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ANALISYS OF THE GLOBAL COMPETITIVENESS INDEX FOR ROMANIA

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Abstract: The World Economic Forum has been studying the competitiveness of nations and have examined the factors enabling national economies to achieve sustained economic growth and long-term prosperity. The reports have served as benchmarking tools for business leaders and policymakers to identify barriers to improved competitiveness, advantages and disadvantages for a country and economy. The paper analysis the results for Romanian competitiveness as it are come out of the CGI (Global Competitiveness Index) for 2007-2008 and propose a specific application for entrepreneurship activity in Romania.

1. INTRODUCTION

Since 1979 The World Economic Forum has been studying the competitiveness of nations and the Global Competitiveness Reports [4] have examined the factors enabling national economies to achieve sustained economic growth and long-term prosperity. The reports have served as benchmarking tools for business leaders and policymakers to identify barriers to improved competitiveness, advantages and disadvantages for a country and economy. In 2004 the World Economic Forum introduced the Global Competitiveness Index (GCI) [4], a highly comprehensive index for measuring national competitiveness, and the last evaluation is for 2007-2008.

The methodology used to assess national competitiveness has taken into account the latest thinking on the factors driving competitiveness and growth. Here, competitiveness is defined as the set of institutions, policies, and factors that determine the level of productivity of a country. The level of productivity, in turn, sets the sustainable level of prosperity that can be earned by an economy. So, more competitive economies tend to be able to produce higher levels of income for their citizens. The productivity level also determines the rates of return obtained by investments in an economy.

There are also other models for evaluate competitiveness, the most appropriate with CGI is The World Competitiveness Scoreboard from the International Institute for Management Development (IMD) [5].The World Competitiveness Scoreboard 2007 ranks 55 country using the following four criteria: economic performance, government efficiency, business efficiency and infrastructure. In table 1 there is a comparison of the two models mentioned from the point of view of indexes used, but there are subindexes that define every index (here there are twenty subindexes, comparative with the twelve subindexes of GCI). In this model, Romania position in 2007 is 44 (out of 55 countries), and in Global Competitiveness Index model (GCI 2007-2008) is situated at position 74 (out of 131 countries).

Table 1. Models for competitiveness evaluation

Models / Indexes	Global Competitiveness Index	World Competitiveness Scoreboard
1	Basic requirements	Government efficiency
2		Infrastructure
3	Efficiency enhancers	Economic performance
4	Innovation and sophistication factors	Business efficiency

2. COMPETITIVENESS VS. PRODUCTIVITY

The importance for a country of achieving international competitiveness is widely considered a goal of public policy. From the point of view of a firm/sector, international competitiveness may be a useful concept as the competitive struggle can represent a zero-sum game where the losses of one firm/sector are offset by the gains of another.

The concept of productivity is increasingly being recognized as more pertinent than competitiveness. Indeed, some economists argue that the whole notion of a "competitive nation" should be abandoned as a term having much meaning for economic prosperity. For example, Michael Porter [1] argues that the principal economic goal of a nation is to produce a high and rising standard of living for its citizens. The ability to do so depends not on the amorphous notion of "competitiveness" but on the productivity with which a nation's resources (labor and capital) are employed. Thus the only meaningful concept of competitiveness at the national level is national productivity.

3. THE PILLARS OF COMPETITIVENESS

From the latest studies the determinants of competitiveness are many and complex. Adam Smith [3] argued that specialization and the division of labor lead to dramatic improvements in productivity. Other economists of the 19th century believed that the law of diminishing returns would reduce the potential for expanding the level of prosperity. The failure of many developing countries to grow despite huge investments in infrastructure proved that investing in physical capital was not enough to generate aggregate wealth. Then, we can look for other mechanisms: education and training, technological progress, macroeconomic stability, good governance, transparent and well-functioning institutions, lack of corruption, market orientation, firm sophistication, demand conditions, market size, and many others. The central point, however, is that they could all be true at the same time because they are open-ended. That is, because they are not mutually exclusive, two or more of them could be true at the same time. Many studies show that many of these conjectures are, in fact, simultaneously true.

The GCI [6] captures this open-endedness by providing a weighted average of many different components, each of which reflects one aspect of the complex reality that we call competitiveness. The 12 pillars are described in the following.

1. Institutions. The institutional environment forms the framework within which private individuals, firms, and governments interact to generate income and wealth in the economy. It plays a central role in the ways in which societies distribute the benefits and bear the costs of development strategies and policies, and it has a bearing on investment decisions and on the organization of production.

2. Infrastructure. The existence of high-quality infrastructure is critical for ensuring the efficient functioning of the economy. High-quality infrastructure reduces the effect of distance between regions, connecting it to markets in other countries and regions.

3. Macroeconomy. The stability of the macroeconomic environment is important for business and, therefore, is important for the overall competitiveness of a country. Although it is certainly true that macroeconomic stability alone cannot increase the productivity of a nation, it is not less true that macroeconomic disarray harms the economy.

4. Health and primary education. Poor health leads to significant costs to business, as sick workers are often absent or operate at lower levels of efficiency. Investment in the provision of health services is thus critical for clear economic, as well as moral, considerations.

5. Higher education and training. Today it requires economies to nurture pools of well-educated workers who are able to adapt rapidly to their changing environment. The importance of vocational and continuous on-the-job training cannot be overstated, as it ensures a upgrading of workers' skills to the changing needs of the production system.

6. Goods market efficiency. Countries with efficient goods markets are positioned to produce the right mix of products and services given supply-and-demand conditions. Healthy market competition is important in driving market efficiency and thus business productivity, by ensuring that the most efficient firms, producing goods demanded by the market, are those that survive.

7. Labor market efficiency. The efficiency and flexibility of the labor market are critical for ensuring that workers are allocated to their most efficient use and provided with incentives to give their best effort in their jobs. Labor markets must have the flexibility to shift workers from one economic activity to another quickly, and to allow wage fluctuations without much social disruption.

8. Financial market sophistication. A proficient financial sector channels resources to the best entrepreneurs/investment projects, so that small innovators with good ideas can implement them. It needs to provide risk capital and loans and be trustworthy and transparent. Most critical to productivity is business investment.

9. Technological readiness. This pillar measures the agility with which an economy adopts existing technologies to enhance the productivity of its industries. This is a critical concept, as technological differences have been shown to explain much of the variation in productivity between countries.

10. Market size. The size of the market affects productivity because large markets allow firms to exploit economies of scale. In the era of globalization, international markets have become a substitute for domestic markets, especially for small countries. Much evidence shows that trade is positively associated with growth.

11. Business sophistication. Business sophistication is conducive to higher efficiency in the production of goods and services. This leads, in turn, to increased productivity, thus enhancing a nation's competitiveness. Business sophistication concerns the quality of a country's overall business networks, as well as the quality of individual firms' operations and strategies.

12. Innovation. In the long run, when all the other factors can run into diminishing returns, standards of living can be expanded only by technological innovation. Innovation is particularly important for economies as they approach the frontiers of knowledge and the possibility of integrating and adapting exogenous technologies tend to disappear.

The 12 pillars are not independent: not only they are related to each other, but they tend to reinforce each other. The determinants of competitiveness here are many, are complex, and are open-ended. Different pillars can affect different countries differently.

The CGI adapt Michael Porter's definition of stages of development [2]. In the first stage, the economy is factor driven and countries compete based on their factor endowments, primarily unskilled labor and natural resources. As wages rise with advancing development, countries move into the efficiency-driven stage of development, when they must begin to develop more efficient production processes and increase product quality. Finally, as countries move into the innovation-driven stage, they are able to sustain higher wages and the associated standard of living only if their businesses are able to compete with new and unique products.

Here is integrated the concept of stages of development into the Index by attributing higher relative weights to those pillars that are relatively more important for a country given its particular stage of development. The three subindexes, the twelve pillars and three stages of development are shown in table 2.

Table 2. ***Pillars, subindex and stages of development***

Subindex	No.	Pillars	Stages of development
A: Basic requirements	1	Institutions	Key for factor-driven economies
	2	Infrastructure	
	3	Macroeconomic stability	
	4	Health and primary education	
B: Efficiency enhancers	5	Higher education and training	Key for efficiency-driven economies
	6	Goods market efficiency	
	7	Labor market efficiency	
	8	Financial market sophistication	
	9	Technological readiness	
	10	Market size	
C: Innovation and sophistication factors	11	Business sophistication	Key for innovation-driven economies
	12	Innovation	

Table 3. Advantages and disadvantages pillars for competitiveness

No.	Pillar	Advantages	Disadvantages
	Basic requirements		
4	Health and primary education	Quality of primary education	Education expenditure
			Life expectancy
	Efficiency enhancers		
5	Higher education and training	Quality of math and science education	Extent of staff training
		Internet access in schools	Quality of management schools
		Local availability of specialized research and training services	Quality of the educational system
6	Goods market efficiency	Number of procedures required to start a business	Trade-weighted tariff rate
		Time required to start a business	Extent and effect of taxation
			Degree of customer orientation
			Intensity of local competition
			Prevalence of foreign ownership
			Buyer sophistication
			Effectiveness of anti-monopoly policy
			Prevalence of trade barriers
			Extent of market dominance
7	Labor market efficiency	Flexibility of wage determination	Cooperation in labor-employer relations
			Non-wage labor costs
			Reliance on professional management
			Pay and productivity
8	Financial market sophistication	Strength of investor protection	Financial market sophistication
			Financing through local equity market
			Soundness of banks
			Restriction on capital flows
			Venture capital availability
			Legal rights index
			Ease of access to loans
	Innovation and sophistication factors		
12	Innovation	Availability of scientists and engineers	University-industry research collaboration
			Company spending on R&D
			Government procurement of advanced technology products
			Quality of scientific research institutions
			Utility patents
			Capacity for innovation

Table 3 present the advantages and disadvantages as it appears on the analysis of competitiveness indexes for Romania. We select the pillars and subindexes of pillars that we consider with important impact for competitiveness.

2.2. The weighted Index

The specific weights we attribute to each subindex in every stage of development are shown in table 4. To obtain the precise weights that each subindex gets in the overall GCI, a maximum likelihood regression of Gross Domestic Product GDP per capita was run against each subindex for past years, allowing for different coefficients for each stage of development. The rounding of these econometric estimates led to the choice of weights displayed.

Table 4. Weights for subindex and stages of development

Stages / **Subindex**	Factor-driven stage	Efficiency-driven stage	Innovation-driven stage
Basic requirements	60	40	20
Efficiency enhancers	35	50	50
Innovation and sophistication factors	5	10	30

Because Romania is considered in stage 2, efficiency-driven stage, we present in table 5 the weights for subindexes from the Global Competitiveness Index and the new weights proposed for Romanian in case of entrepreneurship activity, because innovation an sophistication factors can be considered more important, weight proposed 0.5, efficiency can be next important index, with weight 0.3, and basic requirements comes last, with weight 0.2.

Table 5. Proposed weights for Romania

Stages / **Subindex**	Efficiency-driven stage	Efficiency-driven stage **new**
Basic requirements	40	20
Efficiency enhancers	50	40
Innovation and sophistication factors	10	40

2.3. Analisys for Romanian competitiveness

In table 6 there are the rankings and scores for subindexes for Global Competitiveness Index 2007-2008 for Romania.

If we look at the score and ranks for Romania (see table 6) we can see that 74 is a medium position in classification, with a average score of 3.97 out of a maximum 7. Best ranking is for market size pillar, and best score is for health and primary education pillar, followed by macroeconomic stability pillar at almost 1 point behind.

If we use the new weights propose in table 5, the differences, as we can see in table 7, are not significant, the score is a little low (3.86) and the rank can be 3 places better. This means that the results from GCI can be used to analyze competitiveness from the point of view of entrepreneurship.

The United States America retains its leading position as the world's most competitive economy, just ahead of Switzerland, Denmark, and Sweden. The country is endowed with a winning combination of highly sophisticated and innovative companies operating in very efficient factor markets.

Table 6. Ranks for Romania

No.	Pillars	Rank	Score
1	Institutions	94	3.44
2	Infrastructure	100	2.57
3	Macroeconomic stability	84	4.64
4	Health and primary education	52	5.62
5	Higher education and training	54	4.14
6	Goods market efficiency	74	4.04
7	Labor market efficiency	85	4.13
8	Financial market sophistication	78	4.05
9	Technological readiness	59	3.29
10	Market size	43	4.23
11	Business sophistication	73	3.99
12	Innovation	76	3.09

Table 7. Ranks and scores for subindex

Subindex	Rank	Score	New Rank	New Score
Basic requirements	88	4.07		
Efficiency enhancers	62	3.98		
Innovation and sophistication factors	73	3.54		
Global Competitiveness Index 2007-2008	74	3.97	71	3.86

3. CONCLUSIONS

The GCI captures what government and business leaders have known for a long time: competitiveness is a complex phenomenon and the overall level of competitiveness of a nation can be improved only through a whole array of reforms in different areas. The Index also highlights the fact that the priorities are different for different countries, depending on the level of development.

This Index is an instrument that can be used to identify the competitive strengths of a country as well as the barriers that impede its economic progress. As well as establishing comparisons with similar countries and the relative position in the overall rankings a particular country holds, policymakers should also pay attention to the relative scores for each of the subcategories within each of the pillars.

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