession.pdf), [March 19, 2016].
  13. Legatum Institute (2015) The Legatum Prosperity Index Rankings 2015, [Online], Available: [http://media.prosperity.com/2015/pdf/publications/PI2015Brochure\\_WEB.pdf](http://media.prosperity.com/2015/pdf/publications/PI2015Brochure_WEB.pdf), [April 4, 2016].
  14. OECD (2001) The OECD Economic Outlook: Sources and Methods, [Online], Available: <https://stats.oecd.org/glossary/detail.asp?ID=399>, [March 21, 2016].
  15. OECD (2014) PISA 2012 Results in Focus, [Online], Available: <http://www.oecd.org/pisa/keyfindings/pisa-2012-results-overview.pdf>, [April 20, 2016].
  16. Porter, M. (1990) “The Competitive Advantage of Nations”, *Harvard Business Review*, March-April 1990, p.3, [Online], Available: [http://dl1.cuni.cz/pluginfile.php/50387/mod\\_resource/content/0/Porter-competitive-advantage.pdf](http://dl1.cuni.cz/pluginfile.php/50387/mod_resource/content/0/Porter-competitive-advantage.pdf), [March 15, 2016].
  17. Ranking web of Universities, [Online], Available: <http://www.webometrics.info/en/world?page=4>, [April 5, 2015].

18. Smit, A.J. (2010) "The competitive advantage of nations: is Porter's Diamond Framework a new theory that explains the international competitiveness of countries?", *Southern African Business Review* 14(1), 105-130, [Online], Available: [http://www.unisa.ac.za/contents/faculties/service\\_dept/docs/SABVIEW14\\_1\\_chap5.pdf](http://www.unisa.ac.za/contents/faculties/service_dept/docs/SABVIEW14_1_chap5.pdf), [March 15, 2016].
19. The IMD World Competitiveness Center (2011) IMD World Competitiveness Scoreboard 2011, [Online], Available: [http://www.vi.is/files/IMD%202011%20-%20listar\\_831280280.pdf](http://www.vi.is/files/IMD%202011%20-%20listar_831280280.pdf), [March 22, 2016].
20. The IMD World Competitiveness Center (2012) IMD World Competitiveness Scoreboard 2012, [Online], Available: [http://allianceau.com/pics/advant/2012\\_IMD.pdf](http://allianceau.com/pics/advant/2012_IMD.pdf), [March 22, 2016].
21. The IMD World Competitiveness Center (2013) IMD World Competitiveness Scoreboard 2013, IMD World Competitiveness Center, [Online], Available: <https://www.imd.org/uupload/IMD.WebSite/wcc/WCYResults/1/scoreboard.pdf>, [March 22, 2016].
22. The IMD World Competitiveness Center (2014) IMD World Competitiveness Scoreboard 2014, [Online], Available: [http://www.imd.org/uupload/IMD.WebSite/wcc/WCYResults/1/scoreboard\\_2014.pdf](http://www.imd.org/uupload/IMD.WebSite/wcc/WCYResults/1/scoreboard_2014.pdf), [March 22, 2016].
23. The IMD World Competitiveness Center (2015) IMD World Competitiveness Scoreboard 2015, IMD World Competitiveness Center, [Online], Available: <http://www.imd.org/uupload/imd.website/wcc/scoreboard.pdf>, [March 22, 2016].
24. United Nations Development Programme, UNDP (2015) Human Development Report, 2015. [Online], Available: [http://hdr.undp.org/sites/default/files/2015\\_human\\_development\\_report.pdf](http://hdr.undp.org/sites/default/files/2015_human_development_report.pdf), [April 5, 2016].
25. United Nations Development Programme, UNDP (2013) Human Development Report 2013. [Online], Available: [http://hdr.undp.org/sites/default/files/reports/14/hdr2013\\_en\\_complete.pdf](http://hdr.undp.org/sites/default/files/reports/14/hdr2013_en_complete.pdf), [April 5, 2015].
26. World Bank (2012) Data Romania, [Online], Available: <http://data.worldbank.org/country/romania> [April 13, 2013].
27. World Economic Forum (2012) The Global Competitiveness Report 2011-2012, [Online], Available: [http://www3.weforum.org/docs/WEF\\_GCR\\_Report\\_2011-12.pdf](http://www3.weforum.org/docs/WEF_GCR_Report_2011-12.pdf), [March 19, 2016].
28. World Economic Forum (2013) The Global Competitiveness Report 2012-2013, [Online], Available: [http://www3.weforum.org/docs/WEF\\_GlobalCompetitivenessReport\\_2012-13.pdf](http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2012-13.pdf), [March 19, 2016].
29. World Economic Forum (2014) The Global Competitiveness Report 2013-

- 2014, [Online], Available: [http://www3.weforum.org/docs/WEF\\_GlobalCompetitivenessReport\\_2013-14.pdf](http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2013-14.pdf); [March 19, 2016].
30. World Economic Forum (2015a) The Global Competitiveness Report 2014-2015, [Online], Available: [http://www3.weforum.org/docs/WEF\\_GlobalCompetitivenessReport\\_2014-15.pdf](http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2014-15.pdf), [March 19, 2016].
31. World Economic Forum (2015b) The Global Competitiveness Report 2014-2015, [Online], Available: <http://reports.weforum.org/global-competitiveness-report-2014-2015/economies/#economy=ROU>, [March 19, 2016].