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Macroeconomic Stability and the Economic Growth in European Transition Countries

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1. Introduction

Macroeconomic stability and the economic growth are the first aim of the economic policy in sovereign countries. Economic policy spends most of the time in searching the means and instruments to realize high growth rates and maintain macroeconomic stability. Increased interest into analysis of economic growth can be seen from mid 80-ies of last century. On a world scale economic growth started slowing down in the first half of the 70-ies and continued during the 80-ies, with a slight improvement of the standard of living in industrially developed countries, whilst a large number of poor countries experienced stagnation. That experience, followed by a few examples in Asian countries which achieved a spectacular economic growth, encouraged economists to pay attention again to the analysis of the economic growth and to the research of factors influencing that growth.

The problem of the economic growth and macroeconomic stability becomes particularly actual in moments of recession and economic crises, as nowadays. The beginning of the new millennium, namely, brought another recession to the world economy and put the question on the economic growth again in the centre of interests of economic researches. The question: Are there limits to the economic growth and has world economy reached those limits? The affirmative answer is based on limited economic resources, and the negative answer is based on unlimited human creativity. However, a large number of developing countries is still on an existential level.

The economic growth in the long run represents the synergy of numerous determinants, such as labor, capital, natural resources, technology, human resources, innovation, research and development, trade openness and etc. What measures of economic policy improve the economic growth? Why some countries are technologically advanced, while others constantly stagnate at the low level of income? These are central questions of the macroeconomic research of the long term economic growth, which fall into one of the most interesting part of economic sciences. Although the interest for the economic growth phenomena present for centuries in the economic theory and practice, is still not uniformly accept scientific attitude why some countries develop slowly and some quickly, nor are the key determinants for rapid economic development for a given national economy.

Low economic growth and stagnation in former socialist European countries in the nineties of the last century made those countries take the transition way towards democracy and market economy. This paper will attempt to identify some determinants which were of

strategic importance for economic growth in selected transition economies: Czech Republic, Slovakia, Hungary, Poland, Slovenia, Estonia, Latvia, Lithuania, Bulgaria. We will chose from the pool of traditional and non-traditional determinants in the literature, and based on the availability of relevant indicators, we will try to estimate relationship between the growth rate of GDP, number of unemployment, FDI, external debt, budget deficit, trade openness and export per capita and inflation. After the theoretical review of the economic growth presented through historical reflection, we proceed with the analysis of some relevant determinants for economic growth in the above-said countries. Assessment of the current model of economic growth for selected European countries in transition will be made using quantitative methods of regression analysis (panel method), but for the two subperiods (1991.-2000. and 2001.-2009.) Based on obtained results, we will try to find the determinants, which are of strategic importance for economic growth in selected transition economies. According to the obtained results in the paper will be proposed measures necessary to implement the economic policy to accelerate the economic growth and maintain the macroeconomic stability in mentioned countries. Conclusion reflections will be presented in the last part of paper.

2. Macroeconomic stability and theory of the economic growth through history

The historical survey of economic growth starts with the Smith's classical theory of growth, continues with Harrod-Domar's model, goes through the neo-classical theory of growth (Solow) to reach the new (endogenous) theories of the economic growth.

Although seldom connected to the theories of economic growth, Adam Smith is among the first economists that elaborated the growth theory into details. His work *the Wealth of Nations* is the proof of an extraordinary knowledge of the mechanism of economic growth, which Smith considered to be an "integral" process at the microlevel (enterprise) and macrolevel (country). He thought that the economic growth is not conditioned just by the accumulation of capital, human capital, technology, soil, labour, export, but by the totality of those factors simultaneously.

One of the biggest Adam Smith's contributions to the economic theory is, for sure, the introduction of the term growing returns into economy, based on division of labour, i.e. on specialization. Smith was aware that specialization is stronger in industrial production and, at the same time, very limited in agricultural production, that leading to his theses that countries more oriented to industrial production become richer, whilst those oriented to agricultural production, are and remain poor. Besides the possibilities given by volume economies and specialization, Smith recognized also the importance of international exchange and free trade as engine of economic growth („*An Engine of Growth*"), (Smith,1776). The following contributions to the theory of growth come from (Harrod,1939; Domar,1946) who, independently from one another, starting from different positions, came to the same conclusions, precisely at the turn of the 30-ies and the 40-ies of the 20th century. In the Harrod-Domar's model of growth, the growth rate of the economy is the function of relationship between the savings rate and the capital coefficient (relationship of capital and output). The implicit assumption of the Harrod-Domar's model of growth is that there are no decreasing or increasing return on capital, namely that the marginal return on capital is constant and equal to the mean return on capital. According to the said model, the capital coefficient is equal to ICOR, namely to the reciprocal value of marginal return on capital.

ICOR is, by definition, the relation between the investment rate (investment share into GDP and growth rate of real GDP). However, when the balance is impaired, in the Harrod-Domar' model there are no powers that would bring economy back into balance. Harrod-Domar's model had an important role in the development economy of the World War II, and was frequently used in planning the development of less developed countries.

In the 50-ies of last century, the neo-classical theory of growth was created by Robert M. Solow (Nobel Prize winner in 1987). It is also called the neo-classical model of growth or Solow's growth model. Using simple functional forms and simplified assumptions, Solow pointed at three elements that should be considered when speaking of growth: technology, capital and labour. R. Solow, using his own analysis method, came to the conclusion: less than half of productivity increase in the USA, both per inhabitant and per real rental fee can be ascribed to the increase of capital itself. Much more than half of productivity increase should be ascribed to technical changes – scientific progress, industrial improvement (*know-how*) and knowledge on managing methods and education of labourers. It means that more than one half of production increase – as recorded by statistics through history- comes from scientific progress more than from savings and accumulation (Solow, 1956).

After the neo-classical theory of growth, almost nothing important happened in the economy of growth until mid 80-ies, and then, pieces of works that followed the doctoral dissertation of Paul Romer at the University of Chicago in 1983, a lot has changed, both in theory and in empirical analysis of long-range economic growth, also new theories were developed, nowadays called "*theories of endogenous growth*". New theories of growth are connected to the names of P.M. Romer, R. E. Lucas, E. Helpman and G. Grossmann, who start from the assumption that single decision-makers learn rationally not adaptively. That means that they do not change their behaviour gradually, reacting to new information or different circumstances, but they learn new rules quickly and discontinuously. It is assumed that people in decision-making are turned towards future, expectations, not towards history, experience (Romer, 1986.; Lucas, 1988.).

Unlike the neo-classical model, newer theoretical contributions point out the economic growth as an endogenous product of the economic system, and not as the product of the powers acting outside the system. Researches in the end of the 80-ies and beginning of the 90-ies of the 20th century, had the necessity to change something in the generally accepted neo-classical model in which the long-range economic growth, in its essence, has been determined by an exogenous rate of technological progress. Besides, the neo-classical theory did not offer adequate recommendations to the economic policy for problems of the real world like the constantly weaker growth in high-income countries and constant stagnation in the majority of poor countries. The new model and theories of economic growth encompassed also the possibility that interventions of the economic policy which influence the level of production in the traditional model, can also influence the economic growth rate, which is not the case with the neo-classical model.

The newest researches on the economic growth limits (Gerlagha R. & Keyzerb, M. A, 2001) are directed towards the improvement of individuals' creativity and their capacity to team up and achieve their ideas, and by doing so they are likely to maintain a continuous economic growth in the developed countries and an accelerated growth in the poor countries. New ideas imply a responsible behaviour towards non-renewable resources and the reduction of negative consequences of the growth, as well as towards the connection between the economic growth and the managing function. In other words, businessmen

have to take account of present, as well as of future generations, which deserve to live in welfare. Besides businessmen, there is the state, along with its institutions, that has a great role in increasing the welfare and the economic growth, and it should be also responsible for the macroeconomic stability and for the selection and the execution of strategies and policies of the economic growth and development, because it is empirically proved that the increase in individual's well-being is closely linked with the increasing prosperity of a nation as a whole.

2.1 Long-term economic growth in practice in selected group of countries

Empirical analyses of the economic growth process show that the backgrounds of some countries differ and that the rates of growth may be different in various countries and in a longer period of time. Long-term tendencies of economic growth and the attained income levels per capita can be monitored exclusively in today's industrially developed countries, while the same data do not exist or are unreliable for the developing countries. Therefore, hereafter are shown average annual growth rates of real GDP for particular groups of countries and periods. (cf. table 1).

	1970. - 1980.	1980. - 1989.	1992. - 2000.	2000. - 2008.
Africa-developing countries	4,52	2,07	3,29	5,45
European Union	3,18	2,44	2,49	1,95
G8	3,43	3,22	2,55	2,15
Transition countries	4,85	3,68	-2,08	6,60
World	3,81	3,25	3,08	3,18

Table 1. Average annual growth rates of real GDP in %

In table 1 are shown average annual growth rates of real GDP in the last 40 years for the following groups of countries: Africa - developing countries, European Union, G8 - the most developed countries, transition countries (Western Balkans and countries of the former USSR) and World as a whole. Of all the periods observed, the most successful was the first period 1970-1980, during which the average growth of real GDP for the World amounted to 3,81%, and the worst one was the period 1992-2000 (3,08%), which was due primarily to negative average growth rate in transition countries (-2.08%). The African developing countries and the countries in transition (except the initial difficult period) had higher growth rates of real GDP than the developed countries in the European Union and worldwide, while the biggest differences among different groups of countries are seen in the last period 2000-2008, during which a turning point occurred and the accelerated economic growth for the monitored group of countries in transition (6.6.%). However, even such high growth rates were not sufficient to reduce the gap between the developed countries and those still developing. The non-realizability of one of the major millennial UN's goals only goes to prove it, namely, the reduction by half of the people suffering from hunger by 2015, for the number of people starving to death increased from 850 million to 1,02 billion during the period 2008-2010.

The lack of a stronger economic growth during the 70's and the 80's of the 20th century provoked extensive debates about the reason why some countries, especially those in

eastern and southern Africa, were able to achieve a fast economic growth, while the most African and Latin American countries were going through a crisis, and the industrially developed countries attained just a slightly improvement of living standards. At the same time, there was inevitably put a question to what extent this absence of a stronger economic growth could be ascribed to a non-optimal combination of different economic (and other) policies, and to what extent it is the result of solely unfavourable external conditions. In other words, an answer was needed, whether the long-term economic growth and the macroeconomic stability were simply strokes of luck, or in spite of all, they were the results of an optimal policy choices on which the policy holders could affect. All the economists who have investigated the long-term economic growth agree that the optimal choice of macroeconomic policies has a positive effect on economic growth and contribute to macroeconomic stability (Easterly, W. & Sewadeh, M., 2010). Empirical methods show that in the last fifty years the economic growth has been stronger in those countries that have been enjoying a stable socio-political situation, higher investments and more balanced public revenue and expenditure, as well as lower inflation rate, better involvement in international flows and more human capital. Of course, what the impact of each specific policies is and, in particular, how the various instruments of these policies should be combined to enhance the stronger economic growth, it is much more complex problem that still remains a topic of much debate and controversy.

In accordance with the title of this paper, the most interesting group of countries in monitoring the long-term economic growth is that of the transition countries of the European Union (EU8), that have been full members of the EU since 2004. (cf. table 2)

	1995.	2000.	2006.	Difference 2006. - 1995.	Estimated year reaching euro-zone's average
Czech Rep.	63.6	60.6	67.3	3.7	2025.
Estonia	29.8	35.9	49.7	19.9	2040.
Latvia	25.7	30.8	43.8	18.1	2047.
Lithuania	30.4	33.3	46.1	15.7	2044.
Hungary	46.6	50.8	59.2	12.6	2031.
Poland	36.6	41.4	45.1	8.5	2045.
Slovenia	64.0	69.5	77.1	13.1	2018.
Slovakia	42.0	44.1	52.1	10.0	2038.
Average EU8	42.3	45.8	55.1	12.7	

Table 2. GDP per capita in EU8 transition countries in 1995-200 in PPP (purchasing power parity) euro-zone = 100

Table 2 shows GDP movements per capita according to purchasing power parity for eight former transition countries, European Union members in relation to the euro-zone 1995-2006. Although they are all EU members, there are big differences in GDP among them, observed through the purchasing power of the residents. The group of Baltic states headed by Estonia shows the highest economic growth, while the Czech Republic shows the slowest

development and according to the monitoring over the last ten years, it has remained nearly at the same GDP level per capita. Slovenia has the highest GDP per capita, and it reached 77% of the euro-zone's average in the 2005, while Latvia records the lowest average (43,8%). According to the data mentioned, it is predicted that Slovenia should be the first to converge and reach the euro-zone's average in 2018, and Latvia will probably be the last to achieve the euro-zone's average in 2047. It can be generally stated that in 1995 the countries with the lowest revenue recorded the highest growth rates in the following ten years.

2.2 Determinants of the economic growth

The economic growth is a complex macroeconomic phenomenon, and therefore even today it can not be completely explained what determinants, in what measure and in what way contribute to growth. The historical survey of theories of economic growth has shown that each of the said theories pointed out one or more determinants, which are key ones for the economic growth. Classicists pointed out natural resources, namely soil and labour, neo-classicists capital and technology, and the new theory of growth stressed human potentials.

2.2.1 Labour

So far, the labour factor has been considered as the holder of the economic activity, however manpower, namely its broader term *population* is at the same time the user of the product and of the services, i.e. the result of the economic activity. The whole population is not important for the economic activity of a single country, since part of the population does not participate into that activity. Manpower is made up of that share of the population able to work and employed, but not the share that wants to work actively and is actively looking for a job. The essential characteristic of the population determining its power as determinant of the economic growth is the number of inhabitants and its quality. The population by its number and excessive growth can represent an obstacle to economic growth. That particularly is expressed in non-developed countries which have a high increment and limited employment possibilities, leading to *unemployment* problem. The other side of the medal shows lack of manpower that can be an obstacle to the economic growth, and particularly lack of quality, highly educated manpower, being a problem faced by some developed European countries.

2.2.2 Capital

The basic Solow's model of economic growth (without technology) favours capital as the basic determinant of the economic growth which was already mentioned in the historical survey of economic growth theories and we can conclude that investments are an indispensable precondition of economic growth. Capital accumulation makes up the largest and most important share of means meant for investments and for that reason it is very important as a source of economic growth. The essence of accumulation is represented by deferred consumption in favour of a faster growth and higher consumption in the future. Investments into physical capital can be direct (increase of physical capital stocks) and indirect (investments into social and economic infrastructure). Capital accumulation, however, does not imply only the accumulation of physical capital but also investments into the increase of the quality of the soil and investments into human resources (education, health). Human resources, therefore, namely potential, can be examined also as a separate determinant of economic growth.

2.2.3 Natural resources

In the triad of the basic production factors “soil, labour and capital”, the soil represents limited natural resources, that contribute significantly to the economic growth of single countries, but their contribution in the capitalistic way of production is neglected and insufficiently researched, and the obvious reality that natural resources represent the main source of abundance for the economic growth is neglected.

Nature gives to human society various lively maintainable benefits that would be classified by economists as good and services. Main goods are: food which is used to keep persons in life, and building material enabling people to build a shelter. Services are water depuration, stocking and supply, waste assimilation, balance of oxygen in the atmosphere and carbon dioxide and monitoring climatic powers. Goods and services got from the environment are collectively called services of the ecosystem, and benefits of the human race are fully dependent of an uninterrupted flow of services of the ecosystems of the nature. Expenses for the production of goods and services coming from the soil are borne by the soil. Should services of the ecosystem be paid, expenses for the products would be incomparably higher. Due to the fact that the expenses for goods and services coming from the environment are not calculated into the world price system, renewable services of the ecosystem are given only marginal importance when making decisions about economic policy.

2.2.4 Technology

Besides the increase of the capital/labour ratio, economic growth is particularly influenced by technical progress. Some older growth models treated technological progress as an exogenous variable. In the neo-classical model of growth (Solow, 1956) a small share of economic growth can be ascribed to labour factor, and a part relates to the factor of capital, whilst the rest is ascribed to the technological progress, already treated as exogenous variable hereinabove, the so called Solow residual.

Only a continuous technological progress can assure an important and sustainable economic growth, which is also proved by the mathematical formulation of the economic growth problem. We cannot, namely, expect a constant increment of the labour factor, and a higher growth of the capital in respect to labour leads to the decrease of return on capital and, as ultimate consequence, to slowing down and decreasing growth, even in the case of a constant capital increase. Therefore, every economy must improve its technology continuously and the case here is the so called “intensive growth”. Technological progress of developed countries as the USA, Great Britain, Germany, France and Japan make the most important determinant of their economic growth (from 46% to 71, %), (Ćosić and Fabac, 2001). The technological progress of a single country or nation is realized by diffusion of new technologies. Those industrial branches or sectors laying on high technologies realize today high profits, namely high sums of money return in respect to investments. Some authors state that for the process of reaching developed, by smaller and transition countries, it is important to fulfil some key conditions: have the possibility and capability to exploit new generic technologies, accept and modify technological innovations of the other, for one’s own development; breaking into a determined narrow “niche” with high quality products (Švarc, 1997). For all those three conditions, and in the interest of increasing return on whole national economy, technological policy should focus on stimulating or supporting investments into single industries into research and development.

2.2.5 Human potentials

Human capital is created by investing into human resources. Human capital appeared indirectly for the first time in the empiric research of the economic growth in the 60-ies of last century in works written by Abramovitz and Solow. They introduced technological progress into classical production factors soil, labour and physical capital, deeming that the technological factor contributes with 75% into the economic growth. Those authors considered all non-material factors of growth as technological progress, as for example the improvement of existing and introduction of new technologies and production processes, changes into *education and competence of the employees* and similar. Neo-classical theory of growth, however, did not define clearly what factors cause technological progress and was not able to explain them. A considerable number of empiric researches of the economic growth tries to state the level and strength of the connection between investments in creating the human capital and the reached rates of economic growth. The majority of the researches show a positive connection between investment into forming human capital and reached rates of economic growth (Nelson and Phelps as far as 1966 and Benhabib and Spiegel in 1994). One part of the researches, by modelling technological progress or modelling growth of the total factorial productivity being the function of the level of education and quality of human capital, explains how investments into forming the human capital influence positively the economic growth. Better educated manpower (higher quality human capital) is more capable to innovate new technological products and processes, it is more ready to accept knowledge indispensable to implement new, highly-sophisticated technologies, and thus generate economic growth. One part of the explanation of the positive impact of investments into forming human capital have on economic growth tries to show that a better educated and skilled manpower will attract a higher level of investment into physical capital, and investments into physical capital are positively correlated to economic growth.

2.2.6 Innovations and research and development

The theories of endogenous growth give, besides human potentials, the key role in growth to *research and development*. Adding to some of the Schumpeter's ideas, (Schumpeter, 1942) the first model of sustainable development belongs to the group developed by (Romer, 1990) and followed by (Grossman and Helpman, 1991). Schumpeter thought that research and development carry economic growth, and are stimulated by the conviction that extra profits will be assured. He also recognized the meaning of the market power. Whilst in the conditions of perfect competition enterprises can use innovations free of charge and no one is stimulated for research and development, in markets with monopoly power that stimulus is sure. Due to the origin of basic ideas on which this group of models is based, they are frequently called neo-Schumpeterian models. The models of this group, characterized by monopoly power, it is basically suppose the existence of a separate technological sector in economy, which supplies other sectors with new technologies. Producers buy technologies and thus get the right to use them. They also pay the price which is higher than the marginal cost of their production, in order to generate sufficient income to cover the expenses including the initial investment into new technologies. Investments into innovation projects have not the characteristic of decreasing return. Therefore, the productivity of new investments into innovative activities does not decrease and thus enables a constant sustainable growth. In those models growth rate depends on the quantity of means

intended for innovative activity, i.e. to research and development, depending on the grade to which new technologies can be used privately (namely on the grade of monopoly power) and on the time horizon of the investor (Mervar, 2003). Western industrialized countries today compete to attract research and development activities of multinational companies. Transition and developing countries, unfortunately, frequently have just the branches of big companies, like their marketing departments. Some data suggest that foreign investments into research and development generally have the trend of following production just in foreign markets: if more production is located in a foreign country, it is more likely that research and development activities will be located there. Examples of companies that have decentralized their research activities are very rare. The majority of international corporations keep their strategic projects and key technologies in their domestic economies, and abroad they have development and design activities in order to adequate their products to the local market. Various researches have been made on the regularity referring to I&R of single groups of countries. With smaller, developed countries, with export-oriented economy, it has been found that more than one half of research of private sector is done abroad (Regger, 1998).

2.2.7 Export capacity

When speaking about economic success of some countries (for example of Far East ones, but also about countries closer to us) analysts, in general, agree that the role of two factors is important: export orientation and investment rates. They are frequently called “growth engines” because, when strengthening, they draw the whole economy forward. A strong positive correlation between those two variables and growth rates of Eastern Asian economies has been stated empirically. Export has a positive impact on economic growth, and the theoretical argument is that export orientation increases openness of economy and, together with exposition to foreign technologies and competition, makes fast rates of technological progress possible. In the other direction technological progress also enables export orientation. Developing countries being more dextrous in adopting and implementing progressive technologies, have a precedence in world markets based on the possibility to sell their advanced products to other countries.

2.3 Economic growth's analysis of the selected european transition countries in the period 1991-2008

Under the name of transition countries it is meant the former socialist countries in the European territory that are moving from socialist and methodically organised production to capitalist and market-oriented production. That unique historical event is named *process of transition*. Aside from complexity and multidimensionality that, along with economic changes directed to market economy, imply also changes in political, institutional and social functioning of those countries, the analysis of the *transition process* is complicated by the fact that in certain countries it is still ongoing¹. By foundation or by claiming their independence, the transition countries have all started building institutions that should guarantee the macroeconomic stability and the functioning of the market economy. They have

¹ EU members countries (except Bulgaria and Romania) are considered the former transition countries because they have completed the transition process, but hereafter it will be used the term *transition countries* for all the analysed countries in order to simplify it.

significantly liberalized prices and foreign trade, as well as restructured and privatized economies at different ranges. However, the transition countries each differ in many ways. They differed at the beginning of the transformation process, but the ways that have brought to economic growth and development are significantly different. The two most famous transitional strategies are: shock therapy that implied the introduction of market economy elements all at once, and the gradual approach and gradual transition to market economy. The results of the two strategies can not be generally monitored because each of them shows both positive and negative examples. In the economic area, the first decade of transition was characterized by a sharp drop of the total economic activity, which has been stopped so far in all the countries, while some of them have already achieved a multi-year economic growth. All the transition countries have built institutions that should guarantee the functioning of the market economy. They have also liberalized prices and foreign trade, as well as restructured and privatized economies at different ranges. However, the transition countries each differ in many ways. They differed at the beginning of the transition process, but very different were also their paths of development. The depth of the crisis and the activity decrease at the beginning of the transition process, along with the speed of its subsequent recovery were also different. The crisis was, on average, deeper in the former Soviet Union. In those countries the recovery was slower than that in the Central and Eastern Europe countries.

The following is an outline of GDP real growth rate in the transition countries of the so-called EU-8 group in 1991-2006 (cf. table 3)

	1991. - 1995.	1996. - 2000.	2001. - 2006.
Czech Republic	-1,0	1,5	3,3
Estonia	-6,2	5,6	7,3
Latvia	-11,8	5,4	7,8
Lithuania	-10,0	4,2	7,7
Hungary	-2,4	4,0	4,1
Poland	2,2	5,1	2,9
Slovenia	-0,6	4,4	3,4
Slovakia	-1,7	3,7	4,8
EU 8	-0,8	4,1	3,7

Table 3. Real GDP growth rate in EU-8 group in 1991-2006 (in %)

Table 28 shows movements of GDP real growth rates from the beginning of the transition to 2006. In the period 1991-1995, all the countries except Poland recorded negative GDP growth rates, which were the reflection of the difficulties faced in the transition from socialist to market economy, whereas Baltic countries with negative GDP growth rates were adapting with more difficulties, from 6,2% in Estonia to 11,8% in Latvia. In 1996 started the recovery process in all the above-said countries, and the average growth rates for the period 1996-2000 moved from 1,5% in the Czech Republic to 5,6% in Estonia. That period was characterized by strengthening the macroeconomic stability and by implementing structural reforms in all countries. The average for EU-8 amounted to 4,1%, and it was solely in the

Czech Republic that the recovery was somewhat slower due to financial crisis in 1997. In the last period observed 2001-2006, GDP recorded rapid growth in all the countries except Poland, owing primarily to the increase of foreign direct investments that came from the developed EU members, and secondly, due to continuing to implement structural reforms. It can be generally stated that one part of the transition countries managed to achieve macroeconomic stability and the increase in total economic activity, while other countries are still coping with inflation and occasional episodes of returning negative growth rates. It seems, namely, that the transitional factors, such as *structural reforms, macroeconomic stability and initial conditions* (Mervar, A., 2002) that have mainly determined economic movements in the initial stage of transition - at least for the most developed countries - start to lose their importance, whilst the so-called classic growth factors, which were discussed in the theoretical part of the dissertation, are strengthening. It should also be noted that this chapter does not analyse the individual experiences of transition economies, but try to draw a lesson from the entire transitional experience. A more detailed analysis would require an extensive introduction to the economic experiences in each country, which is not subject to that chapter. Analysis of economic growth of the selected transition countries is divided into two sub-divisions: 1991-2000 and 2001-2008, because different variables were significant for each sub-divisions and with such division regression models are more reliable and relevant. In the first research models were divided into the period before accession and after accession to EU of the transition countries, but that did not give satisfactory results and it was decided to divide the period before and after the year 2000, which was taken as the year of exit of most transition countries from transitional crisis. The models are multiple linear, using in this case the panel method because of the large number of countries, while some variables are expressed *per capita* due to different size of countries and number of residents who live in them. In the analyses are involved the following countries: Bulgaria, Czech Republic, Estonia, Latvia, Lithuania, Hungary, Romania, Poland, Slovenia and Slovakia. They have successfully come out of the transitional process for joining the integration process in Europe. The analysis begins with the first period 1991-2000, and it is evaluated the following regression equation:

$$\begin{aligned} \text{Real GDP growth rate} = & \beta_0 + \beta_1 \text{inflation} + \beta_2 \text{budget deficit} + \beta_3 \text{export per capita} + \\ & + \beta_4 \text{current accounts} + \beta_5 \text{foreign direct investment per capita} \end{aligned}$$

The evaluated function is obtained based on a sample of five independent variables: inflation, budget deficit, foreign direct investment, merchandise export *per capita* and current account balance with their correspondent parameters (coefficients). Standard error of parameter is given in table 29 beside the rated coefficient showing that the parameters β are available. In accordance with the theoretical setups, in this case as well as in the analysis of the Croatian model of economic growth, it is assumed that inflation has a negative influence on economic growth and is expected the coefficient β_1 to be negative. It is also expected the budget deficit coefficient β_2 to be negative because higher long-term budget deficit has a negative impact on economic growth. Merchandise export *per capita* as a determinant of long-term economic growth should have a positive influence and the coefficient β_3 is expected accordingly to be positive. A balanced balance of payments, in particular the balance of current transactions should have positive impact on economic growth in each country. If the current account balance is positive, it is expected that its corresponding

coefficient will be also positive and *vice versa*. Empirical investigations have so far shown that foreign direct investments have a positive influence on economic growth and thus the coefficient β_5 should be positive.

Variables	Coefficient	Standard error	t-Test	Level of reliability
Constant	-0.918551	1.430183	-0.642261	0.5224
INFLATION	-0.018692	0.003012	-6.206383	0.0000
BUDGET DEFICIT	0.000538	0.000161	3.330209	0.0013
EXPORT PER CAP.	-0.396658	0.092148	-4.304573	0.0000
CURRENT TRANS.	0.714181	0.150787	4.736368	0.0000
FDI PER CAPITA	-0.001035	0.000399	-2.593082	0.0112
_BUL--C	3.789718			
_CZS--C	-4.425799			
_EST--C	-2.741902			
_LAT--C	-0.670650			
_LIT--C	3.887508			
_HUN--C	2.511392			
_ROM--C	6.718879			
_POL--C	3.763200			
_SLO--C	0.743696			
_SLOV--C	-13.57604			
Weighted statistics				
Coeff. of determin. R ²	0.816650	Main dependent variable		-0.480853
Adapted R ²	0.746092	S. D. Dependent variables		7.437861
Standard error regress.	4.842659	Sum of squares deviation		2251.329
F-test	12.39472	Durbin-Watson's test		1.897206
F-test's level of reliabil.	0.000000			
Non-weighted statistics				
R ²	0.790196	Main dependent variable		-0.642727
Sum of squares deviat.	2254.506	Durbin-Watson's test		1.801634

Table 4. Multiple linear regression model for evaluation of economic growth in selected transition countries in 1991-2000 (panel method)

With such a set regression equation with the five independent variables, the results of estimation of the economic growth of selected European selected countries in 1991-2000 lie below in the dissertation. (cf table 4)

Table 4 shows that only specific coefficients and their associated variables coincide with the theoretically expected signs and values, and they are the following: inflation, budget deficit and current accounts. Other independent variables (export *per capita* and foreign direct investments) are opposite to the expected signs and indicate the following deductions: export stagnated and was really falling, therefore it had a negative impact on economic growth and development. Although the last listed variable is expected to contribute to economic growth in transition countries, foreign direct investments had a negative influence in the monitored period, because in the initial transition years they were not sufficient, and those that have been made in those years have started giving results since 2000. The justification for applying the model of multiple linear regression (panel method) has to be sought in the obtained coefficient of determination R^2 that amounts to 0,81 which means that 81% of dependant variables variation is explained by the rated regression model, which also means that the model's level of reliability is high and that it adequately describes the model. Durbin-Watson's test amounts to 1,89 and also shows that the variables included in the model are relevant for the assessment of economic growth of the selected transition countries in the monitoring period and that among them there is no autocorrelation.

Below there is the analysis of the second transitional period 2001-2009, in which the significant variables for economic growth are those from the following equation:

$$\begin{aligned} \text{Real GDP growth rate} = & \beta_0 + \beta_1 \text{unemployment} + \beta_2 \text{foreign direct investments per capita} + \\ & + \beta_3 \text{export per capita} + \beta_4 \text{labour productivity} \end{aligned}$$

The evaluated function was obtained based on the sample of the four independent variables: unemployment rate, foreign direct investments *per capita*, merchandise export *per capita* and labour productivity along with their associated parameters (coefficients). Standard error of parameter is listed in the table 30 beside the rated coefficient showing that the parameters are reliable.

According to both theory and empirical experience, it is supposed that unemployment has a negative impact on economic growth so it is expected that the coefficient β_1 is negative. It is also expected that the coefficient ISU *per capita* i.e. coefficient β_2 is positive because foreign direct investments stimulate production and generate accelerated economic growth. As a determinant of long-term economic growth, merchandise export *per capita* should have a positive impact and the coefficient β_3 is expected to be positive accordingly. Better labour productivity contribute to economic growth and development of each country, so the corresponding coefficient β_4 should be positive.

According to the regression equation, the results are assessments of economic growth for the selected European transition countries in 2001-2009 (cf. table 5).

In the model showed in table 5, all the variables and the correspondent coefficients coincide with the expected sign, so it is not necessary to explain them closely. It should be noted that all the observed countries have significantly grown and progressed since the beginning of the transition period (except Bulgaria and Romania), therefore the signs coincide with the average theoretical assumptions of economic growth and development.

Variables	Coefficient	Standard error	t-Test	Level of reliability
Constant	10.23671	3.432950	1.987634	0.0258
UNEMPLOYMENT	-0.390278	0.069525	-3.478628	0.0065
FDI PER CAPITA	0.159374	0.048770	-4.121301	0.0001
EXPORT PER CAP.	0.008754	8.95E-05	3.267859	0.0021
LABOUR PRODUCT.	0.590373	0.123879	2.208076	0.0323
_BUL--C	3.243565			
_CZS--C	2.356720			
_EST--C	1.728476			
_HUN--C	-4.435886			
_LIT--C	1.378915			
_LAT--C	1.456909			
_POL--C	-3.429870			
_ROM--C	-0.498723			
_SLO--C	-1.908543			
_SLOV--C	1.656789			
Weighted statistics				
Coeff. of determin. R ²	0.892334	Main dependent variable		6.846522
Adapted R ²	0.879023	S. D. Dependent variables		6.028354
Standard error regress.	2.014678	Sum of squares deviation		124.0607
F-test	38.96342	Durbin-Watson's test		1.997455
F-test's level of reliab.	0.000000			
Non-weighted statistics				
R ²	0.836591	Main dependent variable		5.831250
Sum of squares deviat.	236.8405	Durbin-Watson's test		1.913267

Table 5. Multiple linear regression model for evaluation of economic growth in selected transition countries in 2001-2009 (panel method)

The justification for applying such a model of multiple linear regression (panel method) with the four independent variables corroborates the obtained coefficient of determination R^2 that amounts to 0,89 what means that the 89% of dependant variables variation is explained by the rated regression model, which also means that the model's level of reliability is high and that it adequately describes the model. Durbin-Watson's test amounts to 1,89 and also shows that the variables included in the model are relevant for the assessment of economic growth of the selected European transition countries in the monitoring period and that among them there is no autocorrelation.

2.4 Strategic determinants of long-term economic growth of selected european countries in transition

Common strategic determinants of selected transition countries economic growth are determined on the base of the implemented regression analysis of their long-term economic growth. These strategic determinants are the following: macroeconomic stability, export, foreign direct investments (FDI) and human resources.

1. *Macroeconomic stability* - The influence of the factors that approximate macroeconomic stability, i.e. inflation and budget deficit, was significant in the initial years of transition that were characterized by a strong fall in production and the simultaneous increase in inflation in all the countries observed. By the end of the first decade of transition an increase in economic activity was achieved in almost each country, while inflation (owing to anti-inflation and stabilization programmes) successfully reduced to moderate or low levels in most countries. However, only few recorded higher levels of the entire economic activity than that which was accomplished before the start of the transition process. It could be therefore concluded that the low rate of inflation is the strategic determinant which need not necessarily be emphasized as to harm exports, especially in periods of anti-inflation programmes. Regarding the budget deficit, it is short-term positive and could be classified as a strategic determinant, but it should be kept under control so that the state had a smaller share in the GDP structure (such as in Ireland). Thus, macroeconomic stability remains an important prerequisite for long-term economic growth in the transition countries.
2. *Export* - Regression analysis showed that export had a positive impact on the economic growth in the monitored transition countries. The experience of the most advanced transition countries shows that the share of growth derived from improved resource allocation reduces over time due to transition to market operations, and that these economies should rely more on traditional determinants of growth indicated by the neoclassical and endogenous growth theories, as well as the results of numerous empirical studies. These results show that, beside stable macroeconomic conditions in the market-oriented economic structure, the beneficial effects on long-term growth are consequences of high savings and investments, well-educated workforce, high openness of the economy, low public spending, low population growth and a stable socio-political environment.
3. *Foreign direct investments (FDI)* - In the beginning of the monitored period, this determinant was negative because of the lack of foreign investors' interest in the development of production capacities, that wanted profits in trade. Nevertheless, there are some positive examples (Hungary and Estonia), but in general they were not significant enough. The achieved level of economic growth will influence the slowdown

in economic growth in the future, so we should expect lower growth rates because all the observed countries have reached a certain level of economic growth in the European Union. Therefore they should work on developing new determinants that didn't prove to be significant in the regression analysis and in the so far economic growth, but that are very important for further growth and development, such as human resources, which are closely associated with labour productivity, research and development, innovation and entrepreneurship. Investments in human capital as a conventional growth factor have not shown significant in the empirical analysis of growth in transition countries so far, which is not surprising, because the transition is the process of reallocation of resources and increasing the efficiency of the existing factors, at least in its initial phase.

4. *Human resources* - In order to reduce income differences and accelerating economic convergence with industrially developed countries, the observed transition countries should increase employment and accelerate the growth of labour productivity. To achieve these goals there are needed reforms to improve labour market flexibility, which is necessary for the efficient allocation of labour resources. Finally, it is necessary to work on disparate skills - or lack of skilled labour in relation to the needs of the economy - as they do not become obstacles to job creation, investments and growth of the companies. Human capital is not easily measured. Human development report for 2007 observed 182 countries and by Human Development Index it classified all observed transition countries, except Romania and Bulgaria, among the top 40 countries. In order to increase HDI, the transition countries should strengthen its system of life-long education and use the experiences of successful examples of other European economies.

3. Conclusion

Macroeconomic stability and economic growth are complex macroeconomic phenomena, therefore, even today it can not be completely explained what determinants, in what measure and in what way contribute to growth. The historical survey of theories of economic growth has shown that each of the said theories pointed out one or more determinants, which are key ones for the economic growth. Classicists pointed out natural resources, namely soil and labour, neo-classicists capital and technology, and the new theory of growth stressed human potentials.

Analysis of the economic growth of selected European transition countries is divided in two sub-periods: 1991-2000 and 2001-2008, because different variables were significant for each sub-period and such regression models are more reliable and relevant. The evaluated function for the first period was obtained based on a sample of five independent variables, namely: inflation, budget deficit, foreign direct investments, merchandise export *per capita* and balance of current transactions and their correspondent coefficients, while for the second period it was obtained on a sample of four independent variables: unemployment rate, foreign direct investments *per capita*, merchandise export *per capita* and labour productivity.

Results of the economic growth assessment in selected transition countries in 1991-2000 showed that only some determined coefficients and their correspondent variables coincide with the theoretically expected signs and values, namely: inflation, budget deficit and current transactions. Other independent variables (export *per capita* and foreign direct

investments) are opposite to the expected signs and suggest the following conclusion: exports stagnated and decreased in real terms and thus it had a negative impact on economic growth and development. Although the last listed variable is expected to contribute economic growth in transition countries, foreign direct investments had a negative impact in the monitored period, because they were not sufficient in the initial years of transition, while those that were made in those years began to show results since 2000. In 2001-2009 all variables and its associated coefficients coincide with the theoretically expected sign, which means that all countries observed since the beginning of the transition have significantly grown and progressed (except Bulgaria and Romania). Based on the implemented regression analysis of economic growth in selected European transition countries, strategic determinants of their long-term economic growth were established, which are: macroeconomic stability, export, foreign direct investments (FDI) and human resources.

4. References

- Ćosić, K. & Fabac, R. (2001). Gospodarski rast, tehnološki razvitak i suvremeno obrazovanje, *Ekonomski pregled*, 52 (5-6), p. 518.
- Domar, E. (1946). Capital Expansion, Rate of Growth and Employment, *Econometrica*, (April 1946)
- Easterly, W. & Sewadeh, M. (2010). In: *Global Development Network Growth Database*, Available from: <http://www.worldbank.org>
- Gerlagha, R. & Keyzerb, M. A. (2001). Limits-to-Growth theory, Coordination and Growth, Essays in Honour of Simon Kuipers, edited by G. H. Kuper, E. Sterken and E. Wester, Kluwer Academic Press, p. 219-232.
- Grossman, G. M. & Helpman, E. (1991). *Innovation and Growth in the Global Economy*, Cambridge: MIT Press
- Harrod, R. (1939). An Essay in Dynamic Theory, *Economic Journal*, (May 1939), p. 14-33
- Lucas, R. E. (1988). On the Mechanics of Economic Development, *Journal of Monetary Economics*, Vol. 22, p. 3-42.
- Mervar, A. (2003). Esej o novijim doprinosima teoriji ekonomskog rast, *Ekonomski pregled*, 54 (3-4)
- Mervar, A. (2002). Ekonomski rast i zemlje u tranziciji, *Priredna kretanja i ekonomska politika*, br. 92, p. 54.
- Regger, G. (1998). Changes in the R&D Strategies of Trans-national Firms: Challenges for National Technology and Innovation Policy, *STI Review*, No. 22, OECD
- Romer, P. M. (1990). Endogenous Technological Change, *Journal of Political Economy* (October 1990), 98(5), p. 71-102.
- Romer, P. (1986). Increasing Returns and Long Run Growth, *Journal of Political Economy*, Vol. 94
- Schumpeter, J. A. (1942). *Capitalism, Socialism, and Democracy*, New York: Harper
- Smith, A. (1776). *An Inquiry into the Nation and Cause of the Wealth of Nation*, Glasgow Edition, Book IV, p. 488-498.
- Solow, R.M. (1956). A Contribution to the Theory of Economic Growth, *The Quarterly Journal of Economics*, Vol. 70, No. 1 (February 1956), The MIT Press, p. 65-94.

Švarc, J. (1997). Higher Education, Research And Industry In Croatia, *International conference on "Higher education, research and industry in European economies in transition"*, October 4-7
www.un.org/en/development/ (7.8.2010.)

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Very often the process of globalization is referred the word economy evolution. Often we measure and study globalization in the economic relevance. The economy is possibly the most recognized dimension of globalization. That is why we see many new phenomena and processes on economic macro levels and economic sectoral horizons as well as on specific "geography of globalization". The book *The Economic Geography of Globalization* consists of 13 chapters divided into two sections: Globalization and Macro Process and Globalization and Sectoral Process. The Authors of respective chapters represent the great diversity of disciplines and methodological approaches as well as a variety of academic culture. This book is a valuable contribution and it will certainly be appreciated by a global community of scholars.

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