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EVALUATION METHODOLOGY OF THE DEVELOPMENT STAGE OF A COUNTRY

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Abstract. The assessment of a development stage of a country, as well as the determination of existing tendencies, is a sophisticated process, which has attracted the attention of economists for ages. Nevertheless, nowadays, the uniform methodology for the evaluation of a development stage of a country does not exist. World economists have identified plenty of factors that have more or less a significant impact on the economic situation of a country. However, the combination of the mentioned factors depends on the aim of the research. This paper presents the methodology for the evaluation of the development stage of a country in relation to the EU economic and political processes.

JEL classification: O110.
Keywords: development, methodology, economics, the EU internal market.
Reikšminiai žodžiai: plėtra. metodologija, ekonomika, ES vidaus rinka.

1. Introduction

The economic development discipline finds its beginnings in the 18th century. Even now, economists continue to discover new aspects as relevant for the development process of a country. After the Second World War the Russian economist V. Rostov and the American economist R. Solou stressed the relevance of investments, savings and equity capital for economic development (Atkinson et al 1998, Mankiw 1994); later on W. A. Lewis and H.B. Chenery believed that the employment rate, and therefore the development pace, increases until the free labour force transfers from the rural sector to the urban sector (Atkinson et al 1998, Chenery 1989); F. Perroux, K. Rothschild and other economists highlighted the connection between the main economies (metropolies) and the periphery countries (satellites) (Sandretto 2009, Atkinson et al 1998); J. Hicks, G. Stigler and other scientists supported the minimization of a governmental intervention in the market processes (Atkinson et al 1998, Stigler et al 1962), and, finally, P. Howitt correlated development with openness,

competition, change and innovation (Aghion et al 2009). The Lisbon strategy, which was the main strategic document of the European Union (EU) in the 2000-2010, was focused on the three key priorities: economic growth (expressed by GDP per capita), employment, and environment protection (Kok 2004). The new EU strategic document for the next decade, *Europe 2020,* embraces the three mutually reinforcing points: knowledge and innovation; resource efficient, greener and more competitive economy, as well as high-employment economy delivering social and territorial cohesion (European Commission 2010).

As a result of the analysis of the theories and strategies referred to above, the author has concluded that the development theories and strategies are not controversial, but rather adapted to certain conditions and the time period they were worked out in. Countries have studied the experience gained in the 20th-21st century, which has been reflected in the theories created by the economists.

Nowadays, in order to evaluate a development stage of a country, not only the national economic and political processes of a country should be investigated. It is highly important to take into account the impact of regional integration and globalization. Therefore, the aim of the paper is to provide the development evaluation methodology for the countries, being members or candidate countries of the EU single market, which also considers the potential and existing pros and cons of the four EU freedoms.

To achieve the aim of the paper, the following objectives have been set: to define principles for selecting development factors for a country; to group the development factors and indicators into a system according to the development stage of a country; to define the rules for the evaluation of the development factors and indicators; to provide the interpretation of the results of the evaluation.

2. Development factors of a country

Scientific research shows that preconditions for the successful development of a country are tightly correlated with the current development stage of an economy. Respectively, a different approach should be applied to further enhance the quality of life in, let us say, Denmark, on the one hand, and Latvia, Bulgaria or Romania, on the other hand. In order to demonstratively characterise the economic development process of a country, accumulating the historically expressed ideas, three development stages were proposed. The conclusion was drawn that for ceaseless growth it is necessary to bring forward the right priorities and to correctly allocate the available resources of an economy at each of the stages. Practically speaking, if a country does not have an appropriate quality of roads it could be hardly interested in making bulk investments in, for example, nanotechnologies.

The economy of any country can find its place in one of the three stages demonstrated in Fig. 1. In Fig. 1 the development factors are arranged according to their value added to the development process at each stage of development of a country.

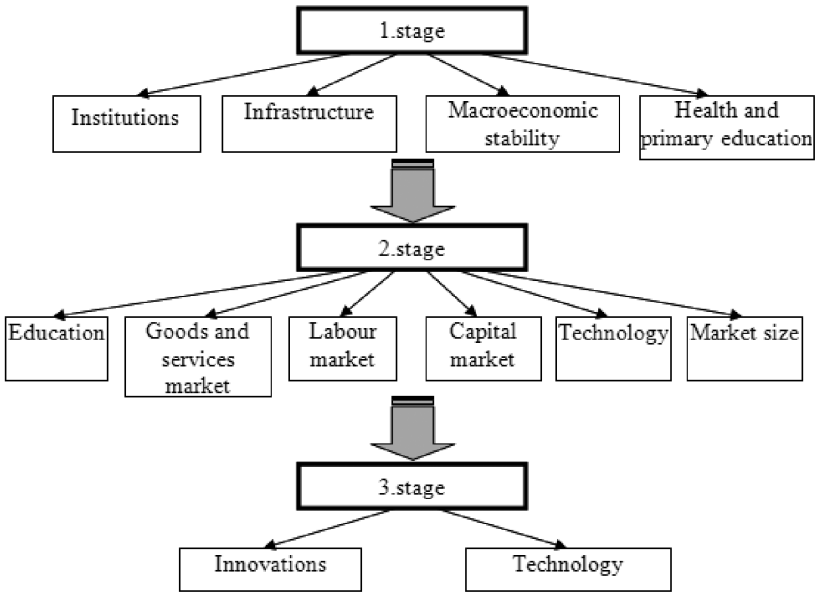

Fig. 1. The system of the development evaluation factors
(Source: the author's elaborated model)

The first development stage determines the ability of a country to exist and function, ensuring its inhabitants' basic subsistence needs. It covers the quality of institutional framework, infrastructure, macroeconomic stability, as well as health and primary education.

When a country has created the foundation for its economic operation, it spirals up to the next economic development level. The aim of the second stage is focused mainly on the improvement of the quality of the state mechanism and upgrading of living standards. At the second stage a government strives to increase the efficiency of education, goods and services market, labour market, capital market, technology, and to extend the market size.

The third development stage considers perfection of the existing economic instruments of a country, and is normally applied by the countries trend-setters and the most advanced market players of the world. At the third development stage the main priorities of a country are innovations and high technology.

In order to further elevate the economy of a country, there should be satisfied the development preconditions of all the previous development stages.

3. Development indicators of a country

Despite the unique characteristics of each particular country, the scope of the key factors effecting growth is analogical for the majority of economic spheres. To define

the development stage of a country and, accordingly, adopt the rational strategy for the following action, it is necessary to thoroughly evaluate the development factors of the three stages demonstrated in Fig.1.

Each of the development evaluation factors could be characterized with a group of indicators. Since the range of the indicators could be almost unlimitedly extended, in the methodology the most important indicators were selected. In case the number of indicators continues to increase, the impact of a single indicator to a selected factor becomes more dissent. Consequently, it also becomes more problematic to correctly interpret the behaviour paradigm of a development process' components.

3.1. The first development stage indicators

As was already mentioned, the factors of the first development stage have fundamental significance, ensuring functionality and viability of a country. In Fig.2 the system of the factors is provided and the corresponding indicators of the first development stage. As a result of the analysis of each of the indicators, it is possible to draw a justified conclusion for the necessary steps to be taken for further economic development of a country or a region.

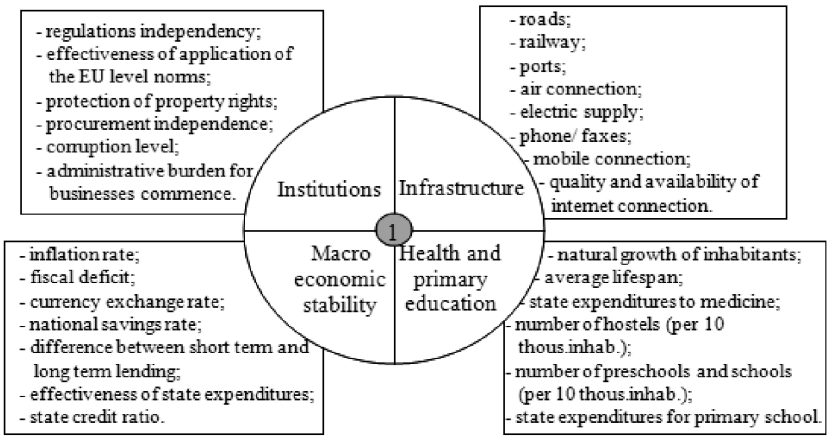

Fig. 2. The system of the 1st stage development factors and indicators
(Source: the author's elaborated model.)

To evaluate the quality of public institutions in a selected member state of the EU internal market (or a candidate country), it is necessary to determine the level of independence of national regulations, effectiveness of application of the EU norms at the national level, protection of property rights, procurement independence, corruption level, as well as administrative burden for the commence of businesses.

The situation with quality of infrastructure could be characterized by the condition of motorways, railway, ports, air connection, electric supply, phone/ faxes, mobile connection, as well as quality and availability of internet connection.

Macroeconomic stability could be reflected by inflation rate, fiscal deficit, currency exchange rate, national savings rate, difference between short term and long term lending, effectiveness of state expenditures, and state credit ratio.

Finally, the quality of healthcare system and primary education in a country could be evaluated according to the natural growth of inhabitants, average lifespan, state expenditures to medicine, number of hospitals (per 10 thousand inhabitants), number of preschools and schools (per 10 thousand inhabitants), and state expenditures for primary schools.

3.2. The second development stage indicators

The factors of the second development stage of a country enhance the efficiency of a governmental mechanism. The system of the indicators which shape the factors belonging to the second development stage is demonstrated in Fig.3.

As the methodology is elaborated for the purposes of the EU member states (or the EU candidate countries), it is important to evaluate to what extent the principles of the EU single market are implemented in the national system of a country. In other words, the indicators should demonstrate if it is ensured that the country can gain from the benefits provided by the EU four pillars: free movement of goods, services, people and capital.

Fig.3. shows that the effective functioning of the market of goods and services depends on the existence (or non-existence) of hidden barriers for entrepreneurship, tariff liberalization policy, competition intensity, sound anti monopoly policy, and elimination of restrictions to EU and foreign businesses.

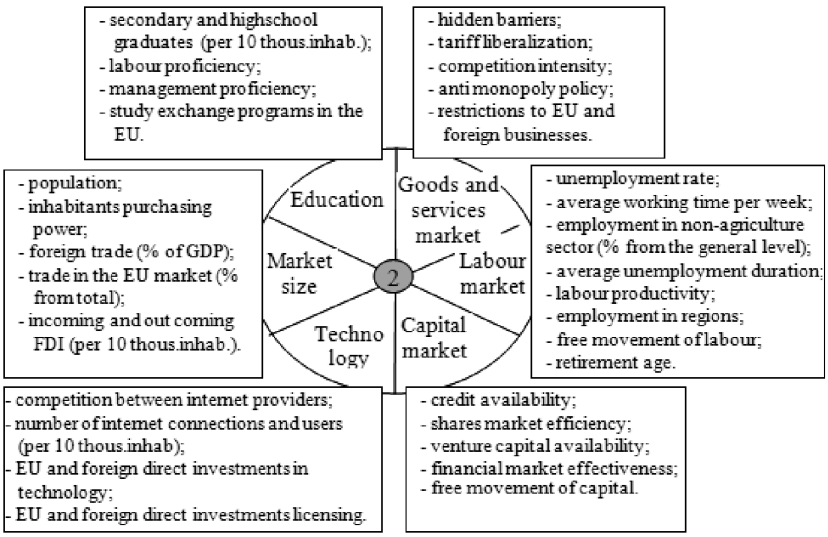

Fig. 3. The system of the 2nd stage development factors and indicators
(Source: the author's elaborated model.)

The labour market operates in the proper way if there is positive data on unemployment rate, average working time per week, employment in non-agriculture sector (% from the general level of employment), average unemployment duration, labour productivity, employment in regions, retirement age, and if there the principle of free movement of labour functions practically.

Capital market could be estimated by credit availability, shares market efficiency, venture capital availability, financial market effectiveness, as well as manifestation of the principle of free movement of capital.

At the second development stage of a country the technological maturity could be measured by the EU and foreign direct investments in technology, the EU and foreign direct investments in licensing, existing competition between internet providers, and the number of internet connections and users (per 10 thousand inhabitants).

The most popular indicators for the determination of market size are population, purchasing power of inhabitants, and foreign trade. However, the methodology for the evaluation of the development stage of an EU internal market member state (or the EU candidate country) includes also such indicators as trade in the EU common market (% from total foreign and national trade), and incoming and outgoing foreign direct investments (per 10 thousand inhabitants).

At the second development stage the quality of secondary and higher education should be evaluated: the number of secondary and high school graduates (per 10 thousand inhabitants), level of labour proficiency, management proficiency, and popularity of study exchange programs in the EU.

3.3. The third development stage indicators

At the third development stage a country has two main strategic directions to further enhance its prosperity—innovations and technology. Both criteria have already appeared at the second development stage; however, at this level they consider the advanced scientific approach and novelty (Fig.4).

At the final development stage the level of innovations could be characterized by sophistication of technological progress, aggressiveness of technology adoption from the most advanced countries of the world, spending for research and development (R&D), business cooperation with universities in R&D, and number of patents per 10 thousand inhabitants.

Speaking about the indicators measuring the technological factor, the key relevance has effectiveness of e-government, and information communication technologies (ICT) set as a governmental priority. As technology development requires huge investments, the priorities of the EU common budget play an important role for scientific investigations.

If ICT are viewed with the commensurate concern at the highest EU level, there are much more possibilities for the development of high technology industry in the region than in a single member state.

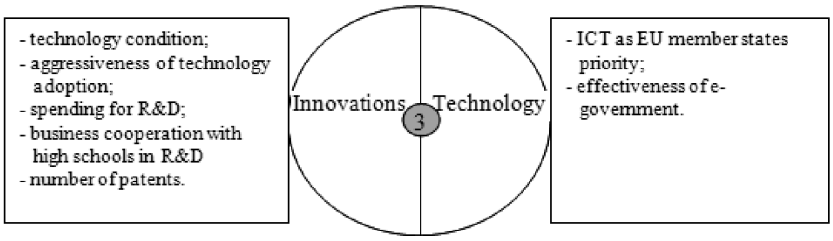

Fig. 4. The system of the 3rd stage development factors and indicators
(Source: the author's elaborated model.)

However, the development of a country is a never-ending process, and the economic situation can change because of effective or less effective decisions taken by government, responding to the changing global environment. Therewith, even if a country has passed through a certain development stage, it should consider the development preconditions of the existing and the former stages with a sufficient concern, not to fall back due to the problems occurred with one of the factors of a lower development stage.

4. Evaluation of development factors and indexes

For the evaluation of the development stage of a country, the methodology considers the data analysis based on a range of reliable official statistical and analytical sources: international sources (the publications of the European Commission, Eurostat, the World Bank, International Monetary Fund, EFTA statistical office, European Central Bank, Moody's Investors Service ratings agency, Standard & Poor's ratings agency, R & I ratings agency, etc.), national sources (the Ministry of Economics, the Ministry of Finances, the Ministry of Foreign Affairs, line ministries, public treasury, State social insurance agency, Business Development Agency, etc.); as well as scientific papers, publications in Mass Media, special editions, and conference proceedings.

For the development stage evaluation the statistical and analytical data for the last decade (for the time period from 2000 to 2010) is processed. It is assumed, that in case of a crucial change in a behavioural paradigm of an index, the decisive role has the latest data expressed in absolute numbers.

The values of the development indexes referred to above are placed in Table 1.

Table 1. Evaluation of development factors and indexes

No	Development evaluation factors and indexes	National Value (A_n)	EU average value ($\overline{B_{EU}}$)	Coefficient, %
1	**1st Development stage**			
1.1.	Institutions			
1.1.1.	Regulations independency	1	1	100
1.1.2.	Effectiveness of application of the EU level norms	0.3	0.09	333

No	Development evaluation factors and indexes	National Value (A_n)	EU average value ($\overline{B_{EU}}$)	Coefficient, %
…	…	…	…	...
1.1.6.	Administrative burden for business commence	132	122	108
	average			90
2	**2nd Development stage**			
...	…			

The indexes are characterised in the three dimensions: the national value, the EU average value, and the coefficient F. The national values and the EU average values of the indexes shall be expressed by absolute numbers. The EU average value of an index shall be calculated with the help of Formula 1:

$$\overline{B_{EU}} = \frac{\sum_{j=1}^{n} b_j}{n}, \quad (1)$$

where:

$\overline{B_{EU}}$ – is the average value of the national indexes of the EU free market members,

b_j – is the value of an index in a EU member state,

n – is the number of the EU internal market member states.

It is assumed, that the number of the EU internal market member states is 30, as the principles of free movement of goods, services, capital and people are applied not only in the 27 *de jura* EU member states, but also in the three EFTA countries—Iceland, Lichtenstein, and Norway.

The coefficient F has a relative value, demonstrating to what extent the national value of an index corresponds to the EU general level:

$$F_i = \frac{A_{ni}}{\overline{B_{EU\,i}}} \times 100\%, \quad (2)$$

where:

F_i – is the efficiency coefficient of an index i (%),

$\underline{A_{ni}}$ – is the value of a national index i,

$\overline{B_{EU}}i$ – is the value of an average EU index i.

After the values of all the coefficients have been determined, the average value of the coefficients at each of the three development stages of a country should be calculated.

According to the methodology, if the value of an average coefficient is less than 85%, the country is not ready to compete at the selected development stage and still has to improve the values of the corresponding indexes. Probably, it is even worth to start with solving problems at the previous development stage.

If the value of an average coefficient finds itself between 85% and 125%, the evaluated development stage of a country complies with the actual stage of development, and the country has applied the right development strategy, setting proper priorities. It should further strengthen its positions at the current development stage, as well as start planning the necessary steps to be taken for the shifting to the next development stage.

In case the value of an average coefficient is higher than 125%, the country has successfully passed through the corresponding development stage and should evaluate its competitiveness at the further development stage.

Example of the evaluation of the development stage of Latvia

Latvia is a parliamentary republic, and all the political decisions accepted by the Cabinet of Ministers shall be also approved by the Latvian Parliament (Saeima). The existing system could be characterised as effective, as people represented by the elected deputies are able to express their will regarding the state policy (Bogdanova 2010). The regulation independency has been ensured in Latvia and in other EU member states. Accordingly, the value of the national and the EU average indexes, as well as the coefficient F is equal to 100 % (Table 1).

The EU level directives have been implemented in the national regulations by the line ministries of Latvia. Latvia has one of the best results in the transposition of the EU norms among the EU member states—the transposition deficit of the country fulfils the EU aim of 1%, and makes just 0.7% (99.7% of directives are implemented). The EU market average directives transposition deficit is 0.91% or 99.09% of directives are successfully implemented in national legislation (European Commission, 2009). Therewith, the value of the coefficient F should be calculated in the following way: (100-99.7) / (100-99.09) * 100% = 333% (Table 1).

The minimization of the administrative burden for commencing business is one of the Latvian priorities. In 2009, Latvia had the 51st place out of 183 countries according to the ease of starting business (i.e. 183 – 51 = 132 countries ahead). The EU internal market average level found its place at the 61st place (i.e. 183 – 61 = 122 countries ahead) (World Bank 2010). Consequently, the value of the coefficient F is equal: 132/122 * 100% = 108 % (Table 1). In the same way all the indicators of the three development stages could be calculated and placed in the table.

According to the methodology, despite the economic problems caused by the financial crisis of 2008, Latvia fulfils the conditions of the first development stage, still having to solve some national issues. However, Latvia has to fix a range of more serious imperfections in its national policy in order to correspond to the average European level at the second development stage. At the same time, the country is not ready to globally compete at the third development stage. Therewith, Latvia should choose the follower strategy, doing its best when undertaking the innovative initiatives elaborated at the EU level (Bogdanova 2010).

5. Conclusions

World famous economists have identified various factors as having a stronger or a weaker impact on the economic situation; however, the universe methodology for the evaluation of the development stage of a country still does not exist. The development factors have to be chosen up to the goal of the research. The present methodology provides the development stage evaluation approach for the existing or potential members of the EU free market (i.e. the EU member states, 3 EFTA countries, the EU candidate countries).

The economy of each particular country can find its place at one of the three development stages. The development conditions for a country differ at each of the mentioned stages. At the first development stage countries should, first of all, ensure an effective functioning of institutions, infrastructure, provide macroeconomic stability, as well as health and primary education. The competitiveness of a country at the second development stage embraces effective market for goods and services, labour market, capital market, technologies, education, and sufficient market size. In its turn, a country at the third development stage realizes its competitive advantage in highly sophisticated innovations and high technologies.

To define the development stage of a particular country, it is necessary to evaluate each of the development factors, consisting of various indicators.

The successful operation of a country depends on the right strategy with precisely defined governmental priorities, and correctly allocated available resources. The present methodology helps to identify if the applied strategy of a country complies with its current economic situation, as well as points at the possible bottlenecks for further development.

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ŠALIES PLĖTROS STADIJOS VERTINIMO METODOLOGIJA

Olga Bogdanova

Santrauka. Šalies plėtros stadijos ir esamų tendencijų vertinimas – ilgalaikių tyrimų procesas ir nesuformuota viena jo metodika. Straipsnyje siekiama pateikti tokį vertinimą, susietą su ES ekonominiais bei politiniais procesais ir paremtą išskirtais trim plėt-ros stadijų rodikliais. Formuojama metodika turėtų padėti nustatyti galimų strategi-jos įgyvendinimo kliūčių įveikimo būdus.

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