

Comparison of the Visegrad group and Baltic countries in terms of multi-criteria competitiveness indicators ¹

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Abstract

Expanding globalization of the world economy has put a strong pressure on individual entities that operate in it. International competitiveness has become a major driving force of economic and social differentiation of the countries. Individual states and their public administrations have to create an effective business environment. This paper reflects these developments and, with the help of relevant multi-criteria (GCI, WCI, DBI) and single-criteria indexes of competitiveness, tries to assess the current state of competitiveness of two regions in Central and Eastern Europe – the Visegrad Four and Baltic Group states, which had a similar starting position on their path to building a market economy and integration into the EU structures.

Key words

Competitiveness, comparative advantages, quantification of competitiveness, indicators of competitiveness GCI, WCI, DB, KAM, KEI, V4 countries, Baltic states

JEL Classification: F14, F19, F23, F29

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Introduction

The current world economy is undergoing turbulent changes. Under the influence of these changes, competitiveness is getting to the forefront of scientific research as well as economic literature. It can be pointed out that since the times of Adam Smith and David Ricardo, the renaissance of this term began in the last decades. Throughout the 1980s, the significance of the competitiveness moved from the enterprise level to the national or transnational level. Changing conditions of the world economy associated with extensive liberalization of markets, and the ubiquitous globalization have brought a need to modify the term "competitiveness".

The immediate consequence of these changes is a fundamental change in the nature of competition. Recently, it has shifted from unilateral relations and regional isolation into the global context. The massive "internetization" of the world society and global

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economy has contributed considerably to this fact. Modern technologies penetrating into all spheres of the business environment bring an infinite number of possibilities, opportunities and challenges. (Baláž *et al.*, 2015). The current issue of competitiveness has outreached the boundaries of the foreign trade problems so far. The phenomenon of intensifying and accelerating the innovations in technology has become not only a driving force of globalization but also the cause of economic and social differentiation of countries.

In terms of outlined trends this article try to assess the competitiveness of two relatively young regions of Central and Eastern Europe. These regions had a similar starting position on their path to building a market economy and integration into the EU structures. These are the countries of the Visegrad Four (Poland, the Czech Republic, the Slovak Republic and Hungary) and the Baltic states (Estonia, Latvia and Lithuania). These countries had been under a strong influence of the Soviet Union, with centrally planned economies, for several decades until the early 1990s. This fact affected not only their political, but also their economic direction. The disintegration of the Council for Mutual Economic Assistance (CMEA) and subsequent reorientation of these countries from centrally planned economies to market ones required a significant intervention in the business environment. It included a wide variety of changes in different factors and disciplines. The political changes generated some extensive economic changes. The main objective of these countries was to join the EU single market. They succeeded in meeting this objective in 2004. However, this fact did not mean the end of their journey. The globalization is putting a strong pressure on increasing the competitiveness of individual economies, especially those having quite small domestic markets and being strongly dependent on external demand. This means that if such economies want to increase their prosperity, they must be competitive and successfully involved in the international division of labour, which is unquestionable axiom for countries of the V4 and Baltic Group.

1 Methodology

The aim of this article is to examine and compare the current state of competitiveness of the Visegrad Four and Baltic Group countries through the selected multi-criteria and single-criteria indicators. These include the Global Competitiveness Index, the World Competitiveness Index, Doing Business Index and a single-criteria index known as Revealed Comparative Advantage. To achieve the objective, a number of theoretical methods were used including the general methods (abstraction, analysis, synthesis, deduction and induction), the empirical methods (GCI, WCI, DBI) and comparison of the obtained results. Some special methods were also used to streamline the data on foreign trade, especially mathematical methods, descriptive analysis and graphical presentation.

The World Economic Forum (WEF) annually publishes the Global Competitiveness Report which compiles a rank of countries on the basis of aggregated results in 12 assessed pillars which provide a coherent picture of competitiveness of the selected national economies. WEF uses the Global Competitive Index (GCI), which assesses the ability of countries to provide their citizens with a high standard of living, respectively it indicates how effectively the country is able to use its available economic resources. (World Economic Forum, 2017)

The Institute for Management Development (IMD below) publishes an annual "World Competitiveness Yearbook", which assesses the World Competitiveness Index (WCI). It analyses the performance of selected countries, whereby it looks at the relationship between the national environment (where the state plays a key role) and the process of creation of competitive environment through four main factors. (IMD, 2017)

The World Bank (WB) monitors and assesses the quality of business environment in each country through its own analysis known as "Index of Doing Business" (DB below). WB objectively measures business regulations and their entry into force in the selected economies, being assessed at different stages of a life cycle, from the establishment of the company to the closure of the business. (World Bank, 2017).

One of the fundamental single-criteria methods used to assess the competitive advantage is the index of Revealed Comparative Advantage (RCA below) a concept originally developed by B. Balassa. (Balassa, 1989) It expresses the share of exports of the commodity groups in total exports of the country and the share of this commodity group in total world exports. As defined by Balassa:

$$RCA = \frac{X_{ij}/X_j}{X_{iw}/X_w}$$

with X_{ij} being the export of the country j of commodity group i , X_j being the total export of country j , X_{iw} being the total world export of commodity group i , and X_w being the total world export. If the value of RCA is higher than 1, the country, which is being assessed, achieves a revealed comparative advantage in the export of the given commodity, which means that the given country specialises in its export. If the value of RCA is 1, the country does not dispose of neither comparative advantage nor disadvantage in exporting the given commodity. If the value of RCA is lower than 1, the country disposes of comparative disadvantage in exporting the given commodity.

Along with the RCA we also monitor some other single-criteria indicators of competitiveness in order to support our conclusions. These are GDP per capita, Average export performance, R&D expenditures, Education expenditures, Hourly labour costs and Tax burdens.

2 Results and discussion

Economic theory had had an explicit view at the importance of competitiveness and its impact on international business. The gradual ideological division of individual theoretical approaches was caused by differentiation of the achieved levels of competitiveness quantification of companies and states. Until the late 1980s, many economists thought that competitiveness was a phenomenon that could be justified only at company levels. They were particularly arguing by reduction of the state's role in the globalization process of the world economy (Porter, 1990; Reich, 1990; Krugman, 1994). Such opinions, however, were increasingly becoming the subject of criticism. Some economists argued that such measurement of competitiveness absents an alternative reference framework that would make it possible to confront the competitiveness of companies with

a competitive macroeconomic performance at the economic or national level (Hatzichroglou, 1996). The competitiveness of companies generally does not correspond to the competitiveness of national economies (Baláž *et al.*, 2015). A mismatch between the corporate and national economic views at competitiveness stemmed from the fact that companies can be well-competitive not only via technological and product innovation, but also due to low labour cost, low input factors, savings in environmental costs, depreciated currency or price dumping at the expense of domestic customers, etc. However, these factors appear to be counterproductive at the national economy level.

At the international level, competitiveness of states can be perceived through their attractiveness for foreign direct investments. This phenomenon, the so called "The new doctrine of competitiveness", is explained by economists through the "inversion of the roles of the state and the enterprise". Not businesses, but states, respectively governments are under the pressures that force them to compete for acquisition or retention of significant investment. Under the influence of these processes, as well as due to the internationalization of economic activities, the traditional understanding of competitiveness of the state has changed." (Hošoff - Hvozdíková, 2009) As a result, governments adapt their business environments towards a new view on measurement of competitiveness, because the quality of the business environment involves many factors, ranging from economic and political environment to infrastructure issues, technology or specific needs in particular sectors.

The competitiveness of national economies is assessed by several global institutions, foundations, research institutes or banks. On the basis of annual multi-criteria evaluation processes and in-depth analyses, they create rankings of the countries. Generally, single- or more-factorial indicators for assessment of competitiveness of states can be used. The most considerable ones are introduced in basic overview in Table 1.

Table 1 Indicators for evaluation of competitiveness of economy

Multifactorial indicators	Single-factorial indicators
Global Competitiveness Index (GCI)	Knowledge Economy Index (KEI)
World Competitiveness Index (WCI)	R&D Expenditures
Doing Business Index (DBI)	Share on national export (commodity structure of export)
	Share on national import
	Revealed Comparative Advantages (RCA index)
	Development of the value of net exports
	Export per capita
	Terms of Trade (TOT)
	Unit Labour Costs (ULC)

Note: Processed by the authors

In our research, we will focus on the assessment of the competitiveness with the help of selected multi-factorial and single-factorial indicators, with standard and unified - set criteria of international institutions. A common feature of these indexes (GCI, WCI and DBI) is that they compare dozens of significant world economies, and reflect to a large number of disparate measures. However, they differ by the used methodology as

well as by the way of summarizing the results for individual indicators. Thereby, they present to a certain extent differentiated conclusions. The competitiveness of countries can be also assessed by single-factor criteria. Within this group, the most considerable are the Revealed Comparative Advantage, Openness of Economy, R&D Expenditures and labour costs.

2.1 The assessment of the competitiveness of the Visegrad and Baltic groups and discussion

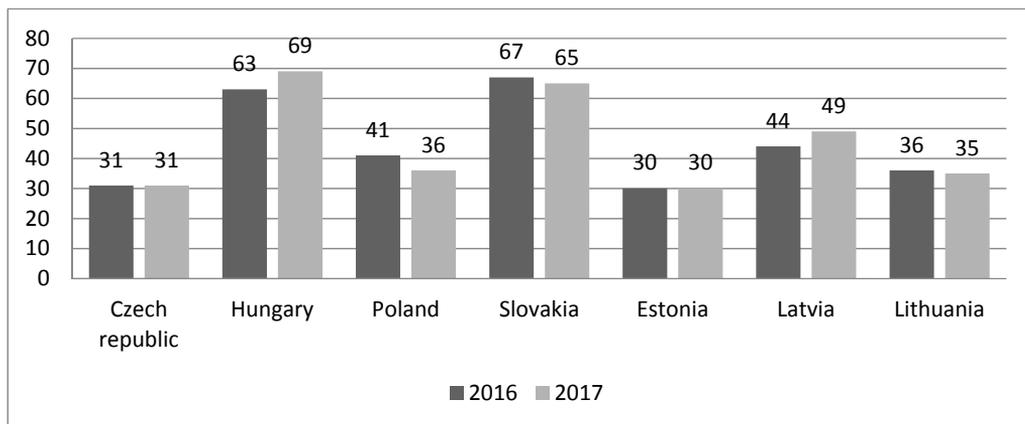
The economic development and direction of the V4, as well as the Baltic group countries, have been shaped and influenced by many common historical ties for a long time. With the exception of Poland, the countries from both groups rank among the smaller ones. The extent of their involvement in international economic structures is therefore particularly important for them. They are forced to compensate their lower economic strength with higher degree of production specialization. While the countries of the Baltic group are historically linked to more advanced Scandinavian economies, the V4 countries are oriented mainly to Germany and other markets of Western Europe.

2.2 The Global Competitiveness Index

The Global Competitiveness Report 2016 – 2017 (GCI) assesses the competitiveness landscape of 138 economies. The rating scale ranges from 1 (the worst) to 7 (the best). GCI indicates how effectively the countries are able to use their available economic resources. The GCI pillars are, according to model of M. Porter (1990), categorized into three areas regarding the achieved economic level of the economies that are being assessed. (World Economic Forum, 2017). The first area (Sub-index A) is determined by the basic requirements which are essential for economies. The pillars in the second area (Sub-index B) are vital for economies based on efficiency and assess the performance of national economies. The third area (Sub-index C) is characteristic for knowledge-based economies and analyses business sophistication and innovation. (Bondareva - Tomčík, 2013).

Among the monitored countries, Estonia ranked best in the 2016 – 2017 edition. It was in 30th place in the rankings (score 4.8) while Hungary was the worst (69th place, score 4.22). All monitored countries placed in the first half of the overall rankings. A view at the comparison of the assessed countries by GCI shows that the Baltic countries perform significantly better than countries of the V4. For a more detailed comparison of the V4 and Baltic countries performance, we analyze them by the above-defined three sub-indexes of the GCI model. Each sub-index is divided into individual pillars. The following figures show the positions of the examined countries.

Figure 1 Global Competitiveness Index in years 2016 and 2017



Note: Processed by the authors according to the World Economic Forum data

In the V4 region, the Czech Republic performed best when it reached 31st place. Compared to 2016, Slovakia and Poland have improved their positions, Hungary, on the contrary, has fallen by 6 places. According to GCI, corruption, government bureaucracy, tax rules, tax rates and volatility of the taken measures (in the case of Hungary) are among the biggest barriers to business in these countries. The least problematic areas include inflation rate, low risk of government instability and good health of the population.

Estonia, which ranked the same place (30th place) as in 2016, is the leader among the Baltic countries while Lithuania was 35th and Latvia 49th. The level of tax burden, inadequately educated labour force, insufficient ability to innovate, but also bureaucracy are among the worst assessed areas according to the GCI. On the contrary, the foreign exchange regulations, low crime, low risks of government instability and a good health of population are among the best areas.

The analysis of individual sub-indexes shows the reasons why the Baltic countries achieve better overall position in the GCI. The main determinants of their success are well-functioning institutions, infrastructure, education and support of innovation. The V4 countries face several problems. Apart from the market size indicator, which cannot be influenced, it is worth a remark that in the case of Slovakia and Hungary, the indicators of the first pillar – functionality and efficiency of public and private institutions as well as other corresponding indicators, such as efficiency in state expenditure, the justice system and the waste of public resources are relatively poorly represented. These factors are a direct result of activities and flexibility of governmental institutions. In terms of measuring the knowledge economy, the sub-index of innovation also slightly falls behind the most advanced economies of the world. Estonia, Latvia and the Czech Republic have the best rankings among the analysed countries. This index plays an important role in the economic growth, increase of export performance and overall competitiveness.

2.3 The World Competitiveness Index

The Institute for Management Development (IMD below) in Switzerland publishes an annual "World Competitiveness Yearbook", which assesses the World Competitiveness Index (WCI below). In 2016, it analyses the performance of 61 countries, whereby it analyzes the relationship between the national environment (where the state plays a key role) and the process of creation of competitive environment through four main factors. Each of these four factors (economic performance, government efficiency, business efficiency and infrastructure) is subdivided into five sub-factors, each emphasizing a different aspect of competitiveness. (Garelli, 2011). IMD uses different types of data for measuring the quantitative (statistical) and qualitative (survey research) questions. The interpretation of WCI is the same as at the GCI and means that the higher the index value is, the higher the country's competitiveness is. (Gordiaková, 2011).

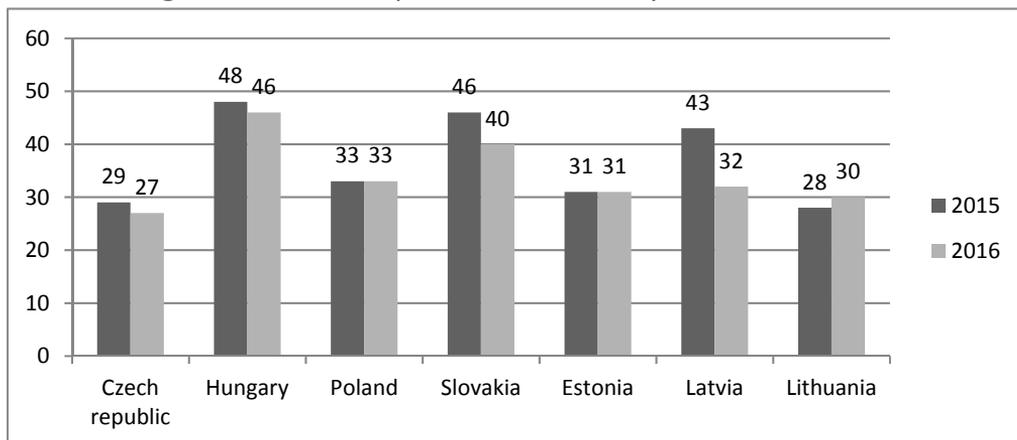
The rankings of both groups in 2016 are not very favourable (see Figure 2). Five of the observed countries are in the second half of the overall ranking. Justification of this case requires a closer analysis of information, which is provided by individual WCI factors - economic performance, government efficiency, business and infrastructure.

In the second evaluated factor, government efficiency, the worst results were achieved by Hungary and Slovakia, because of the negative attitude to government subsidies, tax evasion, transparency, inefficient judiciary and clientelism. On the contrary, the government regulations in Estonia do not constitute a barrier to doing business, and it turns out that this area is one of the significant competitive advantages of its economy.

The third factor, business efficiency, has the largest restraints in Hungary while Lithuania, the Czech Republic, and Poland ranked best.

The last factor is "Infrastructure", which indicates whether technological, scientific and human resources meet the needs of business and can create new conditions of competitiveness. The Czech Republic and Lithuania reached the best results, while the Slovak Republic was the worst. Slovakia has responded insufficiently to a huge demand for technically skilled labour resulting from the impact of the inflow of FDI in the automotive and electronics industry. In the case of Slovakia, it is interesting that since it joined the EU in 2004 until 2008, the country were fitted around 30th place in the assessment by WCI. However, after the government had been changed in 2010, the country fell by 16 places which reflected the fact that governance have a direct impact on international competitiveness of the country.

Figure 2 World Competitiveness Index in years 2015 and 2016

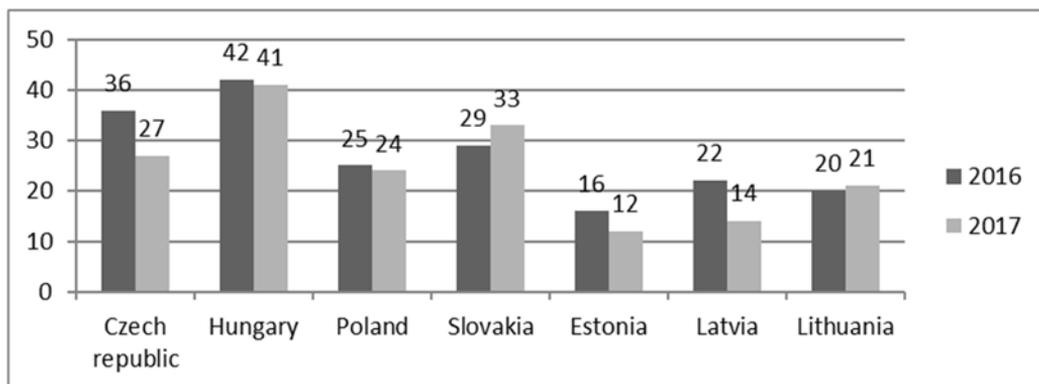


Note: Processed by the authors according the IMD data

2.4 Doing Business Index

The World Bank (WB) monitors and assesses the quality of business environment in each country through its own analysis known as "Index of Doing Business" (DBI). WB objectively measures business regulations and their entry into force in 190 economies (2017) at different stages of the company's life cycle, from its establishment to the closure of the business. (World Bank, 2017) The higher the score achieved in the DB index is, the better, simpler and more transparent regulatory environment for businesses and protecting property rights the economy has. It provides important information about development in the individual components of competitiveness in terms of attractiveness of the country for foreign investments. DBI monitors and evaluates 11 areas: conditions for starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, resolving insolvency, labour market regulation. The rankings of the V4 countries and the Baltic States in 2017 are indicated in Figure 3.

Figure 3 Doing Business Index in years 2016 and 2017



Note: Processed by the authors according the World Bank data

Similarly, as in the case of GCI and WCI, even in the DBI is the overall status of the Baltic countries better than the V4 countries. In 2017 edition of the DBI, the best place (12th place) was achieved by Estonia, followed by Latvia (14th) and Lithuania (21st). The best place among the V4 countries was reached by Poland (24th place). The Czech Republic also reached a favourable outcome with its 27th place. Slovakia reached a bit worse 33rd place and Hungary was on 41st place.

In the light of the above results, it can be concluded that in the WB assessment, the Baltic countries perform much better than the V4 countries. The best evaluated areas include simplicity of property registration, starting a business, construction permits and enforcement of contracts. On the contrary, the worst areas are getting electricity, protection of minority investors and resolving insolvency. Within the V4 region, Poland ranked best (25th) mainly due to the recent reforms aimed at simplification and improvement of the business environment. On the contrary, Hungary ranked worst (42nd).

In a view of submitted multi-criteria assessments, we select the most problematic areas for the V4 countries in the near future.

Table 2 Overview of the most problematic areas of the V4 countries according selected multi-criteria indicators

Czech republic	Hungary
Labour market efficiency	Getting electricity
Government efficiency	Government efficiency
Enforcement of contracts	Institutions efficiency
Construction permits	Business efficiency
Ease of starting a business	Business sophistication
Poland	Slovakia
Starting a business	Institutions efficiency
Labour market efficiency	Infrastructure
Infrastructure	Labour market efficiency
Government efficiency	Construction permits
Technological readiness	Government efficiency

Note: Processed by the authors

In the Baltic group we consider as the most problematic areas the following ones.

Table 3 Overview of the most problematic areas of the Baltic countries according selected multi-criteria indicators

Estonia	Latvia	Lithuania
Market size	Market size	Market size
Infrastructure	Infrastructure	Resolving insolvency
Technological readiness	Institutions efficiency	Financial market development
Economic performance	Economic performance	Economic performance
Business efficiency	Business efficiency	Getting electricity

Note: Processed by the authors

Although the multi-factorial competitiveness assessments are often presented as objective indicators of competitiveness in the literature, however, we often encounter their criticism, because a large part of the assessed factors are based on the respondents' subjective opinions. In addition, they often result from weak theoretical background and weak statistical methods.

On the other hand, it is understandable, that the authors try to capture the latest developments in the economic theory and management. This means, however, that such a review lacks continuity in the statistical ranges and therefore it could be risky to use these ratings as a strong benchmark. (Walter, 2005)

2.5 Comparison according selected single-factorial criteria

Following the objective of more comprehensive assessment and comparison of competitiveness of the selected countries, we decided to look at their ability to enforce themselves in the international business environment. The following table provides an overview of five major export commodities of each country in 2015. The RCA index refers to the ability of countries to succeed in international markets (see Table 4).

Table 4 shows an interesting view of the export commodity structure of the assessed countries. The most important export commodity group, Group 78 - Road vehicles, is the same in all V4 countries. The exports of Group 77 - Electrical machinery and 76 - Telecommunication apparatus are also dominant. The commodity structure of the Baltic States exports is quite different. Their exports are dominated by Group 76 - Telecommunication apparatus (Estonia), Group 24 - Cork and wood (Latvia) and Group 33 - Petroleum and petroleum products (Lithuania). While the V4 countries are strongly focused on the automotive and electrical industry, the export of the Baltic countries is more diversified. This represents a more sustainable approach for the future.

The assessed countries have reached the revealed comparative advantage (RCA) in export of given commodity for almost all export commodities. However, the V4 countries perform slightly better. The Czech Republic and Hungary report a RCA in all of the most important export commodities. Slovakia and Poland have a comparative disadvantage only in the commodity group 77 - Electrical machinery. The relatively weak position is held by Estonia, which has a comparative disadvantage in three commodity groups. On the other side, it has a strong comparative advantage in commodity group 24 - Cork and wood (13.02). Latvia reports a relatively high comparative disadvantage in commodity group 78 - Road vehicles. On the contrary, in commodity group 24 - Cork and wood it has a very high value of RCA. Lithuania has reached the best result in Group 58 - Fertilizers while it has comparative disadvantages in commodity groups 77 - Electrical machinery and 74 - Other industrial machinery.

Table 4 RCA index of top 5 export commodity groups of V4 and the Baltic group in 2015

Slovakia		Czech republic		Poland		Hungary	
[78] Road vehicles	3.48	[78] Road vehicles	2.53	[78] Road vehicles	1.38	[78] Road vehicles	2.26
[76] Telecom. apparatus	2.91	[77] Electrical machinery	1.14	[77] Electrical machinery	0.88	[77] Electrical machinery	1.40
[77] Electrical machinery	0.72	[75] Office machines	2.13	[82] Furniture	4.99	[71] Power generating machinery	4.08
[74] Other industrial machinery	1.45	[74] Other industrial machinery	1.76	[76] Telecom. apparatus	1.06	[76] Telecom. apparatus	1.4
[67] Iron and steel	1.94	[89] Miscellaneous manufactured articles	1.51	[89] Miscellaneous manufactured articles	1.28	[54] Medicinal products	1,47
Estonia		Latvia		Lithuania			
[76] Telecom. apparatus	2.29	[24] Cork and wood	26.99	[33] Petroleum, petroleum products	1.75		
[33] Petroleum, petroleum products	0.99	[76] Telecom. apparatus	1.85	[82] Furniture and parts	5.95		
[77] Electrical machinery	0.91	[63] Cork and wood manufact.	14.54	[56] Fertilizers	10.57		
[24] Cork and wood	13.02	[04] Cereals and preparations	4.9	[77] Electrical machinery	0.42		
[78] Road vehicles	0.58	[78] Road vehicles	0.58	[74] Other industrial machinery	0.91		

Note: Processed by the authors

Besides the RCA index, our study to compare competitiveness of the V4 countries and Baltic Group is also supported by other single-factor indicators given in Table 5.

It is worthwhile to have a look at R&D expenditures (% of GDP). As can be seen in Table 5, the Baltic countries spend more % of GDP on education, while the V4 countries spend more on R&D.

Table 5 Comparison of the V4 and Baltic countries according selected single-factorial criteria

	ČR	HU	PL	SK	EE	LT	LV
GDP per capita	1 st 25 200 €	5 th 19 700 €	4 th 19 800 €	2 nd 22 300 €	3 rd 21 600 €	3 rd 21 600 €	6 th 18 600 €
Average export performance in 2007-2015	3 rd 71%	2 nd 75%	7 th 36%	1 st 79%	4 th 59%	5 th 58%	6 th 40%
Average openness of economy in 2007 - 2015	3 rd 136%	2 nd 146%	7 th 75%	1 st 157%	4 th 127%	5 th 125%	6 th 92%
R&D expenditures (% of GDP)	1 st 1.95%	3 rd 1.38%	6 th 1.0%	4 th 1.18%	2 nd 1.50%	5 th 1.04%	7 th 0.63%
Education expenditures (% of GDP)	5 th 5.2%	5 th 5.2%	4 th 5.3%	6 th 4.1%	2 nd 5.6%	3 rd 5.4%	1 st 5.9%
Hourly labour costs	5 th 9,9 €	3 rd 7.5 €	4 th 8.6 €	6 th 10.0 €	7 th 10.3 €	1 st 6.8 €	2 nd 7.1 €
Tax burden (2016)	2 nd 19%	2 nd 19%	2 nd 19%	4 th 22%	3 rd 20%	1 st 15%	1 st 15%

Note: Processed by the authors according the Eurostat data

Decisions of investors about capital allocation are highly influenced by the height of labour costs and tax burdens. While the average hourly costs in the EU reached 25 EUR in 2015, the average costs in the V4 countries reached 9 EUR and in the Baltic countries 8.1 EUR. The lowest average corporate tax rates are in Lithuania and Latvia (15%). Although Slovakia has reduced the corporate tax rate from 22% to 21% since the beginning of 2017, it still has the 3rd highest rate within the EU. Although taxes represent income to the state budget and higher hourly labour costs contribute to raising the standard of living, both factors can negatively affect the competitiveness of the economy and FDI inflows.

The competitiveness of individual economies, apart from the above-mentioned factors, is also affected by the level of provided investment incentives. Most frequently, these incentives concern tax concessions and contributions to job creation. Estonia is the only country that does not provide investment incentives. It does not distinguish between domestic and foreign capital.

The foreign direct investment is an irreplaceable source of economic growth, job creation and raising the standard of living in the monitored countries. If these countries want to catch up with the advanced Western European countries, they must focus on attracting investors to areas with higher added value and less developed regions.

Conclusion

Competitiveness of a country is a complex phenomenon that involves both macroeconomic and microeconomic areas. Its development is significantly affected by other factors - standing between these two economic categories. From a historical point of view, experts had focused on the export performance of the economy when evaluating the competitiveness. The reason is obvious. Scientific, technical and technological knowledge is a key determinant of the production of products with higher value added (at least temporarily) and simultaneously carries the sustained comparative advantage. Also it's necessary to point out, and in recent years with the increasing emphasis, that the creation of these comparative advantages is closely related to governance activities, which have a direct impact on FDI inflows.

The research presents the analysis of achieved level of competitiveness of the V4 countries and Baltic countries. Through the analysis of achievements in the GCI, WCI and DBI, which were processed by international organizations, we have come to the following conclusions:

Firstly it is clear that the Baltic countries perform significantly better than the V4 states in the assessment of competitiveness by the GCI index. In the V4 countries, the lack of functionality and efficiency of government, as well as private institutions, the labour market and business sophistication indicator can be regarded as the most negative aspects. In terms of measuring the innovation sub-index, almost each of them lags behind the most developed economies except for the Czech Republic, Estonia and Latvia, which means a huge risk for maintaining competitiveness within the EU countries in the future.

Secondly, the development of competitiveness of the V4 and Baltic countries on the basis of WCI index (although it is largely different from GCI index by methodology and data processing), reiterates the more favourable position of the Baltic group compared to the V4. The Czech Republic was the only exception. Hungary and Slovakia reached weaker results again, especially in the factors of Economic performance and Government Efficiency, which may be the result of not entirely appropriate government interventions.

Thirdly, the comparison of the business environment assessment according to the DBI confirms the results achieved by the first two investigated indexes and they point to better results of the Baltic countries, compared with V4 countries. The Baltic countries achieved much better results in areas such as Starting a business, Construction permits, Registering property, Protecting minority investors, Paying taxes. Both groups achieved the highest competitiveness in areas such as Registration of Property, Getting Credit and Trading across Borders.

Fourthly, the comparison of the assessed countries according the single-criteria index of Revealed Comparative Advantage shows that the V4 countries perform better if we aim only at the performance in the international business. This confirms the conclusion of the DBI in the area of Trading Across Borders, where the V4 countries achieved much better results than the Baltic states.

Fifthly, the comparison of the V4 and Baltic countries according to the selected single-factorial criteria shows that the Baltic countries spend a higher percentage of GDP

on education, but the V4 countries spend more on R&D. It can be concluded that the analysis of the single-criteria indicators is supported by the results of multi-criteria indicators.

As we mentioned, the economies without a sufficient raw material base may obtain high comparative advantages mainly through the knowledge economy. Thus, another part of the study intends to determine the relationship to the so-called competitiveness knowledge economy.

Based on the study results, we can say that in spite of the fact that the Baltic countries are ranked higher than the V4 countries in the international competitiveness indexes, a larger volume of FDI goes to the V4 countries. Even though the Baltic states offer a more favourable business environment, their small internal market and availability of labour resulting from it is a limiting factor.

We concluded that the consequences resulting from measuring and assessing the competitiveness of individual economies (and not only of those analysed here) will always be differentiated, due to a wide range of factors. However, it is necessary to analyse them continuously and on their basis, make assumptions that are important for their further development and growth. In this case, we can conclude that the factors, which will have a significant impact on the level of competitiveness of the V4 and Baltic states in the future, will be related to a systematic and effective of governance, which has a direct impact on the effective organization of economic processes, and building a knowledge-based economy, linked to a science and technology lead, industry experience, increasing labour productivity and export performance.

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