CONCEPTS OF FIRM AND NATIONAL COMPETITIVENESS AND CHANGES IN COMPETITIVENESS OF VISEGRAD GROUP COUNTRIES

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Abstract

The term competitiveness is traditionally associated with the success of firms in competition with other firms. In macroeconomic context, this term began to be aplliedin the 1980s in connection with the change of the nature of international trade relations. The specific assessment of countries according to their competitiveness can be seen as a way to evaluate their future economic potential and opportunities for further development and growth. The first objective of this article is to describe the basic approaches to firm level competitiveness. The second aim is to briefly analyse the changes in national competitiveness of Visegrad group countries in the years 2006 - 2014. To demonstrate differences between evaluation of competitiveness based on traditional macroeconomic indicators and evaluation of competitiveness based on results in international rankings of competitiveness (The Global Competitiveness Report), we will summarize the classical hard criteria for evaluating the competitiveness and critically evaluate the methodology of international competitiveness ranking.The last part of thisarticle deals with the changes in strengths and weaknesses of Czech national competitiveness according to GCI.

Key words: Firm Competitiveness, National Competitiveness, Visegrad group (V-4 countries), Global Competitiveness Report, Global Competitiveness Index.

JEL Code:E20, F00, F6

Introduction

While firm competitiveness (in the economic literature) is most commonly linked to the firm's productivity growth (measured as revenue per employee), the concept of national competitiveness - although the term"national competitiveness" is used frequently - does not have clear and uniform definition. In this paper we will first briefly explain how we understand the competitiveness of a firm. The following part of our theoretical analysis of concept "competitiveness" deals with the relations and assumptions which are important for

multidimensional measurement of competitiveness. Finally, we try to answer how the concepts of firm competitiveness and the concept of national competitiveness differ.

In the analytical part of this paper, we will evaluate the competitiveness of the Visegrad group countries using the Global Competitiveness Report (GCR), which is published annually by the World Economic Forum (WEF). This part of our article -using the changes in countries' ranking according to GCI -shows the changes in national competitiveness of the V-4 countries and enables us to define the strengths and weaknesses in national competitiveness of Czech Republic. For the analysis of the changes in competitiveness and for the description of strengths and weaknesses,methods of comparison and evaluation will be used.

1 Firm level competitiveness – two approaches

The theory of "firm competitiveness" implicitly assumes that "competitiveness of nations" is not simply based on country-specific factors, but heavily influenced by firm-specific factors as well.The main argument is based on the fact that competitiveness of a nation stems from companies within that nation and therefore firm's specific factors leading to competitiveness should be identified.Business theory provides two basic concepts of competitiveness on the firm level: the market-based-view and the resource-based view. The market-based view points out environmental factors of companies to explain competitive advantages and goes back to the structure-conduct-performance-hypothesis based on ideas of industrial organization theory (Porter,1981). This approach shows that the structure of a market has an influence on the companies and their conduct, which further leads to their different performances (Berger, 2008).

According to the resource-based view, firm-level competitiveness is based on successful utilization of internal resources. To gain competitive advantage, companies must ensure that their relevant resources are specific and cannot be easily imitated by their rivals. Table 1 summarizes the two different concepts explaining firm competitiveness and compares them to each other.

Tab. 1: Comparison of Market-based view and resource-based View

Criteria	**Market-based view**	**Resource-based view**
Level of analysis	Industry (processes as a black box)	firm (environment as black box)
Source of competitiveness	Product-related costs for differentiation advantages,	Utilization of core competencies, ability to create future products

	existing products	
Factor of competitive advantage	Positioning of firm according to the market structure exogenous factors	Internal resources Endogenous factors
Time period	Short run	Long run
Context	Dynamic context	Static context (black box)
Factor mobility	Perfectly mobile, homogeneous	Immobile, heterogeneous

Source: BERGER, T. (2008). Concepts of National Competitiveness. Journal of International Business and Economy. Vol. 9, No.1,pp. 91-111

Sources of firm competitive advantage can be divided into quantitative sources (price, resp. costs, increase of market share, growth productivity) and qualitative sources (research and development, application of innovations, technological progress, personnel policy, learning, increase of the proportion of knowledge workers). If we perceive a firm's competitiveness as a constant or long-term ability of firms to maintain or increase productivity and market share, the competitive advantage must be sustainable[1]. Using conditions for sustainability of competitive advantage, we can clearly describe the difference between competitive and uncompetitive firms.Uncompetitive firm is not able to offer goods and services, which customers are willing to buy, and therefore fails to fulfil its financial obligations[2].

1.1. From firm level competitiveness to multidimensional models of competitiveness

A lot of studies about competitiveness try to find a convenient connection between different levels of competitiveness. The unit of analysis in the famous Porter's study (Porter, 1990) was industry in a given nation. His work was based on the in-depth study of circa 100 industries in 10 nations which were regarded as internationally competitive. This analysis shows that sources of competitiveness of certain industry in a certain nation is not the total amount of factors endowment in that particular nation, but the specific factors which nation possesses

[1]Thekeyfactorsforsustainablecompetitiveadvantageshouldbe:

- Value – factorsshouldincrease a firm'sefficiency, enableit to use theopportunityor to eliminateexternalthreats, whilecreatingvalueforcustomers and shareholders;
- Rare – onlyonefirmor a fewfirms use these factors;
- Imperfectlysubstitutable;
- Costly to imitate (imitation) – thepossibilityofimitationdependsprimarily on thematerial (physical) uniquenessofthecompetitiveadvantagesources, capability to identifythesources and economicdifficultiesofitsacquisition.

[2]Many authorsevaluatesfirmcompetitivenessusingfinancialindicatorsderived from accounting statements.Scholleova, Camskatried to prove whether commonly used financial indicators have an impact on the competitiveness of firms in terms of economic valueadded (EVA).ROC curves and AuROC measures were used for quantification of the discriminatory power of detected scale variables. Theirresultsenablethemto partly predict future competitiveness according to the previous results of factors derived from the financial statements.(Scholleova, Camska, 2015)

and offers to firms. Porter's model is composed of four determinants of national advantages: factor conditions, firm strategy, structure and rivalry, related and supporting industries, and demand conditions.The advantage of this model is that it incorporated firm-specific, industry-specific, and country-specific factors.According to Porter (Porter, 2000), specialisation leads to sticky (not easily moveable) location advantages, which are the true sources of sustainable competitive advantage of countries. There are basically three reasons why specialisation takes place and thus why location matters: resource-driven specialisation,economies of scale at the firm level, and the existence of external economies as a result of local clustering. Porter characterized clusters as being geographic concentrations of interconnected firms, including specialized suppliers, service providers, firms in related industries and associated institutions in a particular field. These firms both collaborate and compete with each other.It is possible to find the three following important concepts related to industry clusters: (1) firms need to be specialized and co-specialized in a particular product or group of products characterized by the common attributes in production chains, (2) firms need to be inter-linked in a way that generates something beyond mere agglomeration economies, and (3) firms need to be geographically concentrated[3].

However, some authors (see Cho,1998) findthe disadvantage of Porter's attitude in the fact, that his model was primarily designed to explain the economies of advanced nations which have completed the cycle of industrial revolution. According to the model constructed by Cho (Cho, 1998), the level of competitiveness can be measured for entities with different domains – product, firm, industry, nation, bloc or the globe. To identify sources of competitiveness, Cho(Cho,1998) proposes the nine-factor model, which incorporated physical, human, and external factors. These nine factors are divided into four categories – subject, environment, resources, and mechanism. This classification is different for different entities. There is a similarity between Porter's model and the nine-factor model: four of the nine-factors are the same – endowed resources, related and supporting industries, domestic demand, and chance events. The difference is that the Cho's model emphasizes "human resources, using the word politicians and bureaucrats in place of government, and identifying

[3]Wewouldbeable to verifyPorter'sconclusionsabouttheeffectivenessofclustersifwewereendowedwithindicatorswhichcouldmeasurethe additionalvalueaddedresultingfromthe cluster. H. Scholleová (Scholleova,2013) proposestheNCE indicator (thenet cluster efficiencyindicator) and the cluster homogeneityindicator. Her analysiswasfocused on thecluster in theagriculturalproduction in the Czech Republic (thecase study Nutripol). Thisanalysisbased on mentionedindicatorsdidn'tconfirmtheeffectivenessofthisgroupoffirms.

entrepreneurs, professional managers and engineers as uniquely independent components".(Cho,1998)[4]

1.2. National level competitiveness – the traditional criteria of measurement and concept TiVA

According to the OECD definition, economy is competitive when it produces goods and services which stand the test of international competition, and at the same time is able to maintain or increase GDP. In the broader context, competitiveness can be characterized as a set of preconditions for achieving sustainable growth performance of economy, thereby even for increasing the economic level in the condition of the internal and external equilibrium.

There is no single accepted criterion to answer our question about national (un)competitiveness. According to Bris, competitiveness is best understood as a country's ability to generate prosperity by using all the resources and competencies of its economy. (Bris,2014)

On the example of transition countries Sereghyova(Sereghyova, 2005) showed the contradiction between the assessment of national competitiveness according to international rankings and actual (real) competitiveness. This contradiction is caused mainly by the fact that among the great number of criteria, on which conclusions on national competitiveness are based, most of the classical, theoretically founded criteria of competitiveness are missing[5].

[4]This model suggests to buildfivecategoriesofanalysisofcompetitiveness (firm, industry, country, bloc, and globe) and to distinguishfourdeterminantsof the business performance (subject, environment, resource, and mechanism). Cho's model emphasizedthatninefactors play differentroles in determiningthelevelofcompetitivenessaccording to the entity ofanalysis . The model impliesfollowing: varioussubjectsshouldbeawareofdifferentsourcesofcompetitivenessatdifferentdomainsofentities and developanappropriatemechanismforeachdomain.

[5]Traditional"classic" indicatorsofprice-based and non-price-basedcompetitivenessinclude these indicatorsofcompetitiveness:

- developmentof export performance
- developmentof unit export prices in comparisonwithcompetitors' unit export prices
- relationbetweengrowthof country exports and growthoftheirforeign sales area
- relationbetween country export growth and world export growth
- import intensity ofproduction and thesizeofthevalueadded in the export sectors
- developmentof export profitability
- developmentofrealinterestrates
- changes in unit laborcosts in manufacturingindustry
- Fordifferentiationbetweenexternalinfluences and changesresultingfrom business processesinsidefirmsthefollowingindicators are monitored:
- changes in exchangerate in relation to exchangeratesofthe major tradingpartners
- changes in theexchangerate in relation to changes in theexchangeratesofcompetitors
- changes in pricelevels in the major marketsofgoods and subsequentchanges in thetermsoftrade.(Usually,wetakerealexchangerates, which are definedwiththehelpoftheproducerprice index, unit labourcostsortermsoftrade. Theproblemofrealexchangeratedevelopment in CentralEuropeaneconomiesisdescribed in detail e.g. by Pošta (Pošta, 2010).)

These traditional indicators generally determine the monetary policy decision-making process and allow quantifying the impact of changes in the external environment to the economy of the country.However, the traditional measures are based on the assumption that all activities in the production of a good take place in the domestic economy and use domestic input only. Timmeret al. point out that with the increasing fragmentation of production across borders and the increasing use of foreign inputs, traditional measures of countries competitiveness can no longer be maintained. Timmer et al. emphasize higher importance of interconnection between economies (Timmer et al., 2013). The rise of global value chains is posing new challenges to analyses of international trade and countries' competitiveness. The novelty of Timmer et al. approach is that they trace the value added by all labour and capital that is directly and indirectly used for the production of final goods. The result of this approach is global value chain income.

First attempt to measure global value chain income was executed by OECD and WTO. This initiative resulted in concept named Trade in Value-Added (TiVA). TiVA indicators (e.g. domestic value added embodied in gross exports, re-export intermediates as % of total intermediate imports, foreign value added embodied in gross exports, etc.) are designed to improve awareness of the policy makers by providing new insights into the commercial relations between nations (OECD, 2013 b).

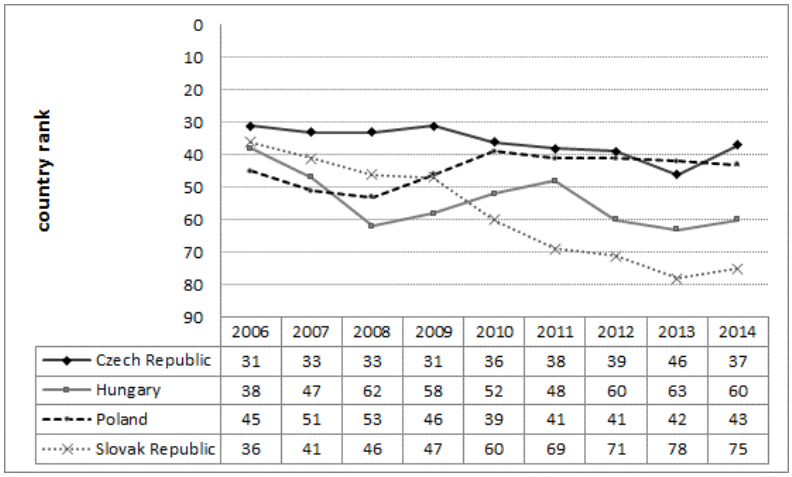
2 Competitiveness of Visegrad Group countries according to Global Competitiveness Report

2.1 Changes in national competitiveness – the results of Visegrad Group countries (2006-14)

Global Competitiveness Report (GCR) is published annually by the World Economic Forum (WEF). This annual competitiveness report is based mostly on soft data (four fifths of individual indicators), which allows monitoring a larger number of countries. In the current issue of the report, 144 countries are evaluated on the basis of 114 qualitative and quantitative indicators (these indicators are grouped into 12 pillars) describing the macroeconomic and microeconomic factors of competitive advantage.

The following figure shows the changes in the rating of the Czech Republic and the other V-4 countries in the Global Competitiveness Report in the last nine years.

Fig. 1: Competitiveness of the V4 countries according to GCI (2006-2014)



	2006	2007	2008	2009	2010	2011	2012	2013	2014
Czech Republic	31	33	33	31	36	38	39	46	37
Hungary	38	47	62	58	52	48	60	63	60
Poland	45	51	53	46	39	41	41	42	43
Slovak Republic	36	41	46	47	60	69	71	78	75

Source:http://reports.weforum.org/global-competitiveness-report-2014-2015/,online 25.4.2015

The figure 1 shows that the Czech Republic achieves the best position from the V-4 countries (with the exception of the 2013 ranking). If the changes in the economic performance of the V-4 countries are to be rated in years 2008-2013 (economic crisis and recovery)only on the basis of the trend of real GDP, the result of the Czech Republic cannot be considered as being positive – the economic performance of the Czech Republic in 2013, as opposed to Poland and Slovakia, was below the pre-crisis level (97.8% of GDP of 2008, at the constant prices of 2010), indicating that by 2013, Czech economy, as opposed to neighbouring countries, did not completely overcome the recession.

The impact of the economic crisis was shown in the relatively significant fall in the scoreboard for Slovakia –according to the GCR, the worsening trend was not interrupted until the current scoreboard. On the contrary, Poland's position improved after 2008 and stagnated in the last two ratings. Poland is the only V-4 country whose rating in the last edition is significantly better than in 2008. As for Hungary, its worsening position in the pre-crisis period was caused by long-term problems with external balance and very weak growth in the pre-crisis period. The improvement of its position in the conditions of the recession is – despite the fall of real GDP by 6.8% - associated with the decline of small open economies – the new EU member countries.

In the GCR, all the V-4 countries are the most successful in the group of pillars that rate the strengthening of efficiency. Positive ranking is achieved thanks to the existing quality of higher education and technological readiness – the V-4 countries have low trading barriers, Slovakia and the Czech Republic are still attractive for direct foreign investment and technological transfer (Slovakia is on the 5th position, the Czech Republic on the 15th

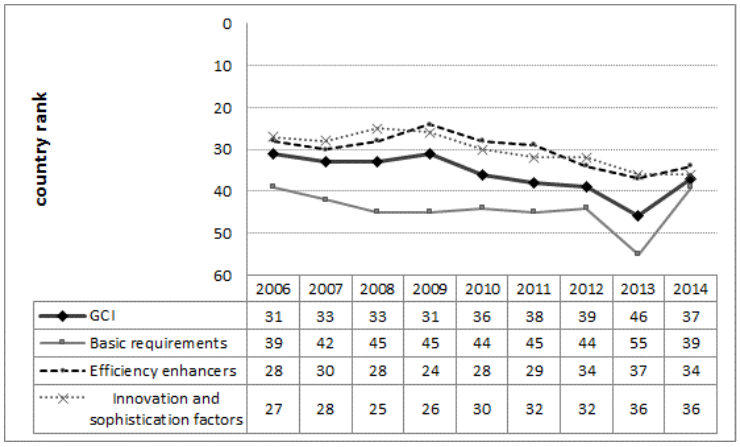
position), Poland has a big internal market (20th position in the index of the size of the domestic market). Common to the V-4 countries is the low trust in the political representation and its activities, which are projected in the negative rating of the indicators of the quality of public institutions and state administration.

Next part of this paper will focus on the results of the Czech Republicin more detail.

2.2 Czech Republic – changes in national competitiveness according to GCI (2006-14)

The following figure shows more detailed view on the determinants of changes in the Czech Republic‘s rank in the Global Competitiveness Report in the last nine years.

Fig. 2: The Czech Republic - changes in GCI and changes in subindices of competitiveness



	2006	2007	2008	2009	2010	2011	2012	2013	2014
GCI	31	33	33	31	36	38	39	46	37
Basic requirements	39	42	45	45	44	45	44	55	39
Efficiency enhancers	28	30	28	24	28	29	34	37	34
Innovation and sophistication factors	27	28	25	26	30	32	32	36	36

Source:http://reports.weforum.org/global-competitiveness-report-2014-2015/,online 25.4.2015, own processing

By the last edition of GCR, the Czech Republic succeeded in reversing a five-year downward trend. The position of the Czech Republic in the GCR is positively affected by the rating of foreign trade, level of prices (it is projected in the cost benefits of exporters), and quality of the basic infrastructure. The trend of domestic demand (trend of consumption expenditure, trend of investments), firms’ worsened access to financial resources, and the results of expert investigations (soft data) in the area of criteria rating the conduct of management (management practices) had a negativne impact on the country’s rank in the years of the economic recession.

Traditionally, the results of soft indicators have a negative effect on the result in the Institution pillar, which rates trust in politicians, quality and transparency of decision-making processes in the government, and public sector (in the area of the public’s trust in politicians, the Czech Republic received the worst rating in the last edition – 138th place out of 144

monitored countries).WEF data also show improvements in health and primary education, thanks to a higher primary enrolment rate, as well as gradual improvements in the labour market (62nd), albeit from very low levels. While cooperation in labour-employer relations and the flexibility of wage determination are perceived more favourably, regulations are rigid (121st) and the country's capacity to attract and retain talent remains limited. For going forward, the following indicators need to be improved: technological readiness and the results in sophisticated and innovative activities. The country's competitiveness would be further enhanced by improvements to its higher education system, where the Czech Republic, at rank 35, features among the 10 lowest ranked EU economies. Compared to the EU-15, the Czech Republic lags behind mainly in pillars characteristic for the knowledge economy.Above all, the Czech Republic suffers from badly set financing of public research institutions and negative entrepreneurial environment for the business of innovation.

Tab. 2: Strengths and weaknesses according to GCR – the Czech Republic

	strengths	**Weaknesses**
GCI 2014-15	Higher education and training (35.)	Institutions (76.)
	Business sophistication (35.)	Labour market efficiency (62.)
	Innovation (36.)	Goods market efficiency (50.)
	Health and primary education (37.)	Financial market development (44.)
	strengths	**Weaknesses**
GCI 2006-07	Higher education and training (27.)	Health and primary education (57.)
	Business sophistication (27.)	Institutions (55.)
	Higher education and training (27.)	Financial market development (50.)
	Technological readiness (27.)	Market size (40.)

Source:http://reports.weforum.org/global-competitiveness-report-2014-2015/,online 25.4.2015, own processing

The comparison of the strengths and the weaknesses of Czech position (Table 2) shows that indicators with positive impact on Czech competitiveness are the same in the last edition GCR as in the first year of our analysis. However, the position of the Czech Republic in these indicators is worse in the last edition. It indicates that other countries have higher pace of improvement in individual aspects of competitiveness.

Conclusion

The results of countries in the Global Competitiveness Report (published by the World Economic Forum) are determined not only by hard data, but also by the results in soft data. In our opinion,a large representation of soft data in the GCI has a negative impact on the rating of the V-4countries due to the more critical attitude of evaluators from these countries in comparison with evaluators from other countries, especially from the developed countries. According to GCR, a common weakness of the V-4 countries is the low trust in the political

representation and its activities.All V-4 countries are most successful in the group of pillars evaluating the strengthening of efficiency. By the last edition of GCR, the Czech Republic succeeded in reversing a five-year downward trend. The position of the Czech Republic in the GCR is positively affected by the rating of foreign trade, level of prices (it is projected in the cost benefits of exporters), and quality of the basic infrastructure. Compared to the EU-15, the Czech Republic lags behind mainly in pillars characteristic for the knowledge economy.

Acknowledgment

This article is provided as one of the outputs of the research project of the Faculty of Business Administration IP 307055 "National and corporate competitiveness from the perspective of endogenous growth models".

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