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Review of economic growth patterns and regional disparities in Central and Eastern European countries

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Abstract

The Central and Eastern European (CEE) countries have undergone an exceptional economic boom over the past two decades. The CEE region has proven in recent years that it is capable to maintain sustainable growth. This paper aims to reveal the economic growth patterns, development dynamics, and regional disparities in the CEE region and the possible reasons beyond that. The methodology is based on secondary research analysing EU, OECD, and national documents, online literature sources, and relevant, up-to-date statistical data as well. The analysis is based on this "desk research" finding that reflects the authors' professional views and hopefully can contribute to understanding the main driving forces of the CEE region's economic trends. The results show that CEE countries are lagging in innovation and productivity. Also, innovation requires fair competition as it encourages continuous improvement.

Keywords: CEE; digital transition; economic development; FDI inflow; knowledge transfer.

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1. Introduction

Convergence between the economic development of the individual countries and the catching-up processes of the less developed countries are decisive elements of European integration. Strengthening social, economic, and territorial cohesion, and reducing regional disparities is the main goal of the EU cohesion policy (Henry & Morris, 2019). As a significant EU tool to handle regional inequalities, this policy provides a large variety of support for businesses and activities in areas like analysis, setting, transport, employment, social inclusion, education, and institutional capacity-building.

The Central and Eastern European (CEE) countries have undergone an exceptional economic boom over the past two decades (Levenko, Oja & Staehr, 2019). The CEE region has proven in recent years that it is capable to maintain sustainable growth. The economic environment determines these countries to continue to grow favourably in 2019: GDP growth is predicted to remain strong (around 3% or above) in most CEE countries, although some cyclical slowdown will be observed.

Nowadays, the rapidly changing, globalising business environment the major challenges posed by the digital world, as well as the constantly raising ratio of knowledge-based products and services, are the most important areas in which companies need to invest (Nair, Tyagi & Sreenath, 2021). In the current strong market competition, these areas are essential for all market leader actors because the engine of potential future growth can be based on consumption, FDI, EU funds, and Digital Transition. Currently, the performance of the CEE region is less dependent on foreign capital inflows and has greater room for maneuver in applying fiscal incentives, gaining access to EU funds, and multiplying benefits from falling commodity prices compared to the EU core Member State.

The performance of the CEE region is less dependent on foreign capital inflows, has greater room for maneuver in applying fiscal incentives, gaining access to EU funds, and multiplying benefits from falling commodity prices compared to the EU core Member States (Henry & Morris, 2019). In the region, GDP will grow most strongly in Slovakia, Bulgaria, and Hungary in 2019. The main constraints of economic growth in Central and Eastern Europe are tight labour markets, especially in the Czech Republic and Hungary, as well as the potential hard Brexit, which would be detrimental to new trade restrictions that dampen exports and investments by CEE countries. In terms of the disadvantages of Brexit, Slovakia and the Czech Republic are the most vulnerable CEE market.

Foreign direct investment, which has been one of the main drivers of the region's economic transformation in the past, particularly in terms of technology and knowledge transfer, will continue to be important, but not to the same extent as in the previous decade (Levenko, Oja & Staehr, 2019). In some sectors, Central and Eastern Europe have become a major part of Western European production, and its FDI target has gradually shifted to more advanced sectors, with a growing focus on services. The ratio of FDI to GDP has remained above 2.5 percent in the period 2016-18 and is expected to develop similarly in the coming years. The role of multinational companies operating in the region remains dominant: the value added by foreign companies (which is the measure of GDP) accounts for more than 40 percent of the total value added in some countries, such as Hungary, Slovakia, Romania, and the Czech Republic, which are also the most integrated countries from the point of the European value chain.

In addition to FDI, EU funds also play an important role in regional economic development processes. In the period 2014-20, an average of 2.9% of EU GDP is flowing into the region (€ 150 billion to EU member states, excluding Poland), and 2019-20 is a critical period for resource use. The digital transition will create further growth opportunities in the region. Internet penetration has increased by 20 percent since the year 2010 in CEE countries and is now close to 75 percent of the population, measured by the number of people using the Internet. Mobile penetration in the CEE countries is 120 percent for mobile subscriptions per 100 people. With these indicators, CEE countries are approaching the values measured in Western European markets. However, CEE countries have been able to show faster convergence in recent years (Smętkowski, 2014).

1.1. Purpose of study

This paper is aiming to investigate:

- What patterns of income convergence and inequality developments can be identified for CEE countries that experienced a transition from non-democratic regimes and centrally planned economies to competitive markets and representative democracies?
- What kind of similarities and differences can be revealed among these economic and social trends?
- What can be the possible reasons beyond these trends?
- What kind of prediction can be given for the near future related to the economic and social catching-up processes in CEE countries?

2. Materials and Methods

2.1. Data collection

The methodology is based on secondary research analysing EU, OECD, and national documents, online literature sources, and relevant, up-to-date statistical data as well.

2.2. Analysis

The based on this „desk research" finding reflects the authors' professional views and hopefully can contribute to understanding the main driving forces of the CEE region's economic trends. As a review article, we mainly focus on comparing previous trends gathered by the European Commission and the OECD.

3. Results

3.1. Overview of growth of economic patterns and regional disparities in CEE countries

For CEE countries, two types of economic growth theories are worth discussing. The first growth theory sets out the long-term regional economic equilibrium of individual countries, where the development of each country is characterized by convergence with the EU core countries. On the contrary, polarization theories do not see the nature of regional development and growth in equilibrium, but rather in the widening of developmental differences and the emergence of divergences.

The convergence theories can be categorized into the following types:

3.1.1. The export-oriented theory

The export-oriented theory is based on the assumption that the economic growth of a region depends mainly on the development of export-producing sectors, that is, the decisive source of development is the interregional demand for the region's economy. NORTH (1955) describes his model that the export of scarce raw materials in a region may provide the basis for economic development in higher developed regions. After all, export revenues are used partly to improve infrastructure and expand the export base and improve its production conditions. Investment tools and various services are sourced from markets outside the region, but demand in the regional market is also driven by increased exports (e.g., local suppliers). Export-producing sectors generate external and internal savings, which then accelerate growth processes. Income growth may outweigh the absorption effect of the export economy, resulting in the establishment of sectors that expand the supply of regional markets. Factories based on regional demand increase domestic savings, which increases the competitiveness of regional industry, mainly in markets outside the region, and allows for expansion of the export structure. As a result of the export base diversification processes, the income of the region is rising sharply. These growth mechanisms lead to territorial equalization in the long run, precisely because of the different economic conditions of the regions.

3.1.2. Theory of endogenous development

It sees the opportunities for economic catching-up in every CEE country, realizing the internal potential, renewing and developing its resources. These can be: a) capital potential (production bases and assets available), b) labour force, education, qualification, c) infrastructure facilities, d) geographical location, e) environmental condition and quality, f) market relationships (demand factors), g) socio-cultural background, h) decision-making, institutional and power system. These endogenous factors are self-explanatory, but they are interdependent through their mutual determinants and may even trigger activation processes, trigger or carry the potential for a renewal of a given region under certain social and economic circumstances.

On the contrary, polarization theories assume that regional development should be based on exploiting the existing regional differences and disparities that lead to regional divergences (Higgins & Savoie, 2017). In the growth centres, the leading sectors, due to their maturity, enforce a specific technology relationship system, which in turn stimulates the activities of other sectors. Income polarization should be understood as the regional multiplier effect, the fact that dynamic sectors significantly influence, and stimulate consumption-oriented sectors and their development. Regional innovation in the most developed EU countries (core regions or core member states) can be considered as centres (hubs), while all other areas are considered peripheral. Centres interact closely with peripheries and form a closed area system. The control of the centres over the periphery is stimulated by self-amplifying polarization mechanisms, these feedback effects being:

- power effects; economic weakening of the periphery, leakage of growth potential into the centre,
- information effects; strengthening the interaction capacity of the centre through dynamic growth of population, income, production factors,
- psychological effects; concentrating the conditions for sustained innovation in the centre,
- effects of modernization; the transformation of the existing social system of the centre due to the greater application of cumulative changes brought about by innovation,
- synergy effects, new innovations generated by innovation
- appearance in the wider sphere of the economy,
- production effect; reducing the cost of innovation through internal and external savings

Due to the unforeseen consequences of power relations, the centre's innovations will sooner or later be introduced on the periphery and information will flow more and more rapidly to dependent areas. If the diffusion of innovation and its accompanying effects accelerates in peripheral countries, dependency relationships between centres and peripherals will gradually disappear, and territorial development will become more and more balanced. Table 1. gives a summary of the convergence and divergence processes from different aspects between the core and periphery

Table 1

Comparison of core and periphery regional characteristics and changes

	Features of Core EU Member States (mostly developed regions)	**Features Peripheral CEE countries**

Economy	Capital and knowledge-intensive, high-value-added sectors, activities with high productivity and global competitiveness. Application of cutting-edge technologies and taking strategic decisions.	Labour-intensive, low value-added sectors/activities, low level of technology advancement, shortcomings in productivity and competitiveness predominantly in SME sector.
	Wide and strong R&D and innovation system, strong industry-university linkages, entrepreneurial universities	Mass production, assembling products, no strategic decisions, low R&D and innovation activity, weak industry-university linkages
Labour-market and institutional system	Highly qualified, competent, skilled labour workforce, well developed institutional system, transparent and accountable business environment, social wellbeing	Brain drain of highly qualified workers, lack of core competencies and entrepreneurial attitudes, and skills. Weak institutional system (education, health-care), difficulties in a business environment, corruption, poverty, income disparities.
	Changes in peripheral CEE countries lead to convergence	**Changes in peripheral CEE countries lead to divergences**
Economy	Capital intensive R&D investments, effective knowledge, and top-level technology transfer, economic restructuring (e.g. digitalization, automatization, Industry 4.0.), moving toward the high-value-added activities	Labour intensive, mass production investments, no economic restructuring, import of obsolete "mature" technologies
Labour market and institutional system	Raising the ratio of highly skilled, competent, well-educated labour workforce, crowding out the workforce with low qualifications. Building up an effective institutional system supporting R&D and innovation, changing social attitudes toward innovations and entrepreneurship.	Brain-drain, weak and insufficient institutions insist on preserving the status quo, high ratio of lowly qualified labour workforce

The CEE countries show differentiation in their economic structures, educational and institutional systems, and finally in their ethnic heterogeneity as well. The Visegrad (V4) countries (Poland, The Czech Republic, Slovakia, Hungary) and Slovenia, plus the three Baltic States (Estonia, Lithuania, and Latvia) became members of the EU in 2004, while Bulgaria and Romania in 2007 and Croatia in 2013. Furthermore, Serbia strives to become an EU member state as well shortly and the negotiations related to its EU accession have been in progress. In the frame of the EU accession, concerted efforts of legal harmonization to the EU acquis had to be completed, implying similar procedures but the varying extent of harmonization for the various countries and various fields. Three countries, Slovenia, Slovakia, and Estonia have also joined the Eurozone, making a large step towards more complete integration of their economy into the EU. In some countries, the reforms have been faster, while other countries have adopted gradual methods. Poland was, in the beginning, an example of the „shock therapy" approach, which means the sudden release of price and currency controls, withdrawal of state subsidies, and immediate trade liberalization. In countries like Slovenia, Hungary, and Romania reforms were introduced more incrementally. Reform strategies also differed in

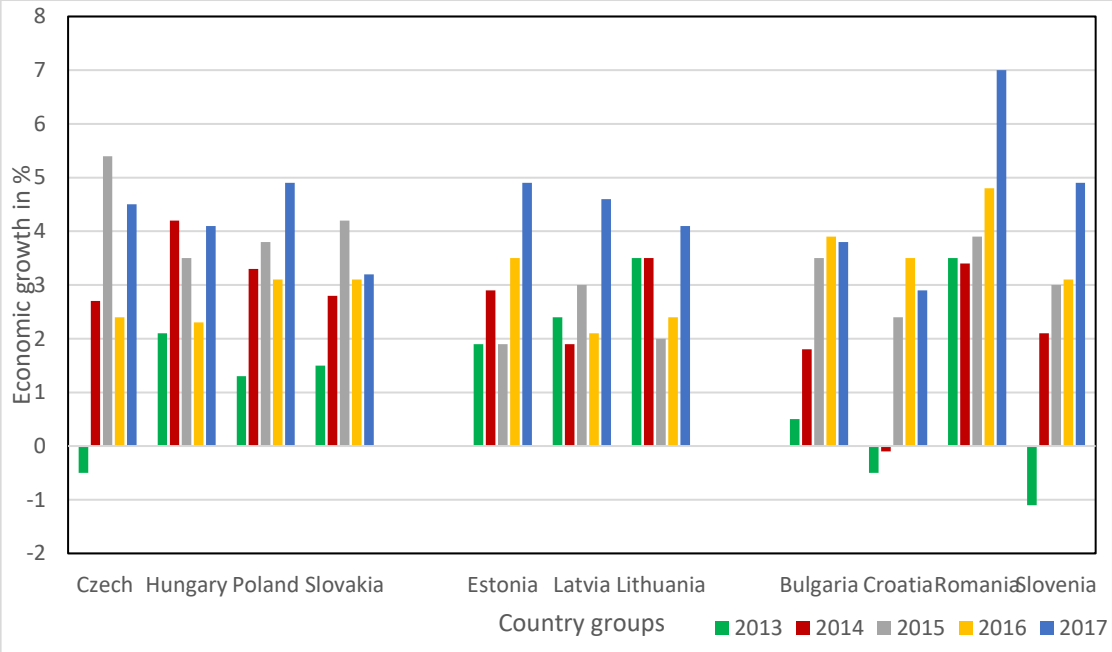
complementarity/substitutability of reforms, their possible reversibility was given needed adjustments, and sustainability of their political-economic conditions (Tóth & Medgyesi, 2018).

3.2. Economic convergence among the CEE countries

During the last several years (between 2013-2017) certain signs of economic convergence among the CEE countries can be observed. The first one is that in the majority of the CEE countries economic growth (GDP annual variation in %) exceeded the EU average took place as you can see in Figure 1.

Figure 1

Trends of economic growth (annual variation of GDP in %) in CEE countries were categorized into three subgroups (V4, Baltic States, and other CEE countries) between 2013-2017 own edition

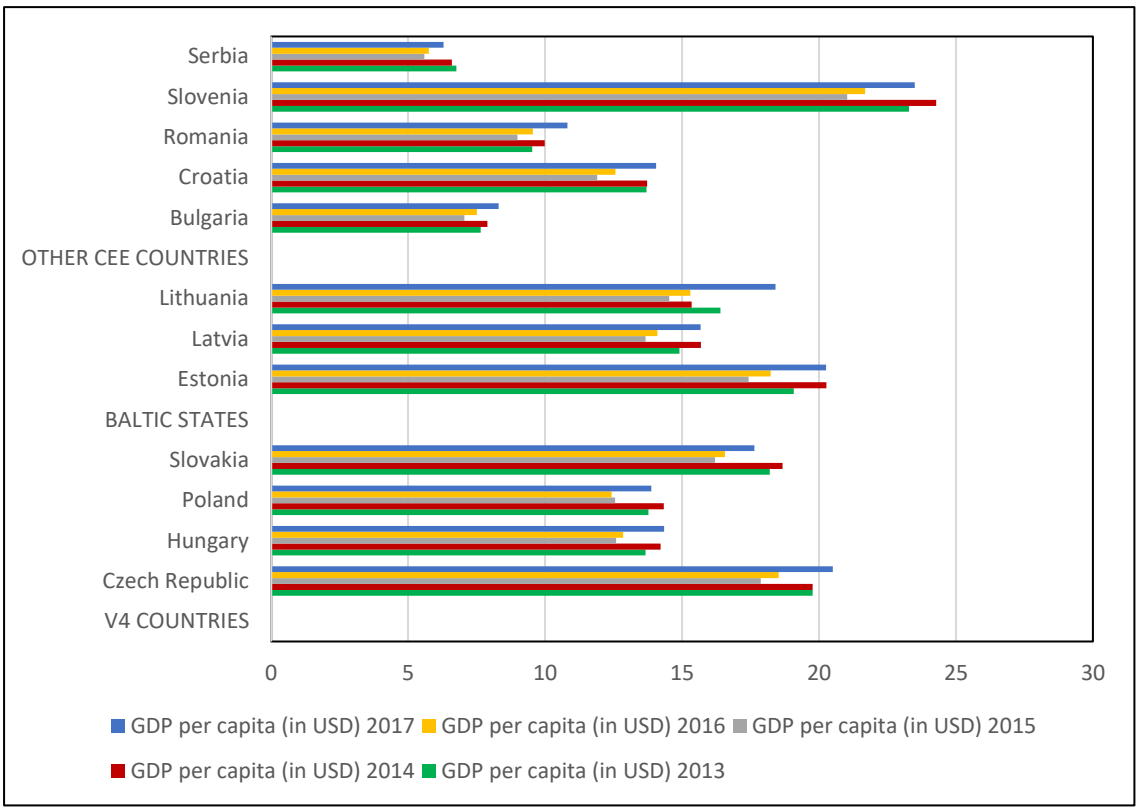


Based on the above Figure, it can be calculated that the average economic growth rates in the investigated period in the V4 countries and the Baltic States were roughly around 3 %, and the other CEE countries around 2,8 %, meanwhile the EU average was 1,79 % (from 1996 until 2018). If these favourable trends will be proved to be sustainable on a longer time scale, the development gap between the centres (core EU member states) and the peripheral CEE countries can be diminished leading to economic convergence.

The second convergence trend among the CEE countries can be characterized by the GDP/per capita as you can see in Figure 2.

Figure 2

Trends of GDP per capita (in USD) in CEE countries between 2013-2017 own edition



GDP per capita indicates Gross Domestic Product (GDP) per capita (per person). Value GDP per capita can be a vital indicator of economic performance and a helpful unit to create cross-country comparisons of average living standards and economic successfulness. In this context, you can observe that the most developed CEE countries in 2017: the Czech Republic (20502 USD); Estonia (20260 USD), and Slovenia (23495 USD) reached the two-third EU average GDP per capita (36 757 USD respectively), while some other CEE countries reached the half of the EU average: Slovakia (17 640 USD); Lithuania (18 407 USD). These trends can also reduce the economic and social well-being between the centres and the peripheral countries if the other conditions will be given. On the other hand, a serious lag remained between the less developed CEE countries compared to either the EU average or the developed CEE countries: Bulgaria (8300 USD), Serbia (6288 USD); Romania (10819 USD).

3.3. Economic and social divergence in CEE countries

3.3.1. Income inequality - Gini index

The Gini index is the income inequality is the most common international index. Individual households compare the income of other households with that of the income distribution. The value of the Gini coefficient can be between 0 and 100%. If the Gini coefficient is 0% this would indicate perfect income equality, while the value of 100 % would mean that all the income of the economy to just one household is concentrated, which would testify to total income inequality. Table 2. indicates the values of the Gini coefficient among the CEE countries. As you can see the Gini coefficient shows the lowest values in the Czech Republic 0,253 and Slovakia 0,241 (in the V4 country group), Estonia (0,314) in the Baltic States, and Slovenia (0,244) among the other CEE countries and on the contrary the highest in Bulgaria (0,374), Romania (0,359) and Croatia (0,308).

Table 2

Gini coefficient of CEE countries, 0 = complete equality; 1 = complete inequality, 2017 or latest available own edition

V4 counties	Gini coefficient	Other CEE countries	Gini coefficient
Czech Republic	0,253	Bulgaria	0,374 (World Bank estimated 2014 data)
Hungary	0,288	Romania	0,359 (World Bank estimated 2015 data)
Poland	0,284	**Slovenia**	**0,244**
Slovakia	0,241	Croatia	0,308 World Bank estimated 2015 data
Baltic states	**Gini coefficient**	Serbia	0,285 World Bank estimated 2015 data
Estonia	**0,314**		
Latvia	0,346		
Lithuania	0,378		

It is quite interesting that the CEE countries formed a relatively homogenous group at the end of the last century, but since the elapsed time currently serious differences (polarization trends) took place. The possible reasons beyond this phenomenon can be the local features of the taxation and poor income redistribution system (social transfers), the development of the labour market, and the business environment. Furthermore, the faster income growth of upper social strata compared to the slower income growth of the lower social strata than average income growth can also contribute to the rise of income inequality

In the case of the Baltic States (Estonia, Latvia, Lithuania) and a certain member of V4 countries (Hungary) and the other CEE countries (Bulgaria, Romania, Croatia) the income inequality increased significantly, meanwhile in the Czech Republic, Poland, Slovakia, Slovenia, and Serbia managed to reduce this unfavourable trend.

3.3.2. Income inequality - Poverty ratio

The poverty or poorness ratio is the magnitude relation of the number of individuals (in a given age group) whose financial income falls below the poorness line; taken as the median unit financial income of the full population. it's conjointly out there by broad age group: kid poorness (0-17-years-olds), working-age poorness, and aged poorness (66-year-olds or more). However, two countries with identical poorness rates might dissent in terms of the relative income level of the poor.

Table 3

Poverty ratio of CEE countries, Total / 0-17-year-olds / 66-year-olds or more 2017 or latest available own edition

V4 counties	Poverty ratio	Other CEE countries	Poverty ratio
Czech Republic	**0,056**	Bulgaria	0,234 National Statistical Institute (NSI) 2017 data
Hungary	0,101	Romania	0,194 EUSTAT estimated 2016 data
Poland	0,103	**Slovenia**	**0,087**
Slovakia	0,085	Croatia	0,195 World Bank estimated 2015 data
Baltic states	**Poverty ratio**	Serbia	0,259 World Bank estimated 2015 data
Estonia	**0,157**		
Latvia	0,168		
Lithuania	0,169		

As you can see in Table 3. the poverty ratio is the lowest in the Czech Republic (0,056), Estonia (0,157), and Slovenia (0,087) which is strongly correlated to the small Gini coefficient. The situation worsened in the last years in Bulgaria, Romania, Croatia, and Serbia for the same reasons as the case of the Gini coefficient.

The standard deviations in the Gini coefficient and the poverty ratio among the CEE countries reflect serious social divergences in certain countries that can be led back to unsolved economic and competitiveness challenges.

3.3.3. Competitiveness inequality - Human Development Index (HDI) of CEE countries

The HDI emphasizes that folks and their capabilities ought to be the final criteria for assessing the other aspects of an event of a country, not economic process alone. The Human Development Index (HDI) also define life as average action in key dimensions of human development: an extended and healthy life, being knowledgeable, and having a good commonplace of living. The HDI is the mean value of normalized indices for every one of the three dimensions.

Table 4

HDI and ranking list of CEE countries, 2016 or latest available own edition

V4 counties	HDI (HDI rank)	Other CEE countries	HDI (HDI rank)
Czech Republic	**0,888 (27)**	Bulgaria	0,813 (50)
Hungary	0,838 (45)	Romania	0,811 (52)
Poland	0,865 (34)	**Slovenia**	**0,896 (24)**
Slovakia	0,855 (39)	Croatia	0,831 (46)
Baltic states	**HDI (HDI rank)**	Serbia	0,787 (66)
Estonia	**0,871 (30)**		
Latvia	0,847 (43)		
Lithuania	0,858 (35)		

Based on the HDI index (table 4.) the higher rank of the index coincides with the lower Gini coefficient and poverty ratio in the Czech Republic, Estonia, and Slovenia and the lowest HDI rank coincides with the high Gini coefficient and poverty ratio. This fact indicates that the sufficient number of available, highly qualified, skilled, competent motivated labour workforce can largely contribute to the improvement of productivity via knowledge-intensive activities, creativity, critical thinking, multidisciplinary approach, and innovation. The necessary ex-ante precondition beyond that is the existing well-performing, stable health-care, and educational institutional system. The majority of the CEE countries' weak institutional systems and the poor infrastructural development can lead to raising the regional divergences not only to the EU average but among the (more developed) CEE countries as well.

3.3.4. Economic inequalities - Competitiveness indicators of CEE countries

In the case of economic competitiveness on a national level, you can deal with different indicators. These can be the followings:

Global Competitiveness Index (GCI): World Economic Forum GCI covers 140 economies, the Global Competitiveness Index 4.0 measures national competitiveness—defined as the set of two main sub-index (with different weights): Growth Competitiveness Index macroeconomic conditions + innovation factors and Business Competitiveness Index operation and strategy + business environment.:

World Competitiveness Index: IMD (Institute of Management Training and Economics): World Competitiveness Yearbook: Ranking 63 countries based on 340 criteria (2/3) official statistics - 1/3 own expert survey). Aggregate Ranking: a) economic performance, b) government efficiency, c) the performance of the private sector, d) infrastructure conditions.

Doing Business (World Bank): 190 countries evaluate the quality of the business environment 10 areas are assessed separately and then aggregate, Comparing Business Regulation for Domestic Firms in 190 Economies

Table 4

Different competitive index ranking list of CEE countries, 2017 or latest available own edition

V4 counties	GCI rank (2017) among 140 countries	IMD rank (2017) among 63 countries	Doing Business rank (2018) among 190 countries
Czech Republic	**29**	**33**	**30**
Hungary	48	46	48
Poland	37	36	27
Slovakia	41	50	39
Baltic states			
Estonia	**32**	**25**	**12**
Latvia	42	35	19
Lithuania	40	29	16
Other CEE countries			
Bulgaria	51	43	50
Romania	52	47	45
Slovenia	**35**	**34**	**37**
Croatia	68	44	51
Serbia	65	n. a.	43

It is not surprising that in table 4. Czech Republic, Estonia, and Slovenia possess the most favourable competitiveness ranking related to all the three different competitiveness indicators.

The CEE region can be divided into three subgroups: the first country group consists of the Visegrad (V4) countries: the Czech Republic, Hungary, Poland, and Slovakia, and the members of the second group are the Baltic States: Estonia, Latvia, and Lithuania. Finally, the other CEE countries belong to the third group. In every subgroup can be regarded as one member, which is more developed compared to the other members inside its group: the Czech Republic in the V4 region, Estonia in Baltic State, and Slovenia among the other CEE countries perform best in the field of various social and economic indicators (Gini index, Poverty ratio, HDI, GCI, IMD rank and Doing Business). At the same time, the following countries proved to be the weakest actors in their subgroup based on the same indicators: Hungary in V4 countries; Latvia in the Baltic States, and Romania, Bulgaria, and Serbia.

Foreign direct investment (FDI), which has been one of the main drivers of the region's economic transformation in the past, particularly in terms of technology and knowledge transfer, will continue to be important, but not to the same extent as in the previous decade. In some sectors, Central and Eastern Europe have become a major part of Western European production, and its FDI target has gradually shifted to more advanced sectors, with a growing focus on services. The attraction of FDI is crucial in the CEE region but in different sizes depending on the infrastructural, labour market, educational system business environment conditions, and the competitiveness of the SME sector. Due to the poverty and the underdeveloped infrastructure and the relatively low competitiveness predominantly in the other CEE country group Romania, Bulgaria, and Serbia are strongly interested in any large infrastructural and job-creation capital investment. A typical example of this one is the Chinese Belt and Road Initiatives (BRI) project, which was called earlier One Belt, One Road Initiative, or New Silk Road. This global project is aiming to the extension of the intercontinental transportation and energy infrastructural investments and networks between Europe, Asia and Africa make easier to the global market access for Chinese products and services. The total sum of investments reached about 1.1 trillion US dollars at this time. As a basis, the team assumed investments within the size of 1.067 trillion USD and 420 BRI projects. 59 % of the projects are the development of transportation infrastructure. Energy infrastructure as the second most vital sector amounts to 17 %. These two sectors also account for the highest investment volumes.

- The need to scale back transportation prices for Chinese commodities – a major priority of the country’s export-driven model;
- The overcapacity in certain sectors of China’s economy, such as its steel and cement industries - currently, Chinese construction companies, manufacturers, and other businesses that have thrived on the country’s building boom increasingly have to look for opportunities abroad;

- China's eagerness to invest its huge foreign exchange reserves (estimated to be more than $3 trillion in late 2016);
- The need to speed up the economies via BRI routes and so increase demand for Chinese merchandise and services.

CEE European countries, as well, as the Western Balkans, are also turning into progressively concerned in connected discussions and come on its western end. Meanwhile, the region is ringed by EU member states (Bulgaria, Croatia, Greece, Hungary, Italy, Romania, and Slovenia), none of the alleged Western Balkans Six (WB6) – Republic of Albania, Kosovo, the previous Yugoslav Republic of Macedonia, Serbia, Montenegro, and Bosnia and Herzegovina – are part of the Union. In terms of project implementation, Serbia stands out once again as Beijing's key partner in the region. China has already invested more than $1 billion, mostly in the form of loans, to finance the building of transport infrastructure and energy projects in the country. Following the deal between Hungary, Serbia, and China on upgrading the railway link between Budapest and Belgrade in January 2015, the former Yugoslav Republic of Macedonia and China agreed to prepare a feasibility study of the route and cost of modernising the country's railways. The next phase will involve defining models for financing the project, but it is worth noting that the China Railway Rolling Stock Corporation is already supplying Skopje with electric trains

Besides the BRI project, Agricultural trade between China and the Central and Eastern European Countries (CEEC) has grown rapidly. The Chinese government proposed jointly building agricultural "demonstration zones" with Bulgaria. Bulgaria has rich traditions in the production and processing of high-quality agricultural products and food; therefore, Bulgaria closely cooperates with the Chinese authorities to improve market access for Bulgarian agricultural and food products.

As far as the V4 countries are concerned, plus Romania and Serbia as well, in these countries the car and vehicle industry can be the most dominant industrial sector based on car assembly plants strongly linked to Germany without R&D, marketing and distribution activities, and the strategic decisions (to whom and what and which quantity and which cost and price level should be produced) have been taken in abroad in the headquarter of multinational companies (MNC's). Furthermore, in the automotive industry, there is already a great deal of uncertainty as to how long the products currently manufactured are still modern, and the countries of the Central and Eastern European region over the past decade have very specialized in one direction, explosives, which further narrows their room for economic restructuring. The potential for further development of products manufactured in the region is very limited: when the automotive industry was introduced on a larger scale in any CEE country, they mainly introduced simple technologies, but over time, the factories also introduced more complex processes and some product development operations.

On the one hand, these technological improvements can mean hidden opportunities to take steps forward, but looking at the product lifecycle model, you can see that these improvements reported newer and more recent involvement in production processes that are in a declining phase on a global scale. Based on the global market trends, the entire manufacturing industry is facing a serious structural, overproduction crisis, and this is particularly true of the automotive industry. The essence of this crisis is that more and more unexploited capacity is being used, as more and more countries in the CEE region are capable to take over standardized production, while there is a lack of effective demand (due to mature markets) that could keep up with the capacity building. As a result, very depressed profitability is being developed in this sector inside the CEE region. Cost-cutting developments and big innovations are no longer born in the classic car industry. Of course, there have been attempts to hybridize, and collaboration with software developers has intensified, but truly creative and productive ideas tend to come from outside the industry and influence the development of car-makers. Cost sensitivity and fierce competition are forcing large manufacturers to increasingly deploy their capacities in peripheral regions, Eastern Europe, Latin America, and certain regions of

Asia. Western manufacturers have even appeared in Africa: VW has recently built a plant in Ethiopia and Renault in Morocco.

An additional consequence of the expansion of the automotive industry in Central and Eastern Europe is that, in countries with a high level of capital poverty, the emergence of such a concentration of capital also creates a specialization dependency. It is quite clear that in regions where the automotive industry is emerging, it has a suction effect that other industries, possibly more embedded in the local economy, are unable to keep up with, and thus have the detrimental consequences of a strong specialization in island-based export production. Many companies are beginning to specialize highly to meet the delivery conditions.

4. Discussion

Depending on the workplace quality and safety (for example, can employees be easily "exchanged" or develop their skills with the company) what types of contracts are they employing, what skills are expected and what on-the-job and off-the-job training is required or whether they have the opportunity to move up within the company, they talk about the “high road” model and the “low road” model. It follows from the inequalities within the production chain that the low-road model is dominant in the CEE region. The automotive production chain looks like there are top-notch OEMs (Original Equipment Manufacturer), followed by a hierarchy of first, second, third, and fourth-tier suppliers (Tier 1,2, etc.). coming. Hungarian companies can join this chain at Tier 3 and 4 levels. This is the global value chain from which you can understand the process of passing on costs: Seeing developments in recent decades, we see that the Eastern European region has continued to rise in productivity relative to German productivity, but not nearly as far as wage convergence is concerned. : the productivity/wage gap remained just as wide. Of course, wages have increased in the countries of the semi-periphery, but the expectation has also increased: knowledge of production lines requires more work, and more shifts and more workers often feel they have no opportunity to move ahead in their careers.

The role of multinational companies operating in the region remains dominant: the value added by foreign companies (which is the measure of GDP) accounts for more than 40 % of the total value added in some countries, such as Hungary, Slovakia, Romania, and the Czech Republic, which are also the most integrated countries from the point of the European value chain. The main constraints of economic growth in Central and Eastern Europe are tight labour markets, especially in the Czech Republic and Hungary, as well as the potential hard Brexit, which would be detrimental to new trade restrictions that dampen exports and investments by CEE countries (Marinaș, Dinu, Socol & Socol, 2018; Nogués, 2019) In terms of the disadvantages of Brexit, Slovakia and the Czech Republic are the most vulnerable CEE market largely due to the dominance of the car and vehicle industry, which can be sensitive sector against the global changes.

Among the Baltic States 25% of Estonian, 22% of Lithuanians, and 20% of Estonian SMEs provide the opportunity to purchase goods or services online (related to the digitalization of SMEs). Estonian companies are the most eager to launch internet sales in the future, too. Estonia has been one of the Eurozone’s fastest-growing economies. During the first three quarters of 2018, GDP expanded by 3.8%. However, the growth has not been broad-based, as almost half of it came from the construction and real estate sectors, while businesses in the transport, health, and education sectors are the most cautious. 8% of Estonian companies employ foreign workers and 13% of companies are discussing such possibilities. These are the largest number among Baltic countries. That is not surprising, as the employment rate is the highest in Estonia (Unt, Kazjulja & Krönström, 2020). Latvia is the last one among the Baltic States according to the share of companies, which provides the clients' the opportunity to buy the products or services online. Lithuanian companies operating in agriculture, IT, transport, and manufacturing companies. Unexpectedly, the share of companies focusing on domestic markets increased from 66% to 76%, while the share of entities, which will pay the most attention to the current export markets dropped from 18% to 11%. The lack of skilled labour will

remain in 2019 and successfully Baltic Business Outlook 2019 growing companies will have resources to attract people, while those struggling will have difficulties with even retaining current staff as the labour costs continue rising.

The transformation period following the change of regime resulted in a significant decline in GDP, coupled with inherited high debt levels, which led to a rapid disruption of external and internal balance in the countries of the region in the 1990s. This was followed by a short period of improving equilibrium and rapid growth until the early 2000s. Between 1997 and 2001, vigorous growth took place with the maintenance of external and internal balances and a reduction in public debt, helping the CEE countries to catch up to the Austrian economic and social development, which has been regarded as a sample.

The Central and Eastern European countries (Bulgaria, Czech Republic, Estonia, Croatia, Poland, Latvia, Lithuania, Hungary, Slovakia, Slovenia, and Romania) that joined the EU in 2004 have reduced their gap compared to the EU core member states due to strong economic growth in recent years (Mind the Gap, 2015). This improvement is increasingly being perceived by workers as a result of significant wage increases. Some countries in the region, especially those located near economic centers in Western Europe, are already close to the EU average. Due to strong domestic demand and foreign direct investment, the weak dynamics of world trade have so far had little impact on the development of the countries of the region. However, the CEE countries should continue to catch up, it is necessary to maintain competitiveness and improve the quality of institutions.

There are significant differences between the members of the group: in the Czech Republic and Slovenia, GDP per capita is around 90% of the EU average, about 80% in Estonia, Lithuania, and Slovakia, and about 70% in Poland, Latvia, and Hungary, while in Croatia and Romania it is around 60% and in Bulgaria, it is only 50% (World Economic Forum (WEF) Global Competitiveness Report, 2018). The catching-up processes (regional convergence) have not led to a worsening of macroeconomic imbalances. This reflects a decline in the public debt-to-GDP ratio in all countries under review and a decline in the debt-to-GDP ratio in almost all countries. However, there have been signs of overheating in the labour market recently. The rate of wage growth in each of the countries under review significantly outstripped productivity growth, leading to a sharp rise in labour costs and a loss of competitiveness - adding that unemployment across the group as a whole fell to an extremely low level of 4.3% last year. Wages and salaries increased by 8.2 %, well above the 3.3 % increase in productivity.

An important factor in catching up is the increasing integration of the CEE economies into the EU internal single market and the world economy. The degree of economic openness - the share of exports and imports in GDP - has increased from 59 % to 64% in the last five years. This process has involved the modernization of infrastructure, not least the support of the EU Structural and Cohesion Funds. The stabilization of the economic framework with EU membership has greatly stimulated foreign FDI and facilitated integration into cross-border production networks.

Continuation of catching-up also depends on the quality of the institutional system and the business environment is improved (Das & Drine, 2020). They pointed out that, according to the latest World Bank figures, the Czech Republic alone, according to the so-called Worldwide Governance Indicators (WGI) Survey, is above the EU average in terms of governance effectiveness, quality of regulation, rule of law, political stability, freedom of expression and accountability of the state. Other countries in the region are sometimes lagging, particularly in terms of quality of regulation, the rule of law, and the fight against corruption.

The World Economic Forum (WEF), in its 2018 Global Competitiveness Survey, found that while conditions in most countries in the region improved slightly, none of them reached the EU average. Underdeveloped regional innovation systems, skills gaps, and poor institutional quality undermine the growth potential of lagging regions. Innovation lacks efficient interactions between higher education institutions and the productive sector. Lack of human capital and poor institutional quality hampers

competitiveness and investment decisions (Asamoah, Mensah & Bondzie, 2019). Low-income regions still have significant gaps in their infrastructure, while low-growths need well-targeted investment to improve accessibility.

Improving the quality of the institutional system may also be a prerequisite for increasing investment in research and development and high-value-added investments. According to Eurostat's EU Statistics Office data from 2017, R&D spending in the region under review represents on average 1.2% of GDP, far below the EU average of 2%. In addition to FDI, EU funds also play an important role in regional economic development processes. In the period 2014-20, an average of 2.9% of EU GDP is flowing into the region (€ 150 billion to EU member states, excluding Poland), and 2019-20 is a critical period for resource use. The digital transition will create further growth opportunities in the region. Internet penetration has increased by 20 % since the year 2010 in CEE countries and is now close to 75 % of the population, measured by the number of people using the Internet. Mobile penetration in the CEE countries is 120 % for mobile subscriptions per 100 people.

The world economy can undergo a major transformation over the next few decades, what are such global megatrends such as demographics, technologies of the future, a new phase of globalization, and changing energies. Breakthrough technologies are primarily advanced in the short term however, globalization and the due to significant spillover effects on developing and they can also affect emerging countries. Advanced participation in technology research is highly concentrated nowadays, both between countries and between companies in the long run while maintaining balance new megatrends that can be exploited to help catch up with the economy and tackle traps affecting the CEE countries' economy may contribute to the increase in domestic productivity (Litvinenko & Sergeev, 2019).

In addition to high value-added ability, there is a healthy corporate structure, and a productive corporate sector it is the basis for long-term sustainable economic growth (Glonti, Trynchuk, Khovrak, Mokhonko, Shkrobot & Manvelidze, 2020). Maximum productivity reserve for SMEs identified. The capital- and knowledge-intensive growth model is primary are the driving forces behind productive businesses, and the entrepreneurs who build and operate them. Several factors influence entrepreneurship define. Such opportunities include recognizing opportunity, risk-taking, and networking, as well as product and process innovation, technology, or venture capital use. The foundation of a vibrant entrepreneurial ecosystem is accepting the possibility of failure and deciding to restart. The willingness to take risks largely determines the entrepreneurial culture and potential of economic innovation.

CEE countries are lagging in innovation and productivity. Innovation also requires fair competition as it encourages continuous improvement (Prokop, Stejskal, Klimova & Zitek, 2021). Companies mustn't compete for the money of EU Structural and Cohesion Funds, Pre-accession Funds, and other state support, which has become a common practice in these countries. It is also not certain that the state can decide for itself where the world is going, and what kind of innovation can be most successful in these countries. Therefore, a broader strategic planning basis and professional discussion with socio-economic actors would be needed to allocate development funds as effectively as possible.

5. Conclusion

Successful implementation and innovation would also require significant bureaucracy reduction. The state would otherwise have the task of strengthening domestic companies, not least because the domestic entrepreneurial sector could make the economy more crisis-resistant and, at the same time, increase its dynamism with an entrepreneurial spirit. Thinking in the long timescale, competitiveness should be strengthened through domestic businesses based on high-value-added knowledge-based activities. This means investment in public and higher education, making efforts to develop well-educated, motivated human resources with comprehensive competencies, and speeding up the less developed sectors of the domestic economies and regions. The domestic SME sector in every CEE

country should possess market knowledge and make its own products and service development and enter into the market with its brand besides or inside the supplier role of the MNCs.

The national economy's competitiveness in the CEE countries means that their domestic economy is capable to develop continuously in a sustainable way, they can avoid crises, they can improve labour workforce's knowledge, they can constantly modernize their structure, and they can sell more and more knowledge on the global market instead of purchasing knowledge which is the current situation. In this context, the competitiveness of domestic-owned companies (primarily the SME sector) should be based on creativity, innovation, excellent management, and organization, under fair competition circumstances. Getting bid money, tax breaks, or cutting red tape can help, but the money of an unimaginative company is not boosted by public money. That is, in the latter case, we were wasting money because we were taking away the chance of success from a company that could perform better. So, it is a big problem if not innovative companies get public or EU funding because that amount will be a waste of money.

In addition, it would be desirable to focus on harmonising university education with the emerging labour market needs and prevent it from being troubled largely due to the gap between educational services, portfolio, and labour demands. It should be also pivotal to widening lifelong learning processes since upgrading the knowledge can be inevitable for adaption to new challenges and competition. Innovation can be accelerated by integrating education, research, and innovation, learning from successfully established so-called "Knowledge-Triangle" networks (e.g. European Institute of Technology Knowledge and Innovation Communities). In addition, every CEE country should implement its smart specialization strategies as well.

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