

## SUSTAINABLE COMPETITIVENESS OF HUNGARY - FOCUSING ON THE YEARS 2013-2017

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**Abstract:** *By the change of regime in the late 1980s and early 1990s, the entire population of Hungary was expecting the transformation of the economy and society and hoped to catch up with the Western European standard of living. More than 25 years have passed since then, but Hungary is still lagging far behind, not only in the West, but also in some areas in the Central and Eastern European Union. Following the joining to the European Union in 2004, Hungary has failed to use Community resources over the past 20 years to boost the economy and put it in the path of sustainable development and competitiveness. The concept of competitiveness and its types changing by time. Looking at a country, competitiveness means being able to provide an attractive and sustainable environment for businesses and residents to settle, operate or work. Regarding job creation, the role of SMEs remains to be prioritized in the Union. Given that the world economy is in a major transformation, which is primarily driven by digitalization and robotization, it is worth examining the digital competitiveness of each country as well. But where does Hungary stand in this competition within the community, or compared to the neighbouring countries? This study seeks to answer the above question, based on the annuals of OECD and IMD, and the yearly SBA reports of the European Union. The analysis leads to the conclusion that the former key factors underlying the attractiveness of the Hungarian economy, are increasingly starting to wear out. Now concerning renewal, no progressive signs can be seen. In order that the long-term sustainable economy of the country is built on a good foundation, much stronger social cohesion and solidarity should be implemented, than ever. To establish these, principally the existing (and unfortunately increasingly widening) income and wealth gap between social groups, should be mitigated, by catching up wages and pensions. Furthermore it is essential to improve the quality and transparency of public administration, to make the regulatory system predictable, and to prevent corruption at all levels. Moreover it is necessary to increase awareness of the need to preserve the natural resources, and of the importance and indispensability of expertise. It is also substantial, that there is no sustainable competitiveness without an innovative society. This means competitiveness does not at all, only depend on the technological advances or the organization and operation of the economy, but basically is a function of social behaviour. Only the open, flexible, satisfied, consecutively adaptable, whilst also cooperative and solidarity-based societies are capable to provide a sustainable foundation for economic and technical competitiveness.*

**Keywords:** *Hungary; sustainable competitiveness; knowledge; technology; SME.*

**JEL Classification:** O52.

## 1. Introduction

Developed countries are currently being transformed from industrial societies to knowledge-based societies. The majority of OECD (Organisation for Economic Co-operation and Development) countries are concurrently facing the new wave of technological change, strengthening international dependence and cohesion problems of their societies. Science and technology are increasingly considered the most important source and most dynamic element of the long-term growth, which play an equally important role in the structural economic changes, increasing productivity, job creation and improving the quality of life. These global trends accelerate the development processes, in the same time they increase the formation of innovation deficient areas, thus induce the disparity of crisis regions. The aim of the study is to briefly introduce the conceptual change of competitiveness, to outline the competitiveness performance of Hungary within the Central Eastern European region, to compare it with that of the neighbouring countries, and to make findings and prospective, supporting proposals. In addition to studying a broad range of relevant literature, I also used the data of the Hungarian Central Bureau for Statistics, OECD and IMD annuals, and the yearly reports of the European Union on small and medium-sized enterprises.

## 2. Conceptual development of competitiveness from 1980 to present day

In the USA in the middle of the 1980's, Krugman and Porter considered it pointless to measure competitiveness by countries, but in their later works they use the term of competitiveness not only at enterprise level, but also regarding national economies (Krugman, 1994; Porter, 1998). The OECD established the definition of the so-called uniform competitiveness already in 1994, that is: *„The ability of companies, industries, regions, nations or supranational regions to generate, while being and remaining exposed to international competition, relatively high factor income and factor employment levels on a sustainable basis.”* (OECD, 1994:23) The particularity of this definition is that it gives priority to high-level employment, as a factor of competitiveness. Points out that for the increase of social well-being, beyond producing income, their broadest possible distribution, thus the relatively high and sustainable level of employment and – in this context – income is required. It is also important to highlight the requirement for sustainability appearing in the definition. In the turn of the millennium competitiveness was regarded as a development criteria. Now the ability to create a social and economic environment, which enhances the performance of the economic operators, is mentioned as the criteria of a competitive nation. I consider the definition of researchers of the Competitiveness Research Centre at the Corvinus University of Budapest, for the term of economic competitiveness, as the succinct phrasing: *„Competitiveness of a national economy is the ability of a national economy, among conditions of global competition, to produce, utilize and sell goods and services, whilst sustainably increasing the proceeds of their factors of production, and at the same time, the well-being of their citizens. This competitiveness depends on the promotion of productivity growth of the resources, by continuously maintaining the conditions to facilitate the improvement of the efficiency of the companies and other institutions.”* (Czakó-Chikán, 2007:3) The current understanding of the competitiveness in the

European Union, is mainly substantiated by the Delor's report of 1993, which states, that improving competitiveness is not an end in itself, but a tool to raise the well-being and standard of living. By the beginning of the 2000's, United States became the main competitor of the European Union, thus in the Lisbon Agenda the objective to catch-up with the USA, is conceptualised besides completion of the traditional European values (job creation, social cohesion). (Némethné, 2009) The understanding of the competitiveness outlined from the above documents, is supplemented by one more significant element in a 2004 document of the EU Competitiveness Council, established in 2003, which conveys the following definition for competitiveness: „*Competitiveness is derived from the increase of the productivity and high level of employment, which is equally reflected in the success of the European companies on the global markets, and the increase of the real income, providing high living standards for everyone.*” (CC, 2004:2) This definition is important because it links the approach of competitiveness accepted in the United States with the so-called “European Model” perspective. Based on the documents of the US Competitiveness Council, the essence of the American approach is that the national competitiveness is based on that of the companies, thus the task of the government policy is to provide an environment facilitating company competitiveness. By the “European Model” of competitiveness, *the source of long-term sustainable competitiveness is the motivated, well educated, healthy workforce.* This statement is confirmed by Simionescu and others in their study (2017), by referencing an article of Cieślík (2014), in which he states, that the connection between globalisation and human development – investigating the years 1971-2010, concerning the V4 countries and Romania – does exist, and is positive and significant (in the case of unconditional regression). The Swiss IMD competitiveness research centre formulates as follows: „*The ability of a country to facilitate the environment, where the enterprises create sustainable values*” (IMD, 2015:2). Under sustainable value creation, the long-term income-generation capacity of companies, the entire job creation are meant, whilst minimising the environmental impact of their operation. In my opinion the above sufficiently support the assumption, that the competitiveness of a country or a group of countries, cannot be distinctly derived from the economic success of the transnational companies, operating in their area. *Economic growth is only accompanied by greater prosperity, if the largest possible share of population benefit from the generated income, namely not primarily by means of income centralization (taxation) and redistribution (social allowances), but by high level of employment, and thus the earned income.* Therefore what defines competitiveness?

*I consider the ability to compete is fundamentally defined by inputs.* Thus the internal and external advantages, like the structure and quality of owned and created property (material goods), and the quality of institutional background and political environment (immaterial goods), respectively. These input factors (capacities) together, define the strategy and room for manoeuvre of the national economy. Competitiveness is the efficient, productive utilisation of these assets and immaterial goods, which then yields in the well-being. The latter *is achieved through the mixture of incomes, standard of living and living conditions.* We can consider that the definition of competitiveness is constantly evolving, according to the drivers of the economy. Until the beginning of the millennium, only three well-known categories of competitiveness, were distinguished: income, trade and investment

competitiveness. Over and above these aspects, the appearance of new competitiveness dimensions can be detected:

- technological competitiveness: active participation in technology diffusion processes. It is the dissemination and delivery to the users, of the new, modern knowledge and skills (which are suitable to meet practical needs by presenting in a form of products, devices, technologies, information, etc.), which cover the whole system of structured accumulation, accessibility and constructive application of this useful knowledge (innovation).
- digital competitiveness: Digital competitiveness is the ability of the economy to accept and explore those digital technologies, which lead to the transformation of governmental practice, business models and in general, the society.
- sustainable competitiveness: sustainability here includes not only the competitiveness of the economy, which, even today, is erroneously measured in the development of the GDP alone, but also contains the sustainability of society and environment.

### 3. Competitiveness of Hungary within the region

If we agree with the statement that competitiveness depends on knowledge and its application, then we shall examine, how much Hungary spent/spends on these. Following the systemic changes, the R&D sector has incurred greater losses than it would be justified by the general recession. The rate of total national R&D expenditures, compared to GDP, started to decline rapidly and steadily from the 1.61% of 1990 (Table 1), reaching a low peak of 0.63% in 1996. (At this time the OECD countries' average of this rate was above 2%). In the beginning of the 90's, due to the decreasing contractual orders and lessening of governmental contributions, the erosion of the knowledge base also begun. In the R&D sector, in terms of outstanding professionals, the lack of social appreciation negatively affected both the retention capability and the education of the next generation. Involuntary career change was significant. As a result of all this, by 1996 the actual number of research and development personnel decreased by more than 20,000. Among those continuing their activities, the fact of ageing was observed, since 1/3 of the whole headcount were above 50.

**Table 1:** Research and Development data

<b>Research and Development</b>	<b>1990</b>	<b>2013</b>	<b>2016</b>
Number of places	1,256	3,159	2,727
Actual headcount of personnel	59,723	58,237	54,636
Expenditures in % of GDP, from this	1.61	1.39	1.22
- governmental	-	0.5	0.32
- company	-	0.65	0.69
- other domestic and foreign	-	0.24	0.21

*Source: Own editing based on HCSO data for 2017*

Following the change of political system, the international relations system of the Hungarian R&D, developed dynamically. The elite of the Hungarian R&D organically integrated to the world science and international R&D networks. Signs of growth

were appreciable until 2013, since then unfortunately the signs of decline can be observed again. Expenditures in % of GDP were 1.22% in 2016 (in 2015 that of the EU-28 was 1.9%, OECD 2.3%, USA 2.8%, Israel 4.25%). (OECD, 2016) In three years, the headcount of R&D personnel, decreased by almost 3,000. The decreasing number of research jobs also contributed to this, and the involuntary career change of young and middle-aged researchers, caused by the lack of ethical and material appreciation, can be observed as well. But where are we today?

Hungarian wages are competitive, since they are among the lowest, compared to the countries of the region – ten years ago we exceeded the Polish and Slovakian level, let alone the Baltic-Romanian one. At first glance there is no problem with the euro or dollar value of export either, since export increases, and the external current account balance remains in significant surplus. In a traditional view it all suggests that there is nothing wrong with the competitiveness, the economy moves on the right track. However, the international comparisons made in the recent years by different forums and organizations, convey contradicting findings. These clearly indicate the deteriorating competitiveness of the Hungarian economy. The reports of the World Economic Forum (WEF), IMD, OECD, World Bank (Doing Business), the Bertelsmann Foundation and the European Union independently came to the same conclusion. Pursuant to the “Entrepreneurship 2020 Action Plan” of the European Union, published in 2013 (hereinafter “Action Plan”), SME’s represent the backbone of the European economy, since they play a key role in the creation of new jobs. The European Commission prepares a study on the development of SME’s and the improvement of their competitiveness for each member states, in the form of annual reports (SME Performance Review). The basic data, concerning SME’s (Table 2) contribute indirectly to the improvement of competitiveness. It is appropriate to inspect Hungarian indicators in context with that of the neighbouring countries, or even EU-28, since then the lagging behind becomes visible. The table shows that only Slovakia was able to reach positive changes concerning all three indicators. The greatest improvement is reached in Slovakia concerning value added (+2.2 percent), which was most certainly supported by the significant increase of the employment rate of SME’s. Similar processes took place in Czech, since the rate of employment in micro enterprises also increased, but this growth was not large enough to drive an increase at the total SME level. However, it should be stressed here that their middle-sized enterprises were able to increase their rate of added value within the inspected time frame, whilst their rate of employment decreased. At the time of joining the Union, Poland placed last within the Visegrád Group as far as competitiveness is concerned. In the recent years, decade they were able to change this unfavourable situation so that concerning the global competitiveness index, they are now second within the group of countries (Molendowski, 2017). This positive change is visible in the total employment rate of SME’s (+0.9 percent), which is definitely generated by small enterprises, and which resulted in an increase of added value in this group (by +6.3 percent). Romania is in a unique position. Despite both the rate of SME’s and their employment rate decreased between 2010 and 2016, they still were able to increase the proportion of the added value they created (52.8%).

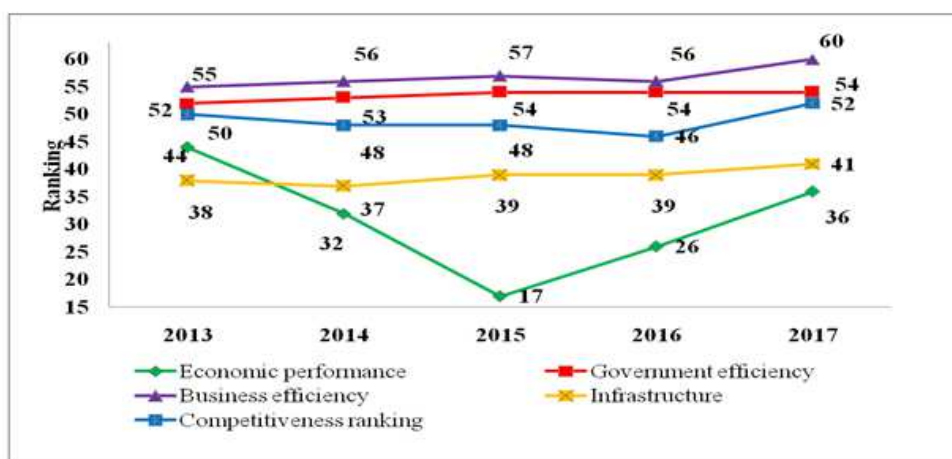
**Table 2: SME's basic data for years 2010, 2016**

Designation		Micro business		Small business		Medium size business		SME's total		Large enterprises	
		2010	2016	2010	2016	2010	2016	2010	2016	2010	2016
Distribution of enterprises by size (%)	Hungarian	94.2	94.1	4.8	4.9	0.8	0.8	99.9	99.8	0.1	0.2
	Polish	96.1	95.3	2.7	3.6	1.0	0.9	99.8	99.8	0.2	0.2
	Romanian	88.5	88.5	9.4	9.4	1.8	1.7	99.7	99.6	0.3	0.4
	Czech	95.5	96.0	3.6	3.1	0.8	0.7	99.8	99.8	0.2	0.2
	Slovakian	71.0	96.8	25.4	2.6	2.9	0.5	99.2	99.9	0.8	0.1
	EU-28	92.1	93.0	6.6	5.8	1.1	0.9	99.8	99.8	0.2	0.2
Proportion of employees (%)	Hungarian	35.6	33.9	19.4	18.9	16.7	15.7	71.7	68.5	28.3	31.5
	Polish	38.1	36.8	10.9	13.9	18.4	17.8	67.5	<b>68.4</b>	32.5	31.5
	Romanian	24.4	23.1	21.8	22.4	21.9	21.0	68.1	66.4	31.9	33.6
	Czech	28.8	31.0	18.5	17.2	20.4	18.6	67.7	66.8	32.3	33.2
	Slovakian	13.9	<b>41.8</b>	22.6	14.8	20.6	15.5	57.2	72.1	42.8	27.9
	EU-28	29.8	29.8	20.4	20.0	16.8	17.0	66.9	66.6	33.1	33.4
Proportion of value added (%)	Hungarian	18.0	18.0	16.5	<b>16.7</b>	20.0	18.2	54.6	52.9	45.4	47.1
	Polish	21.1	20.9	11.5	<b>17.8</b>	21.4	18.2	54.0	56.8	46.0	43.2
	Romanian	12.7	17.9	14.8	16.9	18.2	18.0	45.7	52.8	54.3	47.2
	Czech	19.6	19.6	16.5	14.4	19.6	20.5	55.7	54.5	44.3	45.5
	Slovakian	16.1	<b>22.8</b>	18.8	14.2	17.1	17.4	52.0	54.4	48.0	45.0
	EU-28	21.6	20.9	18.9	17.8	17.9	<b>18.2</b>	<b>58.4</b>	56.8	41.6	43.2

Source: EC, 2011a; EC, 2011b; EC, 2011c; EC, 2011d; EC, 2011e; EC, 2011f; EC, 2017a; EC, 2017b; EC, 2017c; EC, 2017d; EC, 2017e, EC, 2017f

As far as the basic indicators, Hungary has not reached a positive change, from the intermediate results only the rate of small enterprises can be highlighted, but the resulting positive moves could not outbalance the results of the micro and medium-sized enterprises. While in 2016 the added value of the Hungarian employees was 16,176 euros/SME employee, the average of the EU-28 was almost three times higher, 43,313 euros/SME employee. It is true both at international and national level, that the capital intensity of larger enterprises is higher, their employees and managers are better educated, they implement innovations more often, they spend more on research and development, they have better access to outside financial resources, and they have better specific scorecards. This concludes that all important characteristics of competitiveness are positively correlated to the size of the enterprise. It follows that the *condition for the further development of the Hungarian SME sector is the transformation of their size structure! Not that they have to be transformed to large enterprises, but the average enterprise size has to be increased.* The growth potential of the SME sector is best if it happens together with and supplementing the growth of large companies. For the relation of competitiveness and employment, most commonly a positive context is assumed. According to Bielik – Rajcaniova (2008) an important precondition of the economic growth and competitiveness of a country is a well-functioning labour market. This

statement is certainly true, but it has to be added, that continuous improvement of the productivity is a condition to achieve and maintain competitiveness, which has the important consequence of the employment level getting lower. Therefore the improvement of competitiveness is working against the increase of employment (Kállay, 2010). According to Professor Arturo Bris, Director of the IMD World Competitiveness Center, the countries improving their competitiveness best in recent years, were those which achieved considerable results in the fields of governmental and business efficiency and productivity, respectively (IMD, 2017). According to the latest IMD survey, competitiveness of Hungary deteriorated significantly, since we were unable to reach the position from four years ago (Figure 1).



**Figure 1:** Competitiveness and factor ranking of Hungary 2013-2017

Source: IMD, 2013, 2014, 2015, 2016, 2017

In 2017 we fell back to position 52 (out of 63). Virtually Hungary performs worst among the Eastern and Central European member states of the EU. IMD investigated four main factors:

- *Economic performance*: in the case of Hungary, signs of deterioration can be observed since 2015. This could result from the performance of the economy being not sufficiently diversified, being next to last in the field of international investments, while incoming direct investments compared to GDP were in the last place in 2017. This suggests that uncertainty persists in the socio-economic life, which can refrain investors.
- *Government efficiency*: currently shows the signs of stagnation, however the level of efficient, long term strategy driven utilization of public finance is low, presence of corruption is high, while still unsolved problems of the taxation policy, question of future funding for the pension system, lack of providing equal opportunities necessary for economic development, impoverishment, and low level of social cohesion still generate serious problems.
- *Business efficiency*: this area suffered a decline. The overwhelming majority of managers consider the areas of productivity and efficiency, as well as the prevailing management practices, increasingly problematic. Several

indicators of the labour market also warn of the worsening situation: labour market relations are deteriorating, attracting and retaining talent is difficult because of the low wage level, which is further worsened by the unfavourable status of health care (quality of health care is a basic factor for prosperity), access to highly skilled foreign workforce, including managers with international experience, becomes more and more difficult.

- *Infrastructure*: in this field the position also worsened. In the era of the fourth industrial revolution and digital economy it is expressly adverse, that in Hungary the level of digital and technology skills is very low (61), furthermore language proficiency and status of language skills are also exceptionally poor (60). This not only sets back the development of the culture of collaboration, but we cannot keep up with the digital switch-over either (rank 57).

**Table 3:** Digital competitiveness ranking of Hungary

<b>Factors</b>	<b>2013</b>	<b>2015</b>	<b>2017</b>
<i>Knowledge</i>	42	44	48
- Talent	39	46	46
- Training & education	39	46	43
- Scientific concentration	47	48	46
<i>Technology</i>	33	39	38
- Regulatory framework	25	32	29
- Capital	45	49	44
- Technological framework	27	44	45
<i>Future readiness</i>	42	47	55
- Adaptive attitudes	40	51	<b>57</b>
- Business agility	50	51	<b>58</b>
- IT integration	35	36	38
<b>OVERALL</b>	<b>35</b>	<b>44</b>	<b>44</b>

Source: IMD, 2013, 2015, 2017

So far the “Hungarian Way” does not show obvious signs of a future oriented and consistent competitiveness strategy, rather it amplifies the impression that the country drifts further and further away from the basic principles and practice of the so-called competitive economy. Globally the governments invest in scientific and technological infrastructure – involving high-level education, providing R&D&I besides high quality basic health care – in order to keep up with the opportunities of the digital economy and to improve the welfare of their citizens. While the technological development is a necessary condition of the future welfare of the economy, it is not in itself sufficient to increase value creation. It is not enough to utilize digital technology, but it has to improve the efficiency of production, the scope and quality of services need to be increased. Measuring the existence of the necessary competences for the digital competitiveness of Hungary along three main factors (knowledge, technology, future readiness) it is ascertainable that the signs of deterioration can also be observed (Table 3).

The most unfavourable values are seen in the area of future readiness factors (rank 55 out of 63), since the attitudes toward accepting globalisation processes, opportunities and threats concerning business agility, electronic economy, agility of companies, cyber security, use of big data and analytics are the areas, where the country ranks among the weakest ones. These factors have to be improved swiftly in order to develop a society which is receptive and adaptive. Indeed, in the recent years it became apparent in the economic policy and technology policy of the developed countries, that economically, only the knowledge accessible for the economic operators, reaching them and accepted by them, is considered useful.

#### 4. Conclusions

Considering the current competitiveness situation of Hungary it is ascertainable, that the former factors providing the key attraction of her economy, are increasingly starting to wear out. Now concerning renewal, no progressive signs can be seen. In order that the long-term sustainable economy of the country is built on a good foundation, it is necessary to strengthen the SME sector, as well as much stronger social cohesion and solidarity should be implemented, than ever. One of the key factors is the existing (and unfortunately increasingly widening) income and wealth gap between social groups, which should be mitigated as soon as possible, by catching up wages and pensions. Furthermore it is essential to improve the quality and transparency of public administration, to make the regulatory system predictable, and to prevent corruption at all levels. Moreover it is necessary to increase awareness of the need to preserve the natural resources, and of the importance and indispensability of supporting expertise. Of the latter one, the three classic elements are education (at all levels), research and development, and health care. It is also substantial, that there is no sustainable competitiveness without an innovative society. This means competitiveness does not at all, only depend on the technological advances or the organization and operation of the economy, but basically is a function of social behaviour. Only the open, flexible, satisfied, consecutively adaptable, whilst also cooperative and solidarity-based societies are capable to provide a sustainable foundation for economic and technical competitiveness. What this means is investing in the innovative society.

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