

Green Policies - Determinant Vector for Competitiveness Enhancement

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Abstract

This article presents the modern theories of competitiveness, highlighting the main factors of influence, both macro and microeconomic level. The paper does not aim at modeling the links between implementation of the environmental policies and improvement of firms' competitiveness nor the development of a quantitative method to appreciate macroeconomic competitiveness, but it attempts to present empirical evidence of such links, that could be a preamble to such an approach. In the first part of the paper the analytical framework relating to linkages between environmental policy and competitiveness is established. Then the main implications of environmental regulations on companies' competitiveness and their positive effects in case they are adopted are also highlighted. Introducing of sustainable macroeconomic competitiveness is what follows. The paper concludes with Romanian competitiveness situation.

Keywords: *green policies, competitiveness, the sustainability-adjusted Global Competitiveness Index*

JEL Classification: *M31*

Introduction

The environment as an ecological concern has begun to become part of the organizational culture. Green Revolution, environmental protection, turning “green”, sustainable lifestyles, sustainable development, planet protection and many such manifestations have become a phenomenon increasingly evident in our current life. Green marketing is a tool used by many companies in different industries following this trend. Although relatively recent as scientific orientation, there is rich literature on green marketing, which analyzes the impact of its strategies on customer satisfaction and environmental safety.

Businesses have been reshaped in order to take advantage of this trend with respect to the environment. Even during the current economic crisis, there are companies which did not stop but, on the contrary, have intensified efforts to implement or develop sustainable strategies. Furthermore, they used the recession as a stimulus to reduce operating costs and maintain competitiveness.

Social responsibility is a major challenge for companies today. Most people notice that companies are not doing enough to give back to society what they get from it. Therefore, for

companies' management it is imperative to reconsider their attitude towards society. A good way for companies to strengthen their brands would be to become good corporate citizens. Companies make massive profits, but how do they give back? A study conducted by the Committee Encouraging Corporate Philanthropy shows that the average per energy industry in total revenue (0.05%) is lower than any other industry!

Strategic thinking, popularized by Michael Porter and Claas van der Linde in 1995 in their paper published in the Harvard Business Review, "Green and Competitive" is that the green innovations will enable companies to generate competitive advantages and trade themselves more effective for those customers who are concerned about the environment. Naturally, such a thought would encourage enterprises to competitively innovate and maintain strict control of their intellectual property since obtaining an advantage over their competitors was an initial goal.

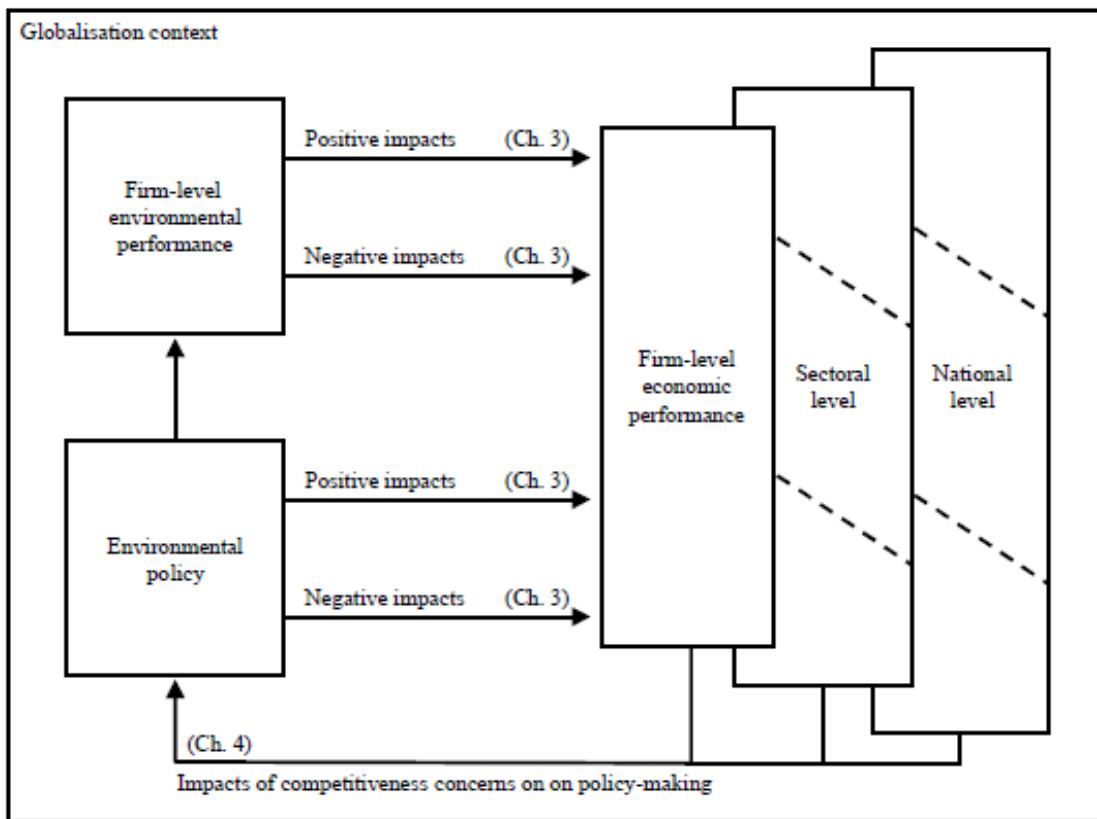


Fig. 1. The analytical framework relating to linkages between environmental policy and competitiveness
Source: L. Lankoski (2010)¹

"Green Imperative" is impossible to ignore today, and companies are struggling to understand how to develop sustainable business models. Thus, green marketing can provide tools and methods for an objective analysis of all aspects of the products, processes, and policies, and assess current marketing strategy, enabling global sustainable development strategy to increase ROI. The organization will be more efficient than the manifestation of social responsibility and the environment will gain a competitive advantage and superior brand differentiation and strengthen its brand image in the market.

¹ Lankoski, L., OECD (2010), *Linkages between Environmental Policy and Competitiveness*, OECD Environment Working Papers, No. 13, OECD Publishing, © OECD.

The obvious assumption of green marketing is that potential consumers see lack of “green” product or service as a lack of benefit and this will influence their buying decision accordingly. A less obvious assumption of green marketing is that consumers will be willing to pay more for green products than they would for a less green alternative product – this hypothesis has not been proven conclusively.

Growth registered in recent years in the green sector has shown that this could represent an important economic opportunity. Experience has shown that, although almost all sectors have suffered great losses due to the recession, the green sector, though slower, continued to grow. Thus, Jack Neff stated: “Green Marketing Revolution defies recession.” (Neff, J., 2009)

National competitiveness depends increasingly on how intangible assets are efficiently used and products and services are innovated. In this respect, Alex MacGillivray, John Sabapathy & Simon Zadek stated: “This should mean that business performance will be enhanced if it is aligned to societal values and demonstrably addresses associated challenges and interests. In the short term, this is visible in civil society’s ability [...] of ‘civil regulation’. More positively, it can also be true for individual companies who have driven performance through the alignment of corporate responsibility to business strategy. If this can be true at a micro-level, this link between business responsiveness to societal values and resulting improved performance suggests that corporate responsibility could become a significant factor in national competitiveness.”²

All these aspects lead to the conclusion that an analysis of the “green” domain is necessary in order to evaluate how close to sustainability the Romanian organizations are. It is essential to know if Romanian companies and consumers have started to become truly responsible and if so, to what extent this transformation has also generated actions.

Objectives to be pursued:

- Bringing companies’ environmental concerns to the forefront and identifying and providing examples of companies which have managed to practice “friendly” environment for business success
- Identifying key strategic principles of eco-design, eco-innovation, to communicate with credibility and impact
- Exploring ways of connection of green policies and business practices to identify vectors to increase competitiveness
- Analyzing the field of “green” domain in order to assess how close the Romanian organizations are to sustainability.

The Influence of Environmental Factors in the Competitiveness Assessment at Microeconomic Level

Implications of environmental regulations on companies’ competitiveness

Companies started to include environmental policies when formulating their strategies after the Montreal Protocol was signed in 1987. This was, in fact, a first agreement on reducing the production of chemicals that cause ozone layer decrease having the time horizon 2000. This was

² Zadek, S. *The Civil Corporation: the New Economy of Corporate Citizenship*, Earthscan, London, 2001, and Sabapathy, J. and Weiser J, *Community-enabled Innovation – Companies, Communities and Innovation*, AccountAbility, London, 2003, cited in Alex MacGillivray, John Sabapathy & Simon Zadek, *Responsible Competitiveness Index 2003*

followed by other treaties, protocols and agreements, all aiming at environmental protection and sustainable development implementation.

In these circumstances, the question that arises is whether environmental regulations resulting thereupon, all based on the “polluter pays” principle - introduced in 1975 (OECD), place companies adopting them in a disadvantaged position in terms of competitiveness.

Thus, two aspects could be highlighted:

1. There are some who argue that environmental specific regulations perform additional pressures on companies, in that they require redirection of part of the resources from other profitable opportunities, which can lead to increased costs and prices and, ultimately, loss of markets.
2. On the other hand, there is an opinion that the environmental policies enhance competitiveness of companies by determining them to develop more efficient ways to produce and, therefore, cost reduction. Others even argue that strict environmental policy represents a strong form of industrial policy providing a double benefit, on the one hand, by improving both the environment and, on the other hand, by increasing the competitiveness (Simpson and Bradford, 1996).

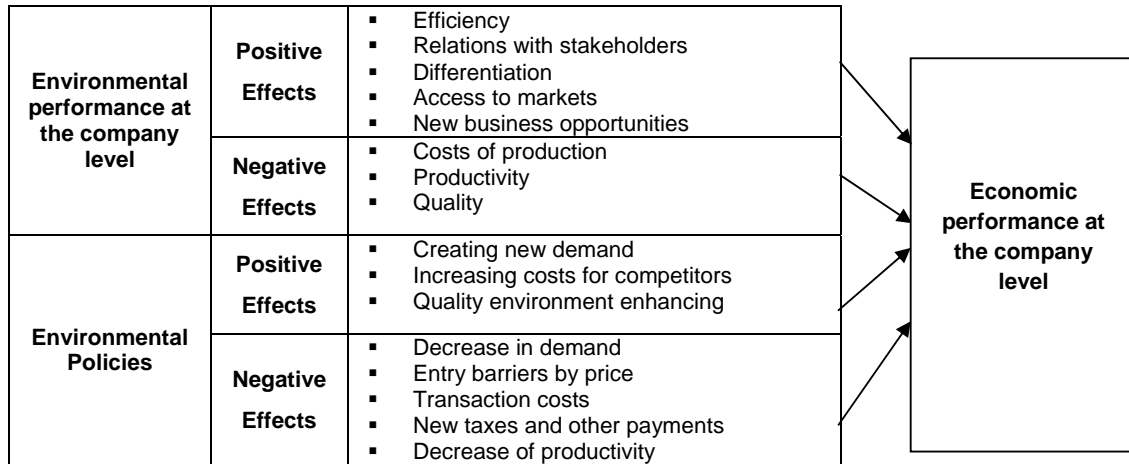


Fig. 2. Direct relationship between environmental performance of the company, environmental and economic performance of companies

Source: adapted after L. Lankoski (2010)

We can conclude thus that the adoption of green policies generates essentially two types of effects, both positive and negative effects (see Figure 2), on companies’ competitiveness, which will be the focus of the next section.

Positive effects of the adoption of environmental policies on increasing companies’ competitiveness

Michael Porter (1990) argued that the adoption of environmental policies can be considered a good stimulus for competitiveness, because costs of implementing such policies may be more than compensated by the generation of innovations that produce competitive benefits or allow concerned companies to win first mover advantage in adopting new technologies which show market potential for the future. “Stringent Standards for product performance, product safety, and environmental impact contribute to creating and upgrading competitive advantage. They pressure firms to upgrade quality, upgrade technology and provide features in areas of important customer (and social) concern. Particularly beneficial are stringent regulations that anticipate

standards that will spread internationally. These give a nation's firms a head start in developing products and services that will be valued elsewhere.”³

Later, in 1995, Porter and Van der Linde argued that:

- environment and competition are incompatible only from a static perspective on competition (competitive advantage arises not through a static optimization of resource consumption, but through the dynamics of innovation);
- stringent environmental regulations may have the effect of reducing production costs and increasing competitiveness. Properly designed, environmental regulations can spur innovation of products and processes adapted to the ecological requests by “compensations” which lead to competitive advantage over firms that are not subject to the same environmental requirements.

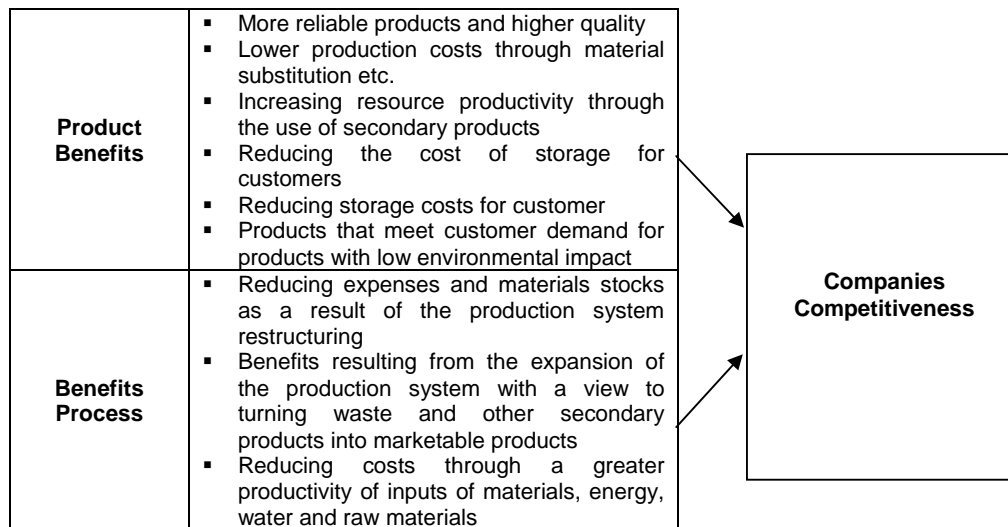


Fig. 3. Reducing costs via greater productivity of inputs of materials, energy, water and raw materials

Source: adapted after Porter and van der Linde (1995)

This approach is known in the literature as “Porter Hypothesis”. According to this, the “benefits of proper environmental regulations are:

- they indicate deficiencies for companies in efficiency of resource use and possible technological improvements;
- reduce the uncertainty on the importance of environmental investments;
- motivate innovation and progress;
- during the transition to innovatory solutions, regulations ensure that a company cannot get an advantageous position by evading environmental investments.⁴

Experience suggests that while integrating environmental technologies in their strategic management, companies offer many advantages that ultimately contribute to competitiveness. Among these it is worth mentioning the following categories:

- risks reduction
- increased revenue
- improving relationships with suppliers
- improving the quality
- the emergence of new competitive advantages

³ Porter, M.E., *The Competitive Advantage of Nations*, p.647-648

⁴ Niță, V. (2009). Incorporarea obiectivelor de competitivitate în cadrul socio-economic național, *Revista de Economie Mondială*, vol. 1, Issue 3, p. 32

- reducing debt levels
- social benefits
- improving public image.⁵

These can be grouped into two major groups, namely:

1. Product benefits
2. Process benefits (see Figure 3).

If we consider companies reporting to their external context, we find that the implementation of a “green” strategy increases their competitiveness, contributing to their profit. In this regard, the following issues should be considered:

- Demand for “green” products is growing;
- Consumer engagement is enhanced in the case of “green” products;
- The personnel creativity is stimulated by the green products;
- Investors’ interest in such products is high.

Sustainable Competitiveness at Macroeconomic Level

Sustainable competitiveness of a country can be defined as “a set of institutions, policies, and factors that make a nation remain productive over the longer term while ensuring social and environmental sustainability.”⁶

Based on the above definition of sustainable competitiveness, a framework has been developed which aimed to create a common basis in order to develop policies that balance economic prosperity with social inclusion and environmental stewardship. This conceptual model is illustrated in Figure 4, which presents a framework for measuring the global competitiveness using a synthetically adjusted indicator. Thus, the Global Competitiveness Index (GCI) is adjusted by factors which include social and environmental sustainability.

This framework emphasizes the central position of competitiveness as the key driver of prosperity in society. A high level of competitiveness is essential for sustainable prosperity. GCI measures the level of competitiveness in an economy.

GCI is a composite indicator that takes into account 12 elements: institutions, infrastructure, macroeconomic environment, health and primary education, higher education and training, goods market efficiency, labour market efficiency, financial market development, technological readiness, market size, complexity of business and innovation.

⁵ Shrivastava, P. (1995). Environmental technologies and competitive advantage, *Strategic Management Journal*, Vol. 16, p. 183-200

⁶ *The Global Competitiveness Report 2013–2014*, p. 61

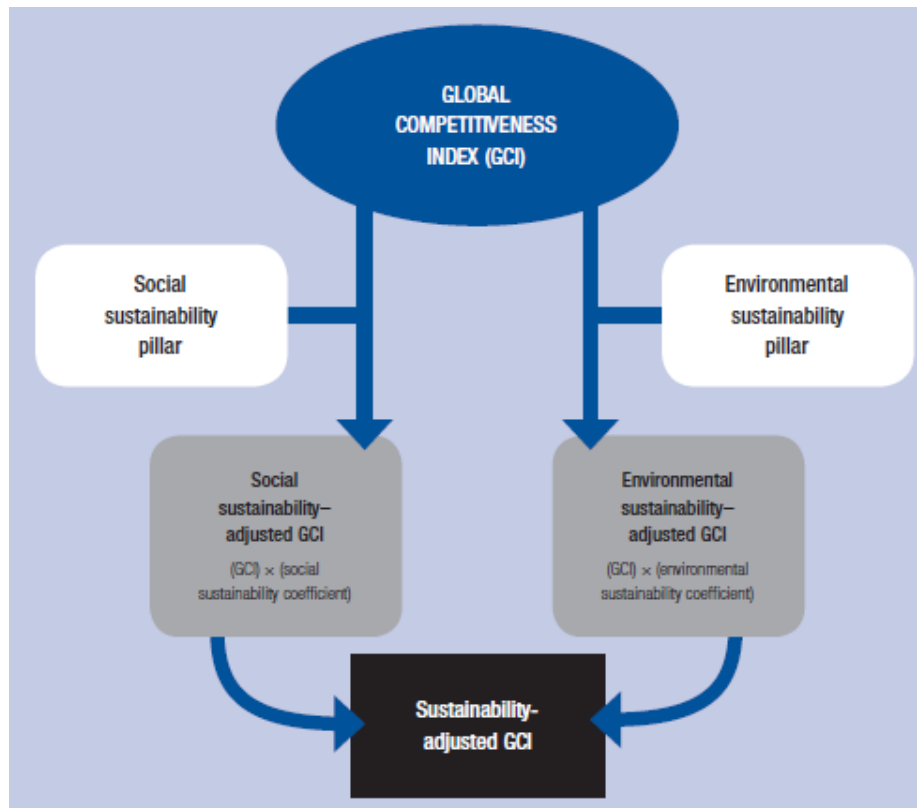


Fig.4. The structure of the sustainability-adjusted GCI

Source: The Global Competitiveness Report 2013–2014, p.62

Competitiveness is a necessary but not sufficient condition to maintain prosperity; hence, the need to adjust the competitiveness with social and environmental sustainability.

Social sustainability is determined according to three factors, as follows:

1. Access to basic necessities:
 - a. Access to sanitation;
 - b. Access to improved drinking water;
 - c. Access to healthcare;
2. Vulnerability to shocks:
 - d. Vulnerable employment;
 - e. Extent of informal economy;
 - f. Social safety net protection;
3. Social cohesion:
 - g. Income Gini index;
 - h. Social mobility;
 - i. Youth unemployment.

With regard to *environmental sustainability*, it is also determined taking into account the following three categories of factors:

1. Environmental policy:
 - a. Environmental regulations (stringency and enforcement);
 - b. Number of ratified international environmental treaties;
 - c. Terrestrial biome protection;
2. Use of renewable resources:

- a. Agricultural water intensity;
 - b. Forest cover change;
 - c. Fish stocks' overexploitation;
3. Degradation of the environment:
 - a. Level of particulate matter concentration;
 - b. CO₂ intensity;
 - c. Quality of the natural environment⁷.

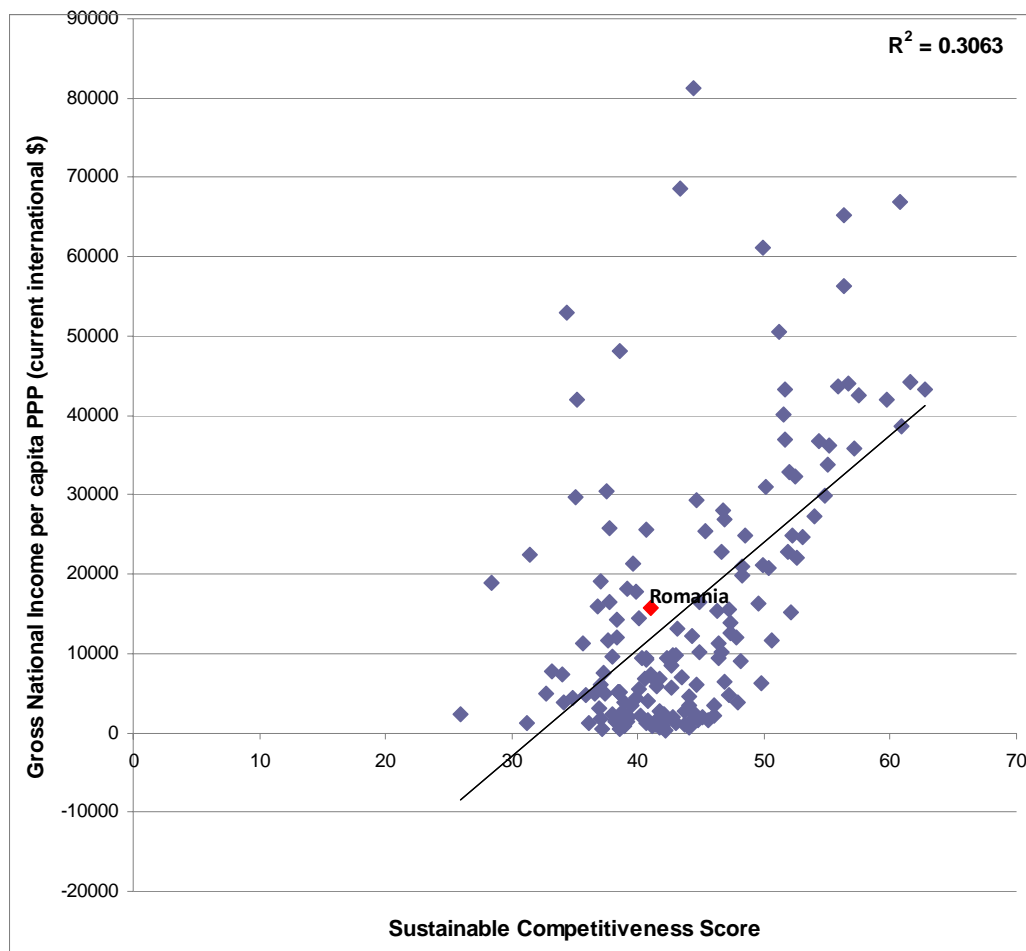


Fig. 5. Sustainable Competitiveness Score vs. Gross National Income per capita, globally

Analyzing globally the relationship between Sustainable Competitiveness Score and Gross National Income per capita (data collected for 2012, based on rating current performance data and analysis of trends in the last five years)⁸, in Figure 5 it can be seen that the first indicator

⁷ *The Global Competitiveness Report 2013–2014*, p. 63

⁸ *The Global Sustainability Index 2013*

It is noteworthy that, in this report, hierarchies are different from those developed in the context of the World Economic Forum. Thus, Romania ranks 34 out of 176. Sustainable Competitiveness score is calculated on the basis of four indicators, namely natural capital - availability and depletion, resources - intensity and efficiency, sustainable innovation and social cohesion, each of them being in their turn evaluated based on other 73 indicators. 65 of the 73 indicators are based on pure data (quantitative) collected by the World Bank, the IMF and various UNO agencies (UNEP, UNDP, WHO, WTO, FAO, UNESCO). The remaining 7 were calculated by external agencies or based on surveys in different countries.

explain the variation of the second one to a small extent. Moreover, a linear relation of medium intensity is established between the two indicators. This relationship is demonstrated by the value of the correlation coefficient (0.553).

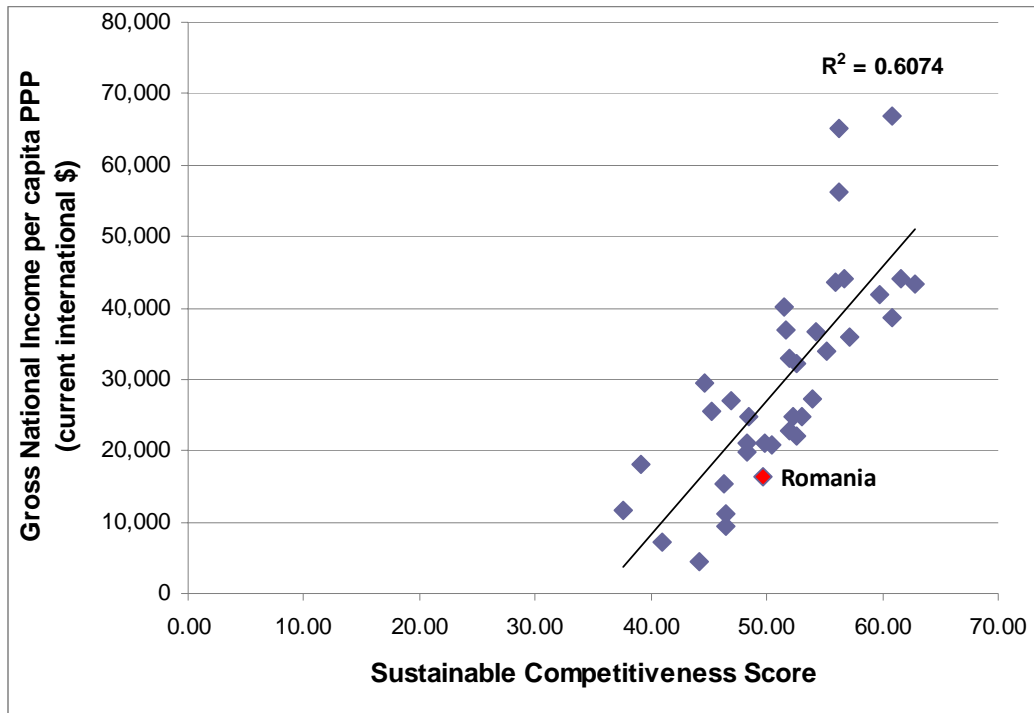


Fig. 6. Sustainable Competitiveness Score vs. Gross National Income per capita, in European countries

If we do the same analysis considering only European countries, we find that variation of the global competitiveness score explains to a greater extent the Gross National Income per capita (Figure 6), which suggests that European governments pay greater importance to the environmental policies. Also, the linearity of the relationship between the two indicators is evident and the correlation coefficient is higher (0.779), too.

The Romanian Context

The calculations made for Romania estimate that, for the period 2013-2014, it ranks 76th in the world - from 148, with a level of the index GCI of 4.13, which places it on the second stage – *efficiency driven*. The situation regarding the 12 elements is shown in Figure 7.

If we consider the above mentioned adjustment indicators, it appears that on a scale from 1-7, their values are as follows:

- The GCI adjusted with social sustainability is 3.97
- The GCI adjusted with environmental sustainability is 3.98.

Overall, the adjusted GCI with sustainability is 3.97. The tendency is to maintain the level.

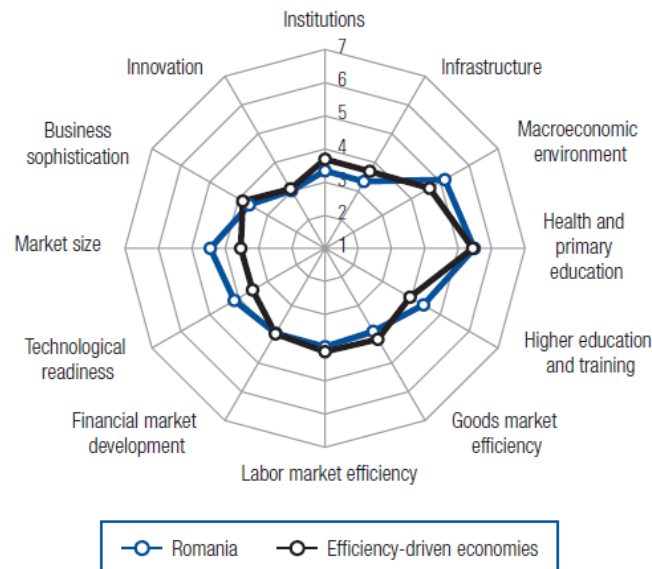


Fig.7. Global Competitiveness Index calculated for Romania

Source: The Global Competitiveness Report 2013–2014, p.324

One reason for this result may be that there are still deficiencies in respect of the environmental policies implementation at the company level, given the lack of a coherent industrial policy. Environmental policies are, in most cases, limited to the implementation of the EU acquis, being centered on regulations to reduce pollution. Managers do not yet fully realize the potential benefits, in terms of competitiveness, of the green policies implementation. In this respect, the organization of scientific information campaigns is recommended, and also the introduction of study subjects specific to the environment in the curricular areas of the higher education programs. The scarcity of financial resources faced by most companies in the Romanian economy, whether it concerns large companies or SMEs, leads in many cases to low levels of spending for research and development or technological readiness (access to new technologies) and, also, the capacity for innovation.

By chapters, it appears that the most favorable situation is recorded at market size, where Romania ranks 46, followed by position 47 for the macroeconomic environment, 54 for technological readiness, 59 for higher education and training, while the most unfavorable situations are recorded in the goods market efficiency position 117, institution position 114 and labor market efficiency position 110. This would suggest that in Romania there are deficiencies in the public administration, infrastructure and bureaucracy.

An interesting aspect is that, if we consider the relationship between sustainable competitiveness score and gross national income per capita, to which I referred in the previous paragraph, we find the following:

- Compared to the global situation, in Romania we can say that the growth rate of average gross income is higher than what the sustainable competitiveness score would suggest (see Figure 5);
- Reported to European level, however, things are reversed, namely the growth rate of gross national income is lower than the one suggested by the sustainable competitiveness score (see Figure 6).

Instead of Conclusions

The paper did not aim at modeling the links between implementation of the environmental policies and improvement the competitiveness of firms nor the development of a quantitative method to appreciate macroeconomic competitiveness, but it attempted to present empirical evidence of such links, that could represent a preamble to such an approach, which would deserve the Romanian specialists' attention. It should be noted that such attempts have been under focus in the literature. We can mention in this regard works such as *The Porter Hypothesis at 20 - Can Environmental Regulation Enhance Innovation and Competitiveness*, having Stefan Ambec, Mark A. Cohen, Stewart Elgie and Paul Lanoie as authors or *The whole relationship between environmental variables and firm performance: Competitive advantage and firm resources as mediator variables*, signed by Mari'a D. Lo 'pez-Gamero *, Jose' F. Molina-Azori'n and Enrique Claver-Corte 's. In fact, the former paper states: "These types of challenges abound in the literature [...]. Lankoski (2010) provides a nice summary of these issues and notes that authors have identified 50 or more methodological or measurement problems that make it difficult to compare and draw conclusions. Not only is future research to refine and improve upon these issues, but perhaps a serious meta-analysis would help uncover some of the underlying effects and shed more light on these issues."⁹

Therefore, instead of conclusions, it is sooner founded a proposal for further research projects aiming to identify linkages between the adoption of environmental policies and improvement of companies' competitiveness or to develop a quantitative method of appreciation of macroeconomic competitiveness. For Romania, this proposal is supported by the priorities set out in the EU Strategy for the period 2014-2020, namely, providing *growth* that is: *smart*, through more effective investments in education, research and innovation; *sustainable*, thanks to a decisive move towards a low-carbon economy; and *inclusive*, with a strong emphasis on job creation and poverty diminution. The strategy is focused on five ambitious goals in the areas of employment, innovation, education, poverty reduction and climate/energy.¹⁰

In terms of identifying the links between implementation of the environmental policies and improving the competitiveness of firms, the first step should be to identify variables for quantifying the degree of implementation of environmental practices: compliance with the specific regulations, the adoption of specific quality standard, of specific practices, such as, eco-labeling, degree of innovation, social integration, and establishing the elements against which competitiveness is evaluated, namely resources, market position, economic performance, environmental results.

Regarding the assessment of macroeconomic competitiveness, the problem is extremely difficult, being the subject of debate for many studies. We can mention here Viorel Nita's work "Incorporation objectives of competitiveness in the national socio-economic", which is an overview of the main approaches. Thus, taking into account the complexity of the problem, at the moment, we can only say that there is a direct correlation between national competitiveness and social integration of the governance. The basic idea here would be that, if, quantitatively, national competitiveness is now well defined by the ICG, in qualitative terms, the question remains open, the cultural context playing here an important role.

⁹ Ambec, S., Cohen, M. A., Stewart, E. & Lanoie, P., *The Porter Hypothesis at 20: Can Environmental Regulation Enhance Innovation and Competitiveness?*, p.14

¹⁰ http://ec.europa.eu/europe2020/europe-2020-in-a-nutshell/priorities/index_en.htm

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